Addressing the Explanatory Power of Correlates of Language Learning Motivational Orientations through a Two-Stage Least Squares Approach*

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Contents

1. Introduction

Students' motivational orientations contribute substantially to several valued aspects of their performance, such as academic achievement, second/foreign language (L2) proficiency, and active participation in the community they belong to. In searching for an integrative understanding of the underlying reasons why individuals behave in certain ways and attain a certain outcome, it would become apparent that the reasons for their action or behavior fall into different categories. Thus, it is noteworthy that this particular psychological construct of L2 learning motivation that the present study explores also consists of different and/or overlapping [1)]

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components, which include curiosity towards the target language/culture, desire to learn the target language, attitudes and interest, effort made to learn the language and so on.

In developing a theoretical and empirical account of L2 learning motivation, this study adapted to L2 motivation three sets of psychological constructs, which are valance, self-efficacy, and goal orientations. The present study was concerned with explicating the correlates of L2 learning motivation through the methodological framework of the two-stage least squares approach. Of particular interest in this study was how motivational orientations towards L2 learning are related to the specific learning strategies that Korean high school learners of English commonly use, together with the relationship of these psychological constructs to students' attained English proficiency scores. This study also discusses major theories and findings in the motivational research on L2 learning, followed by a review and a discussion of L2 learning strategies as one of correlates of L2 learning motivation, together with the exploration of how L2 learning strategies work for the outcomes of the English language learning.

2. Review of the Literature

As there are many different theories and different constructs within these theories of motivation, it follows that the concept of motivation has gone through many different interpretations as focuses of research have changed. Among the different interpretations, the term *motivation* has frequently been used to describe "what gets people going, keeps them going, and helps them finish tasks" (Pintrich 104). Thus, at the fundamental level of motivation, there must be a certain type of valance,

which is generally defined as the subjective value that an individual associates with a particular outcome (Lee, Locke, and Latham), and this construct of valance can be understood from the point of desire to learn the language and attractiveness toward learning the language in the context of L2 learning.

As Oxford and Shearin (1994), and Tremblay and Gardner (1995) suggest, aforementioned notion of valance has a strong implication for L2 learning, in the sense that if L2 learners do not perceive a value component to their performance, then their language learning motivation will be reduced. Valence, however, may not directly lead to substantial achievement in L2 studies. It should be accompanied by effort, and must be sustained by persistence because learning is an active process that requires mostly conscious and deliberate effort from the learners themselves. This notion was supported when Pintrich (2003) suggested four general outcomes that motivation underpins: individual's choice of activity, individual's level of activity, individual's persistence through an activity, and individual's performance on an activity. Furthermore, the crucial role of effort and persistence in successful L2 learning is also connected to goal salience. According to goal setting theory, individuals with specific and challenging goals persist longer at a task than individuals with easy and vague goals, and in that case, the former will outperform the latter in carrying out a task (Locke and Latham 1990). In achieving certain goals, individual learners' attitudes and beliefs will influence the individuals' strength of motivation and their rate of effort and the duration of persistence. This is the case where individuals' expectancy and their perceived self-efficacy have explanatory power for their L2 achievement. As Bandura (1991) notes, the higher the expectancy that a behavior can produce a certain outcome, the greater will be the motivation to perform the activity. In the formal context of foreign language learning, a certain

level of effort and persistence that learners devote to their L2 learning may be viewed as a reflection of learners' belief that they can achieve their goal. Among these expectancy components, as Bandura (1989) suggests, and supported by Crookes and Schmidt (1991), Dörnyei (1994), Oxford and Shearin (1994) and Klassen *et al.* (2009), self-efficacy plays an important role in L2 learning, because it may be thought that low levels of self-efficacy will be accompanied by high levels of anxiety. In this sense, individuals' beliefs about failure or success in carrying out a certain level of performance or achievement can be viewed as an index of self-efficacy, and can safely be renamed self-confidence in the L2 learning context. As shown by Clément, Gardner, and Smythe (1980) and Tremblay and Gardner (1995), self-confidence brings as a necessary result a lack of anxiety when speaking an L2 and high self-ratings of proficiency.

The other support to clarify the reasons for performing an act and/or yielding certain outcomes comes from Csikszentmihalyi and Nakamura (1989), and Dörnyei, (1990) who assert that one of the things that play particularly important roles in the academic context is *need for achievement*. This shows the dynamics of motivation, referring to a personality trait that is considered to affect a person's behavior in every aspect of life, in which the learner is motivated by the desire to excel, either in general or with respect to certain tasks, including language learning. To consolidate, under a conceptualization like this, desires to achieve outcomes derived from the actual process of learning, such as perceived competence or actual intellectual development are understood as *mastery goal orientations*. In contrast, *performance goal orientations* are viewed as desires to achieve outcomes originating from expectations or values in relation to the consequences of task involvement, and these results may take the form of gaining positive judgments, avoiding negative evaluation of the self, or outperforming others. Ames and Archer (1988)'s

identification of the theoretical distinctions between the two parameters in the context of the actual classroom may lead to a clearer understanding for the discussion of individual motivation variables.

Further, with respect to goal orientations among students in actual classroom settings, researchers have found that students' goal orientations are also related to the use of learning strategies (e.g., Ames and Archer 1988; Brown, Robson, and Rosenkjar 1996; Gardner, Tremblay, Masgoret 1997; Nolen, 1988; Pintrich 1989), as well as the choice of achievement tasks (Graham and Golan 1991; Nicholls, 1984), attitudes (Tremblay and Gardner 1995), or causal attributions (Tremblay and Gardner 1995). It has generally been believed that intrinsic motivation is the most appropriate for school learning among all kinds of learning motivation.

[Table 1] Achievement Goal Analysis of Classroom Climate

Climate Dimensions	Mastery Goals	Performance Goals
Definition of Success	Improvement, progress	High grades, high normative performance
Imposed Value	Effort/learning	Normatively high ability
Reasons for Satisfaction	Hard working, challenge	Doing better than others
Teacher's Orientation	How students are learning	How students are performing
View of Errors/Mistakes	Part of learning	Anxiety eliciting
Focus of Attention	Process of learning	Own performance relative to others
Reasons for Effort	Learning something new	High grades, performing better than others
Evaluation Criteria	Absolute, progress	Normative

Note: Adapted from Ames and Archer 1988: 261

With respect to the cognitive motivational processes mediated by achievement goal tendencies, Hayamizu, Ito, and Yoshizaki (1989) found that both ego-social orientation and utilitarian orientation had significant

dependency on achievement, but the former was negatively related to students' achievement (ß=-.42, p<.05), whereas the latter was positively related to school achievement (ß=.37, p<.001). The findings may imply that students who were concerned about mainly other people's evaluation of their competence reached poor academic achievement, while those who studied for pragmatic purposes, such as passing the examinations or getting into attractive vocations, attained good grades. However, as Meece and Holt (1993) suggest, since individuals increased flexibility in goal orientations can lead to positive influence on achievement without regard to learning context, much emphasis should be on the effects of the combined goal orientations in relation to achievement.

2.1. Correlations between Motivation and Learning Strategies

At a glimpse, the relationship between motivation and strategy use appears simple. It can be conceived that people who are highly motivated to learn a language are likely to have high frequency use of strategies that would be appropriate for the fulfillment of their learning purposes. Particularly, Nolen (1988)'s study of motivational orientations and study strategies found that the goal of learning or understanding for its own sake was linked to a perception of the value of using strategies and more closely associated with deep-processing strategies, such as monitoring comprehension, than to surface-level processing strategies, such as memorizing or rehearsing information. On the other hand, ego orientation, which indicates the goal of demonstrating high ability compared to others, showed a positive relation to the perceived value of and to the use of surface-level strategies only. Further supporting evidence comes from both correlational studies (Ames 1984; Meece, Blumenfeld, and Hoyle 1988; Nolen 1988; Pintrich 1989) and experimental studies (Elliot and Dweck

1988; Graham and Golan 1991; Stipek and Kowalski 1989). These studies indicate that mastery goal-oriented students tend to formulate and evaluate strategies of how to best approach a learning task and what to learn, while performance goal-oriented students are more likely to engage in measuring the difficulty of the task in order to ascertain if they can perform the task satisfactorily (Dweck and Elliot 1984). Thus, it is conceivable that performance goal-oriented students are less likely to commit themselves to using effective learning strategies than mastery goal-oriented students. However, this does not mean that the mere presence of performance goals may inhibit some aspects of achievement behavior facilitating learning strategies. Rather, even though a mastery goal and a performance goal appear to coexist in a classroom environment, it was the degree of a mastery goal rather than that of a performance goal that may predict the maintenance of adaptive learning strategy patterns when mastery goals are salient.

2.2. Learning Strategies as Cognitive Skills

According to O'Malley, Chamot, Stewner-Manzanares, Russo and Küpper (1985), "learning strategies are operations or steps used by a learner to facilitate the acquisition, storage, or retrieval of information" (557). These learning strategies, as Rubin (1987) notes, are those which help to bring about the development of the language system which the learner constructs and affects learning directly. Oxford, Lavine, and Crookall (1989) indicate that "language learning strategies are actions, behaviors, steps, or techniques – such as seeking out target language conversation partners, or giving oneself encouragement to tackle a difficult language task - used by learners to enhance learning" (29). Chamot and Küpper (1989)'s definition of learning strategies is those techniques students employ to comprehend,

store, and remember new information and skills. These definitions are connected to O'Malley and Chamot (1990)'s notion that learning strategies are "the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information" (1). All of these definitions are intended to specify what and how learners think and do in language learning, and how they come up with different systems of language learning strategies. As can be inferred from the aforementioned definitions, the other principal factor that has been thought to influence students' L2 learning, together with motivation, is the role of learning strategies. Hence, it would be a meaningful attempt for the present study to identify how students' motivational orientations were related to the types of strategies they adopt in L2 learning.

In summary, in addressing the explanatory power of correlates of language learning motivation, one overarching research question was what factors of motivational orientations and their correlates will have both direct and indirect influences on students' achieved English proficiency within the methodological framework of the two-stage least squares approach.

3. Method

3.1. Participants

405 Korean high school 3rd graders participated in the study, drawn from eight classes in two private high schools: 254 of the students were girls and 151 were boys.

3.2. Instruments

The questionnaire developed by Schmidt, Boraie, and Kassabgy (1996) consists of 50 items of motivational orientations presented on a five-point Likert scale. For students' use of learning strategies, 50 items of ESL/EFL version 7.0 of Oxford (1989)'s Strategy Inventory for Language Learning (SILL) were adopted with the permission of the developer through personal communication. The format for these items also used a 1 to 5 scale (1 = Never or almost never true of me, 2 = Usually not true of me, 3 = Somewhat true of me, 4 = Usually true of me, 5 = Always or almost always true of me) with the students being asked to report their strength of agreement with each statement, asking their use of particular strategies. The set of questionnaires was translated into Korean, first literally and then figuratively in order to keep the intended meaning of the original version and to ensure that the questions were phrased in a natural and appropriate way. The Korean version of the questionnaires was back-translated by two Korean-Americans to English to confirm the correctness of translation. Students' achieved scores in the English section in the College Scholastic Ability Test (CSAT) administered in Korea were collected as an index of their achieved proficiency, and were used to regress their achieved English proficiency. The test plays a crucial role in the extremely competitive college admission procedures annually held in Korea. It was developed and is being managed by the Korea Institute of Curriculum and Evaluation (KICE), Seoul, Korea, and has been used for screening the college applicants. The foreign language section, which is the English test, is designed to measure examinees' level of English proficiency appropriate for college study.

3.3. Procedures

The survey was administered to students who agreed to participate in the study. First, the students read a general instruction form and put a tick on a consent sheet. Students were thanked for their participation. Female students were given one dollar's worth of chocolate and male students were presented with a ball-point pen of equivalent value for their cooperation. Students were informed that the questionnaires contained questions about their motivation and use of strategies in learning English as a foreign language. The learning strategy questionnaire was administered in tandem with the motivational questionnaire under typical classroom conditions during their regular English classes under the supervision of their homeroom teachers and their English teachers. Students were expected to give their reaction to the questions asking the comparative strength of some attitude or opinion to a series of statements. Confidentiality was assured by using student identification (ID) numbers instead of asking their names. They were given 50 minutes for their answers. The CSAT scores were obtained from their schools three weeks after the survey was completed.

3.4. Analyses

In the five-point Likert scale employed in the set of questionnaires, as the two items (i.e., items 4, and 5) were negatively worded, they were scored in reverse as follows: A student response of 1 was coded as 5, 2 was coded as 4, 3 remained 3, 4 was coded as 2, and 5 was coded as 1. In this design, underlying factors of motivational orientations and learning strategies were first extracted as initial measures of answering the overarching research question for the study. Factor analysis addresses the

problem of convergent and divergent validity that each category needs to be distinct from other categories. On the one hand, it was expected that there would be universal propensities between different ethnic groups, but on the other hand, it was speculated that there also might be cultural differences between learners of English from different ethnic groups. Thus, as there is a possibility of obtaining different factor structures from studies, such as Schmidt *et al.* (1996), and quite a few studies which employed Oxford's SILL (1989), additional factor analyses were run to revalidate questionnaires of motivational orientations and learning strategies and to determine the underlying dimensionality of set of variables.

The data collected were item scores, but what was needed for the study was composite scores. One type of composite score that can be thought of is factor scores, which are based upon all the items falling into each factor. The other type of factor-analytic solution for getting composite scores is factor-based scales, which can be obtained by calculating the sum of items that belong to each factor, and excluding all the items that do not belong to the factors. Both factor scores and factor-based scales were employed to calculate composite scores, but the difference between the two turned out to be indistinguishable enough to take either one of the two ways of getting composite scores without any reservation in terms of getting almost the same results in multiple regression. In fact, the topic of composite scores seems to be regarded as quite complicated, primarily because a unique solution is unobtainable even for researchers like Pedhazur and Schmelkin (1991). They are quoted as saying that "Consequently, different estimation procedures, aimed at achieving some desired characteristics (e.g., maximizing reliabilities of composites, minimizing correlations among composites) have been proposed. Understandably, there is no agreement as to a preferred method of factor

score estimation, nor is there even agreement regarding a choice between factor scores and factor-based scales" (625). After much consideration, the current study takes the factor scores, which are more reliable in the sense that they adjust for measurement errors and include the weightings of how well each item loads on each factor, as a more appropriate reflection of both convergent and divergent validity.

Instead of varimax rotation of the axes in a factor analysis, which maximizes the variances of the factors, promax rotation was used to discover non-independent (correlated) factors. Since in language research, it is rather difficult to come up with factors that would not be correlated (Hatch and Lazaraton 1991), oblique rotation was adopted. After that, internal consistency reliabilities of each factor of motivational orientations and learning strategies were assessed. The basic question is, to what extent, do the items measure the same concept, that is, to what extent are they homogeneous? Homogeneity or internal consistency may be estimated via a number of statistical procedures. One procedure involves computing the average of the correlations among the responses to all possible pairs of items; another involves computing the average of the correlations between responses to each item and the total scale score. As all the items in each category need to measure one and the same construct, the category should be internally consistent. With the approach of Cronbach's alpha coefficient, the relationships among all the items were examined simultaneously rather than arbitrarily splitting the items. Before running multiple regression analyses, Pearson product-moment correlations were calculated to identify intercorrelations among predictor variables.

According to the previous identifications from Schmidt *et al.* (1996) and Oxford (1989)'s SILL (version 7.0/ESL/EFL), the study started with 7 motivational and 6 learning strategies subscales to regress 1 dependent variable. It would be an attempt to explain differences in students'

achieved English proficiency by differences in their motivational orientations and learning strategies. However, if the study should try to identify 2-way, 3-way, or 4-way interactions, the derived model would be very complicated for interpreting the relationships of the variables. Hence, the current study ignored all the possible interactions by partialing out the effects of all the individual variables, and focusing only on the explanatory power, rather than prediction from those variables, so that the whole study would be an explanation about the variability of students' achieved English proficiency using information about predictor variables. Multiple regression was therefore employed for the prediction of Korean EFL learners' achieved English proficiency. By assessing the magnitude of the relationship among these predictor variables and students' achieved proficiency in the CSAT, effect size was identified. This exploration comes from an interest in strength, importance, and meaningfulness of the current findings. In this case of proportion of variance accounted for, adjusted R-square value is reported for a more parsimonious approach. Calculating direct and indirect effects of predictor variables on students' outcome proficiency, which cannot be done using ordinary multiple regression analysis, the two-stage least squares approach addresses causal relations among motivational orientations, learning strategies and achieved English proficiency scores.

4. Results

The data were analyzed using the SPSS 18.0 statistical program on a personal computer. The data were entered, organized and cleaned in the spreadsheet program. Then, in an attempt to answer the overarching research question, descriptive statistics, principal component analyses

(PCA), intercorrelations among derived factors from motivational orientations and learning strategies factors, reliability check, multiple regression, and two-stage least squares approach were conducted using the statistics program. The results of these analyses are presented in the following sections.

4.1. Descriptive Statistics

As descriptive statistics, the number of participants (N), mean, and standard deviation (SD) for each of the motivational orientations and learning strategies questionnaire items are provided on the back-translated English version of the questionnaire in Appendix A, and B each.

4.2. Results of the Factor Analyses

Variations within each response to the questions were analyzed through factor analyses to identify the internal structures and explore distributed patterns of motivation and learning strategies. Fifty questions of motivational orientations and the same number of questions of learning strategies went through factor extractions, and rotation procedures. Principal component analyses (PCA) were used to extract motivational factors and learning strategy factors. Of course, PCA is different from factor analysis, in that PCA looks at most of the observed variance present in the data, whereas factor analysis cares only about common variance (Pedhazur and Schmelkin 1991; Marcoulides and Hershberger 1997; Meyers, Gamst, and Guarino 2006). As both methods, however, are used for undertaking a linear transformation of a large set of interrelated variables into a smaller group of uncorrelated variables, factor analysis was used as a cover term for PCA for the current study.

For motivational orientations, a nine-factor solution, which accounts for 57.26% of the total variance, was chosen after promax (oblique) rotation. The followings were the extraction criteria: the eigenvalue (minimum of one), at least 3 % of total variance explaining each factor, containing individual items with a minimum loading of .30, the scree plot, and the interpretability of rotated factors. The eigenvalue indicates how much of the variation in the original group of variables is accounted for by a particular factor. It is the sum of the squared factor loadings of a factor. In the aforementioned criteria for the factor solution, eigenvalues high up on the hill down to the ninth component were included as factors; those below it were not.

Factor 1 is labeled "Determination." It consists of five items (items 45, 46, 47, 48, 49). The Cronbach alpha coefficient for this factor is .83. All the items in this factor have the salient trait showing strong motivational strength. In comparison with the factor of determination in Schmidt *et al.* (1996), the items loading on this factor in the present study are narrower and less generalized. Additional items loading on the "determination" factor in Schmidt *et al.* (1996) load instead on factor 2 in the present study.

Factor 2, "Learning Orientation," has eight items (items 1, 2, 4, 21, 26, 27, 28, 50). The Cronbach alpha for this factor is .75. The items loading on this factor can be divided into four categories: those asserting intrinsic motivation (items 1, 2, 4), expectancy/control components (items 26, 27, 28) showing expectations of success, personal goals (item 21), and motivational strength (item 50). It is interesting to note that the two items (items 27, 28) from expectancy/control components of the motivational questionnaire that load on Factor 2 attribute success to ability, instead of external causes (the teacher, task difficulty). This factor might be labeled "intrinsic motivation," because items in this factor indicate the internal appreciation and enjoyment of learning the language, such as item 1 (I

enjoy learning English very much). But it seems to the researcher that "learning orientation" would be the more appropriate cover term for them, because all the items have learning components.

Factor 3, labeled "Instrumental Orientation," is composed of four questionnaire items (items 10, 18, 19, 20). They are all from the extrinsic motivation subscale of the questionnaire. The Cronbach alpha for this factor is .77. This factor shows exactly the same factor structure as that of the previous study. This shows strong instrumental orientation from items, such as item 10 (Being able to speak English will add to my social status).

Factor 4, termed "Anxiety," has four items (items 39, 40, 41, 42). The Cronbach alpha for this factor is .76. Items in this factor come from the anxiety subscale of the motivational questionnaire. According to Horwitz, Horwitz, and Cope (1986), anxiety can be characterized as a "subjective feeling of tension, apprehension, nervousness, and worry" (125). The problems identified on this factor are particularly related to speaking, and the fear of negative evaluation, such as item 39 (I feel uncomfortable if I have to speak in my English class).

Factor 5, "Friends and Travel," has four items (items 6, 11, 13, 14). The Cronbach alpha coefficient for this factor is approximately .70. Items 11 (I am learning English because I want to spend a period of time in an English-speaking country) and 13 (I want to learn English because I would like to emigrate) are concerned with foreign residence. Item 6 (English is important to me because it will broaden my view) might be considered to be slightly heterogeneous item compared to the previous two items (items 11, 13), but as item 6 is not different from items 11, 13 (foreign residence) and item 14 (sociability) in terms of attribute, which is extrinsic motivation, item 6 (broadening one's view) can be placed in a continuum between item 11 (spending some time in an English-speaking

country) and item 14 (One reason I learn English is that I can meet new people and make friends in my English class).

Factor 6, "Belief about Failure," is composed of four items (items 33, 34, 43, 44). The Cronbach alpha for this factor is .57. Together with item 33 (If I don't learn well in this class, it will be mainly because of the teacher), and item 34 (If I don't do well in this class, it will be because the class is too difficult) from expectancy/control components, two other items of anxiety subscales load on factor 6. These are item 43 (I think I can learn English well, but I don't perform well on tests and examinations) and item 44 (I often have difficulty concentrating in English class). It is noteworthy that item 44 is not a strictly cognitive variable, but rather it seems to be related to anxiety which is part of affective variables.

Factor 7, "Attitudes to Culture," consists of four items (items 35, 36, 37, 38). The Cronbach alpha for the factor is .52. The factor shows exactly the same factor structure as that of Schmidt *et al.* (1996)'s study. It represents an integrative orientation, concerning target language speakers and American and British culture.

Factor 8, "Sociability," consists of two items (items 23, 24). The Cronbach alpha is .38. The items in this factor comes from the subscale of personal goals of intrinsic motivation. Item 23 (My relationship with the teacher in this class is important to me), and item 24 (One of the most important things in this class is getting along with other students) are concerned with the relationship in the classroom with the teacher and other students. Item 5 (I wish I could learn English in an easier way, without going to class) is negatively loaded on this factor.

Factor 9, "Expectancy/Control components," derives from the single item loading (item 29) on it. In the previous study, item 29 (If I don't do well in this class, it will be because I don't try hard enough) was positioned on the first factor, i.e. determination. Conceptually, it is not easy to separate this

item from the items loading on factor 1 (determination), but it can be thought to be labeled expectancy/control, in that it attributes failure to effort rather than external causes, such as the environment, or task difficulty.

For learning strategies, a nine-factor solution, which accounts for 55.26% of the total variance, was chosen after promax (oblique) rotation. The followings were the extraction criteria: the eigenvalue (minimum of one), at least 2.2 % of total variance explaining each factor, containing individual items with a minimum loading of .30, the scree plot, and the interpretability of rotated factors.

Factor 1, which accounts for 27.8 % of the variance, is labeled "Human Interaction." The six questionnaire items that load on this factor consist of the compensation strategy of trying to guess intelligently (item 28), and social strategies (items 46, 47, 48, 49, 50), which involve asking questions, practicing with others and trying to learn about the culture of English speakers. The Cronbach alpha for the factor is .82.

Factor 2 is labeled "Metacognitive Planning." It is composed of seven items representing metacognitive strategies (items 31, 32, 33, 36, 37, 38), which include centering, arranging, planning and evaluating their learning, and the affective strategy (item 39) trying to lower anxiety. This factor explained 6.5 % of the variance. The Cronbach alpha for this factor is .80.

Factor 3 is labeled "Reasoning and Cognitive strategies." It is made up of nine items of learning strategies. It includes reviewing (Item 8), practicing (Item 13), summarizing (Item 23) which creates structure for input and output, compensating (Item 26), arranging and planning (Items 34, 35), and taking emotional temperature (Items 40, 43, 44). This factor is composed of affective and cognitive strategies supplemented by memory, compensation and metacognitive strategies. This factor accounted for about 4.0 % of the variance. The Cronbach alpha for the factor is .81.

Factor 4 is labeled "Analysis and Compensation." It consists of five

items of learning strategies. Items in this factor include the cognitive strategies, like skimming and perusal (Item 18), reasoning (Item 19), analyzing (Items 20, 21), and compensation strategies trying to overcome limitations in speaking and writing (Item 29). This factor explained 3.8 % of the variance. The Cronbach alpha for the factor is .76.

Factor 5 is labeled "Practice." It is composed of eight items of learning strategies. Items in this factor mainly deal with the memory strategies (Items 6, 7, 9), cognitive strategies (Items 10, 11, 12, 14), and social strategies (Item 45). This factor accounted for 3.3 % of the variance. The Cronbach alpha for the factor is ca. .79.

Factor 6 is labeled "Interest in Content." It consists of three items of cognitive strategies (Items 15, 16, 17) focusing on content area. The variance explained by this factor is 2.8 %. The Cronbach alpha for the factor is .71.

Factor 7 is labeled "General Memory Strategies." It consists of five items representing the learning strategies of creating mental linkages (Items 1, 2) and applying images and sounds (Items 3, 4, 5). The proportion of variance accounted for by this factor is 2.5 %. The Cronbach alpha for the factor is .77.

Factor 8 is labeled "Holistic Approach." It contains four items concerning cognitive strategies of not translating word-for-word (Item 22), guessing (Item 24), overcoming limitations in speaking and reading by using gestures, and approximating messages that are encountered. This factor explains 2.3 % of variance. The Cronbach alpha for the factor is .64.

Factor 9 is labeled "Affective Strategies." It consists of two items (Items 41, 42) originating from the Affective Strategies subscale. This factor accounts for 2.2 % of the variance. The Cronbach alpha for the factor is .38.

4.3. Intercorrelations among Motivational Orientations and Learning Strategies

The following Pearson product-moment correlations matrix identifies relationships among motivational orientations and learning strategies. This matrix was calculated for all possible combinations of the 18 predictor variables identified through the factor analyses. Most of those reach statistical significance at the .01 level or .05 level (2-tailed). Each and every case cannot be discussed in prose, however, the correlation matrix is presented in Table 2 with the correlation coefficients shown below the diagonal. The following acronyms are henceforth consistently used in both tables and figures of the present study.

Motivation Factors

MF1= Factor 1 (Determination/or Motivational Strength)/items 45, 46, 47, 48, 49
MF2= Factor 2 (Learning Orientation)/items 1, 2, 4, 21, 26, 27, 28, 50
MF3= Factor 3 (Instrumental Orientation)/items 10, 18, 19, 20
MF4= Factor 4 (Anxiety)/items 39, 40, 41, 42
MF5= Factor 5 (Friends and Travel)/or (Foreign Residence) or (Sociability)/ items 6, 11, 13, 14
MF6= Factor 6 (Belief about failure)/items 33, 34, 43, 44
MF7= Factor 7 (Attitudes to Culture)/items 35, 36, 37, 38
MF8= Factor 8 (Sociability)/items 23, 24
MF9= Factor 9 (Expectancy/Control Components)/item 29

Learning Strategies Factors

LF1= Factor 1 (Human Interaction)/items 28, 46, 47, 48, 49, 50
LF2= Factor 2 (Metacognitive Planning)/items 31, 32, 33, 36, 37, 38, 39
LF3= Factor 3 (Reasoning and Cognitive Strategies)/items 8, 13, 23, 26, 34, 35, 40, 43, 44
LF4= Factor 4 (Analysis and Compensation)/items 18, 19, 20, 21, 29

LF5= Factor 5 (Practice)/items 6, 7, 9, 10, 11, 12, 14, 45
LF6= Factor 6 (Interest in Content/or Focus on Content) /items 15, 16, 17
LF7= Factor 7 (General Memory Strategies) /items 1, 2, 3, 4, 5
LF8= Factor 8 (Holistic Approach)/items 22, 24, 25, 27
LF9= Factor 9 (Affective Strategies)/items 41, 42

As indicated above, Determination, or Motivational Strength (MF1) has significant correlations with Learning Orientation (MF2), Instrumental Orientation (MF3), positive Attitudes to English-speaking Cultures (MF7), and Sociability (MF8), but not with Anxiety (MF4), Belief about Failure (MF6), or Expectancy/Control (MF9). Overall, the correlations between motivational factors and learning strategies are positive and mostly significant. Learning Orientation (MF2) is negatively correlated with Anxiety (MF4), and does not have significant relationships with Instrumental Orientation (MF3), or Belief about Failure (MF6). Learning Orientation (MF2) has moderate correlations with Human Interaction (LF1), Metacognitive Planning (LF2) and Reasoning and Cognitive Strategies (LF3), as well as Interest in Content (LF6).

Instrumental Orientation (MF3) correlates with such motivational factors as Friends and Travel (MF5), Favorable Attitudes to Culture (MF7), and Sociability (MF8), which suggests that integrative and instrumental orientations overlap rather than existing as oppositions. The motivational factor of Anxiety (MF4) correlates negatively with most learning strategy factors, while Affective Strategies (LF9) shows a mix of positive, negative, and non-significant correlations with motivational factors. Students' Belief about Failure (MF6) in foreign language learning shows a low level of correlation (r=.184**) with Reasoning and Cognitive Strategies (LF3).

[Table 2] Intercorrelations among Motivational Orientations and Learning Strategies

	MF1	MF2	MS3	MF4	MF5	MF6	MF7	MF8	MF9	LF1	LF2	LF3	LF4	LF5	LF6	LF7	LF8	LF9
MF1	1.000																	
MF2	.173**	1.000																
MF3	.397**	.091	1.000															
MF4	-.030	-.265**	.170**	1.000														
MF5	.259**	.378**	.265**	-.090	1.000													
MF6	.023	-.092	.130**	.206**	.021	1.000												
MF7	.230**	.250**	.289**	.029	.407**	.035	1.000											
MF8	.367**	.157**	.317**	.073	.339**	.052	.321**	1.000										
MF9	.075	-.150**	.031	.199**	-.421**	.018	-.168**	-.024	1.000									
LF1	.152**	.373**	.060	-.278**	.308**	.077	.176**	.127*	-.185*	1.000								
LF2	.603**	.434**	.231**	-.223**	.311**	-.016	.201**	.301**	-.063	.414*	1.000							
LF3	.089	.532**	.038	-.222**	.273**	.184**	.182**	.102*	-.214**	.486**	.348**	1.000						
LF4	.210**	.246**	.190**	-.190**	.152**	.021	.083	.189**	.014	.293**	.462**	.325**	1.000					
LF5	.255**	.392**	.139**	-.170**	.241**	.070	.122*	.234**	-.036	.369**	.527**	.418**	.440**	1.000				
LF6	.184**	.437**	.113*	-.279**	.415**	.121*	.238**	.108*	-.301**	.504**	.430**	.591**	.391**	.487**	1.000			
LF7	.106*	.319**	.113*	-.206**	.222**	-.046	.203**	.133**	-.177**	.230**	.257**	.262**	.180**	.348**	.244**	1.000		
LF8	.238**	.148**	.107*	-.232**	.135**	.057	.022	.155**	-.038	.207**	.407**	.185**	.401**	.361**	.325**	.157**	1.000	
LF9	-.026	-.254**	.080	.459**	-.109*	.021	-.026	.144**	.128**	-.253**	-.134**	-.311**	-.145**	-.266**	-.302**	-.074	-.142**	1.000

Note.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

And when their focus of foreign language learning is on making Friends and Travel (MF5), the results have significant associations with favorable attitudes to English-speaking cultures and the motivational factor of Sociability (MF8). Likewise, favorable Attitudes to English-speaking Culture (MF7) have significant relationships ($r=.321$, $p<.01$) with Sociability (MF8). Sociability (MF8) has significant correlations with all the motivational factors and learning strategies factors, except Anxiety (MF4) and Belief about Failure (MF6). The ninth motivational factor, Expectancy/Control component, has only one item (If I don't do well in this class, it will be because I don't try hard enough). It is a negative statement, hence the negative correlation with such strategies as Human Interaction (LF1), Reasoning and Cognitive Strategies (LF3), Interest in Content (LF6), and General Memory Strategies (LF7).

Among learning strategy factors, Human Interaction (LF1) correlates positively with the other learning strategies including Metacognitive Planning (LF2), Reasoning and Cognitive Strategies (LF3), Analysis and Compensation (LF4), Practice (LF5), Interest in Content (LF6), General Memory Strategies (LF7) and Holistic Approach (LF8). This Human Interaction factor (LF1) has a negative correlation with Affective Strategies (LF9). Students' Metacognitive Planning (LF2) correlates with Analysis and Compensation ($r=.462^{**}$), Practice Strategies ($r=.527^{**}$), Interest in Content ($r=.430^{**}$), and Holistic Approach ($r=.407^{**}$). The Reasoning and Cognitive Strategies factor (LF3) shows moderate correlations with Practice (LF5), Interest in Content (LF6), and its significant correlations with General Memory Strategies (LF7) and Analysis and Compensation strategies (LF4) indicates reliable relationships at the 0.01 significance level. Analysis and Compensation Strategies (LF4) has moderate correlations with Practice (LF5), Interest in Content (LF6), and Holistic Approach (LF8). There are moderate correlations between

practice (LF5) and Interest in Content (LF6), general Memory Strategies (LF7), and Holistic Approach (LF8).

Interest in Content (LF6) shows positive correlations with General Memory Strategies (LF7) and Holistic Approach (LF8) and has negative correlations with Affective Strategies (LF9). General Memory Strategies (LF7) are significantly correlated with Holistic Approach (LF8) at the 0.01 significance level. Without exception, Affective Strategies (LF9) correlates negatively with all other learning strategies.

4.4. Results of Multiple Regression

Multiple linear regression allows the prediction of the dependent variable from independent variables. The analysis assumes that all variables are interval or ratio scaled, which is compatible with the treatment of ordinal scales as interval scales in the current study. In addition, the dependent variable should be normally distributed around the prediction line. Multiple linear regression, of course, assumes that the variables are related to each other linearly. Scores on the CSAT were collected as the dependent variable in the present study, and as the predictor independent variables were seven motivational factors and the eight learning strategies factors. Two motivational factors, that is, Friends and Travel (MF5), Expectancy and Control Components (MF9) and one learning strategies factor, that is, Affective Strategies (LF9), were not included in multiple regression analyses, because those three factors turned out to be unstable across previous studies and the current study. Thus, with this exclusion, the present study is designed to predict high school students' achieved English proficiency based on their reported seven motivational orientations and eight types of learning strategies through stepwise multiple regression.

4.5. Motivational Orientations, Learning Strategies and Achieved English Proficiency

Table 3 shows that about 32 % of the variance of the dependent variable can be accounted for by selected motivational orientations - Determination (MF1), Learning Orientation (MF2), and Belief about Failure (MF6) - and two types of learning strategies, Practice (LF5) and Holistic Approach (LF8).

[Table 3] Model Summary of Stepwise Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.369	.136	.134	8.300
2	.436	.190	.186	8.048
3	.496	.246	.240	7.777
4	.540	.292	.285	7.545
5	.551	.304	.295	7.491
6	.562	.316	.305	7.435
7	.562	.316	.307	7.426

Note.

1 Predictors: (Constant), LF2

2 Predictors: (Constant), LF2, MF6

3 Predictors: (Constant), LF2, MF6, LF8

4 Predictors: (Constant), LF2, MF6, LF8, MF2

5 Predictors: (Constant), LF2, MF6, LF8, MF2, LF5

6 Predictors: (Constant), LF2, MF6, LF8, MF2, LF5, MF1

7 Predictors: (Constant), MF6, LF8, MF2, LF5, MF1

The effect size, showing the strength of association among the predictor variables and students' achieved English proficiency, is approximately 31% of shared variance. The standard error of estimate (SEE) is a margin of

error for the prediction equation. That is, the "error" is how much each model is off when using regression line to predict scores on the CSAT. Thus, the SEE can be said to indicate a measure of the variability of the errors. The lower the SEE, the higher the degree of linear relationship between the two variables in the regression. The larger the SEE, the less confidence should be on the estimate. Using the prediction equation, 68% of the data will fall within plus or minus one SEE of the predicted value. Just over 95% will fall within two standard errors of the estimates. Thus, in the case of model 7, which is provided in Table 3, 95% of the time, the estimated achieved proficiency score will be within 14.852 (2 x 7.426 = 14.852) points of being correct. However, the current data comes from only intact groups; this interpretation may be reserved for random sample data.

Following is the ANOVA source table from multiple regression, showing the significance of the seventh model. As in most cases, the only statistic worth looking at Table 4 is the one labeled "Sig." for significance level on the far right column.

[Table 4] ANOVA Source Table

Model		Sum of Squares	df	Mean Square	F	Sig.
7	Regression	10143.186	5	2028.637	36.784	.000
	Residual	22004.955	399	55.150		
	Total	32148.141	404			

Note.

* Predictors: (Constant), MF6, LF8, MF2, LF5, MF1
* Dependent Variable: Scores on the CSAT

Table 5 below is multiple regression of achieved English proficiency on selected predictor variables from motivational orientations and learning strategies. It presents all the standard regression statistics as well as

unstandardized ones. The column labeled "Sig." is the *p* value for the associated *t* statistic in the preceding column. The "Tolerance" is the proportion of the variability in one independent variable not explained by the other independent variables, and it is 1 minus the R^2 for each independent variable. Examined one by one, none of these indices of tolerance is so small as to cause major concern of multicollinearity, which would be below .40 (Allison, 1999). Another equivalent multicollinearity diagnostic that is reported for each independent variable is the variance inflation factor (VIF). This is just the reciprocal of the tolerance (1/tolerance). Tolerances between .40 correspond to VIFs above 2.50. Likewise, checked variable by variable, none of these indices of VIF is above the foregoing criterion.

[Table 5] Multiple Regression of Achieved English Proficiency on Selected Predictor Variables from Motivational Orientations and Learning Strategies

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	*t*	Sig.	Collinearity Statistics Tolerance	VIF
7	(Constant)	66.759	.369		180.910	.000		
	MF6	-2.181	.374	-.244	-5.834	.000	.977	1.024
	LF8	2.173	.402	.244	5.410	.000	.846	1.182
	MF2	2.013	.406	.226	4.951	.000	.826	1.210
	LF5	1.309	.432	.147	3.027	.003	.730	1.370
	MF1	1.282	.388	.144	3.299	.001	.905	1.106

Note.

* Dependent Variable: Scores on the CSAT

If the independent variables themselves proved to be highly correlated, this would be a potential problem in multiple regression analyses, and the interpretation of which is predicting the most or least variation in

dependent variable scores would become virtually impossible to disentangle. But no multicollinearity was found among any independent variables (see Table 5).

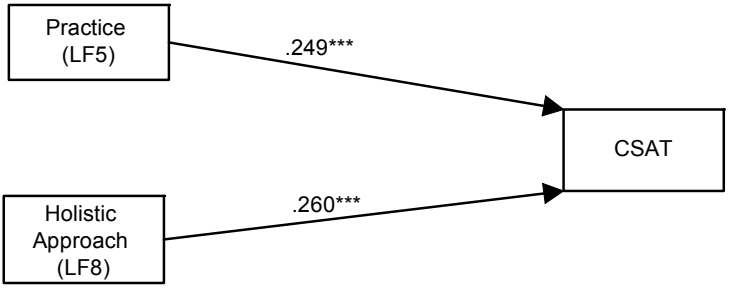
In summary, findings from the multiple regression analysis indicate that a significant prediction equation (F (5,399) =36.784, p<.001) with an R^2 of .316 was obtained, and the direction of the relationship is linear, and the previously discussed regression equation itself is equal to Y' = 66.759 - 2.281 (Belief about Failure) + 2.173 (Holistic Approach) + 2.013 (Learning Orientation) + 1.309 (Practice) + 1.282 (Determination). In other words, controlling for the other variables in the regression equation, the average difference in achieved English proficiency for subjects who are one unit different in Belief about Failure (MF6) is predicted to lose 2.281 points, and for participants who are one unit different in Holistic Approach (LF8) is predicted to gain 2.173 points, and for students who are one unit different in Learning Orientation (MF2) is predicted to show increased 2.013 points, and for EFL learners who are one unit different in Practice (LF5) is predicted to be 1.309 increase, and finally the average difference in English scores for students who are one unit different in Determination (MF1) is predicted to gain 1.282. That is, when students' scale on Belief about Failure (MF6) increases by one unit out of five units, after partialling out the influence of other motivational orientations and learning strategies, their scores on the CSAT are expected to decrease 2.281 points lower out of 80 points. Likewise, it is predicted that students gain 1.282 points when their scale on Learning Orientation (MF2) increase by one unit.

4.6. Two-Stage Least Squares Approach for Direct Causal Effects

The two-stage least squares approach has been taken to find the regression line that minimizes the sum of the squared residuals, or prediction errors. This method identifies only direct causal effects of motivational orientations and learning strategies on each of their dependent variable.

First of all, the question raised is, "Are there any direct effects of Practice (LF5) and Holistic Approach (LF8) on the scores on the CSAT, after adjusting out effects of motivational orientations and interrelationship between Practice (LF5) and Holistic Approach (LF8)?" To solve for the direct paths, each endogenous or dependent variable is regressed on the variables with direct paths to it.

[Figure 1] Direct Effects of Strategies Use on CSAT

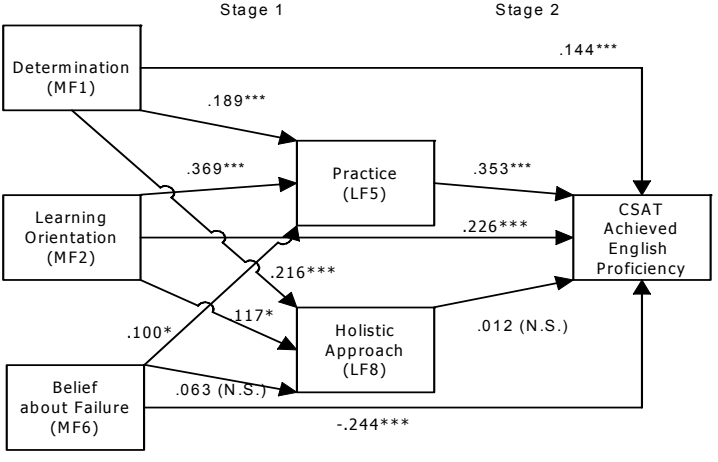


Note:*p<0.05, **p<0.01, ***p<0.001

Figure 1 shows the result of the regression equation without the

motivational orientations being considered. Scores on the CSAT are regressed on Practice (LF5) and Holistic Approach (LF8) to solve for the direct effects to students' achieved English proficiency. Both Practice (LF5) and Holistic Approach (LF8) have significant dependency on the scores on the CSAT at the .001 level. Each of the single-headed arrows represents a causal effect of one variable on another.

[Figure 2] Direct Effects of Language Learning Motivational Orientations and Strategies Use on CSAT adjusted for Motivational Orientations



Note: *p<0.05, **p<0.01, ***p<0.001

Figure 2 shows that three motivational factors, that is, Determination (MF1), Learning Orientation (MF2), and Belief about Failure (MF6), affect CSAT as well as two types of learning strategies factors, which are Practice (LF5), and Holistic Approach (LF8). Stage 1 estimates effects of motivational orientations on Practice (LF5) and Holistic Approach (LF8) after creating standardized predicted variables. Stage 2 estimates effects

of standardized predicted variables, which are adjusted at Stage 1, on the scores on the CSAT. After these adjustments at Stage 1, only Practice (LF5) affects scores on the CSAT at .001 significance level.

Stated differently, the model represented in Figure 2, which follows the two-stage least squares approach, takes out the effects of Stage 1 variables, which are three motivational orientations (MF1, MF2, MF6), and regress scores on the CSAT on two kinds of learning strategies (LF5, LF8) to identify adjusted effects of students' reported use of learning strategies. The method of least squares is designed to find numbers that, in some sense, give optimal predictions of the dependent variable.

5. Discussion and Conclusion

The participants in this study expressed strong agreement with statements concerning the extrinsic usefulness of English (items 6, 12, 16, 18, 19), sociability (item 24), motivational strength (items 45, 46, 47, 48, 49), and expectancy/control components (items 27, 29) which show the degrees of personal responsibility in setting and achieving L2 learning goals. On the other hand, they strongly disagreed with expressions of intrinsic motivation, i.e., enjoying English study (items 2, 3, 4, 5). The participants in this study report that they care about the negative evaluations from both teachers (item 41) and other students (item 42). They have a high level of anxiety, in that they do not like to speak in English class and they are afraid of their teachers' unfavorable ratings. Even if they take the courage to speak English, they still seem to worry about negative peer ratings. This shows that students are generally not

confident about learning English, especially in expressing themselves in front of teachers or peers. Another thing to note is that students reported that their reasons for studying are not to meet the needs or expectations of parents (items 7, 8). Appendix A and Appendix B show the generally low standard deviation figures, indicating that the data are tightly clustered around the mean.

As can be seen from Appendix B, the participants of the study show frequent use of metacognitive strategies (items 32, 33, 37, 38), which concentrate on and evaluate their own learning. Students also show high ratings on several cognitive strategies (items 10, 12, 18, 20, 22), which range from the level of practicing sounds, words, and passages and further to the level of analyzing and reasoning. They also reported their frequent employment of compensation strategies (items 24, 25, 27, 29), and a specific affective strategies (item 41), which involves encouraging themselves when they do well in English. However, they strongly disagreed with statements concerning other affective strategies (items 43, 44), such as taking one's emotional temperature by writing one's feelings in a language learning diary. They also reported infrequent use of social strategies (items 46, 47, 48, 49), such as asking questions, or cooperating with others. They also report using some cognitive strategies (items 14, 16, 17) less frequently, which require practice, reading for pleasure, and the willingness to write messages in English. Overall, students' reported use of learning strategies shows a positive distribution.

In order to answer the question of whether motivational orientations and learning strategy factors significantly predict students' achieved English proficiency, and as a preliminary step to the multiple linear regression, the normality and linearity of the present data was checked through the investigation of the scatter plots of residuals against the predicted scores, and the scatter plots confirmed both assumptions of multiple regression.

The regression analysis indicates that there are some functional relationships among extracted factors and students' achieved English proficiency as measured by the CSAT. In addition to the three motivational factors of Determination (MF1), Learning orientation (LF2), and Belief about Failure (LF6) that turned out to have statistically significant relationships with students' L2 achievement scores, among the two learning strategies factors of Practice (LF5) and Holistic Approach (LF8), only Practice (LF5) factor played a significant role in predicting L2 achievement.

The effect size, showing the strength of association among the predictor variables and the outcome variable, is approximately 31% of shared variance, high enough to have practical significance. The result shows that as much as that proportion of variance that the coefficient of determination indicates can be accounted for by differences in three motivational orientations factors and one learning strategies factor.

The hypothesis, that motivational orientations will have both direct and indirect influences on students' achieved proficiency, and learning strategies will have a direct influence on students' achieved proficiency, was partially supported. The two-stage least squares approach showed that selected motivational predictor variables have both direct and indirect influences on students' achieved English proficiency, and only one learning strategies factor (LF5) among selected learning strategy predictors have direct paths to participants' outcome proficiency.

This study has explored a number of variables that have been shown to have significant correlations with an index of foreign language achievement. Correlates represented by factors associated with achieved proficiency were of particular interest. Based on a preconceived structure of motivational orientations and learning strategies, factor analyses yielded nine factor solutions for each psychological construct: Determination

(MF1), Learning Orientation (MF2), Instrumental Orientation (MF3), Anxiety (MF4), Friends and Travel (MF5), Belief about Failure (MF6), Attitudes to Culture (MF7), Sociability (MF8), and Expectancy/Control (MF9) were identified for motivational orientations, and Human Interaction (LF1), Metacognitive Planning (LF2), Reasoning and Cognitive Strategies (LF3), Analysis and Compensation (LF4), Practice (LF5), Interest in Content (LF6), General Memory Strategies (LF7), Holistic Approach (LF8), and Affective Strategies (LF9) were derived for learning strategies. Students' intrinsic values, conjointly represented by Determination (MF1), and Learning Orientation (MF2) in the present study, positively related to L2 achievement, and Belief about Failure (MF6) negatively related to achieved proficiency are related to Tremblay and Gardner (1995)'s construct of valence, goal salience, and self-efficacy.

The exploration of motivation in SLA, as well as in general psychology, has gone through changes from behavioristic models disregarding cognition and affect to models of motivation that include both cognition and affect. The current study seems to support this transition in motivational theory reflecting the findings of Schmidt *et al.* (1996), Schumann (1997), Tremblay and Gardner (1995), and Gardner *et al.* (1997). Within Schumann's perspective on motivation, the results of the current study can be said to be concerned with stimulus appraisals based on the appealingness of an activity, goal relevance, and coping potential. That is, the roles of Determination (MF1), Learning orientation (MF2), and Belief about Failure (MF6) in predicting achieved English proficiency can be interpreted as stimulus appraisals by the brain of agents and events from the standpoint of goals, coping ability, and self and social image.

To conclude, we need to continue to investigate students' motivational orientations and its correlates, along with the attained outcomes. Understanding correlates of motivational orientations will contribute to the

design of classroom contexts that will expedite and strengthen predictable L2 learning outcomes.

Appendices

Appendix A

Descriptive Statistics for Statements from the Motivation Questionnaire

Subscale	Item	Statement	N	Mean	Std. Deviation
Intrinsic Motivation	1	I enjoy learning English very much.	405	2.73	1.00
Intrinsic Motivation	2	Learning English is a hobby for me.	405	2.23	.95
Intrinsic Motivation	3	Learning English is a challenge that I enjoy.	405	1.93	.87
Intrinsic Motivation	4	I don't enjoy learning English, but I know that learning English is important for me (reverse coded).	405	1.64	.91
Intrinsic Motivation	5	I wish I could learn English in an easier way, without going to class (reverse coded).	405	1.57	.77
Extrinsic Motivation	6	English is important to me because it will broaden my view.	405	3.90	1.03
Extrinsic Motivation	7	The main reason I am taking this class is that my parents want me to improve my English.	405	2.33	1.14
Extrinsic Motivation	8	I want to do well in this class because it is important to show my ability to my family/friends/others.	405	2.29	1.06
Extrinsic Motivation	9	Everybody in Korea should be able to speak English.	405	2.83	1.14
Extrinsic Motivation	10	Being able to speak English will add to social status.	405	3.55	1.04
Extrinsic Motivation	11	I am learning English because I want to spend a period of time in an English speaking country.	405	3.24	1.20
Extrinsic Motivation	12	I want to learn English because it is useful when traveling in many countries.	405	3.98	.96
Extrinsic Motivation	13	I want to learn English because I would like to emigrate.	405	2.23	1.15
Extrinsic Motivation	14	One reason I learn English is that I can meet new people and make friends in my English class.	405	2.46	1.05
Extrinsic	15	I am learning English to become more educated.	405	3.19	1.08

Motivation					
Extrinsic Motivation	16	I need to be able to read textbooks in English.	405	3.75	1.02
Extrinsic Motivation	17	The main reason I need to learn English is to pass examinations.	405	3.31	1.05
Extrinsic Motivation	18	If I learn English better, I will be able to get a better job.	405	4.13	.78
Extrinsic Motivation	19	Increasing my English proficiency will have financial benefits for me.	405	3.79	.89
Extrinsic Motivation	20	If I can speak English I will have a marvelous life.	405	3.39	1.08
Extrinsic Motivation	21	I really want to learn more English in this class than I have done in the past.	405	3.11	1.14
Personal Goals	22	It is important to me to do better than the other students in my class.	405	3.44	1.00
Personal Goals	23	My relationship with the teacher in this class is important to me.	405	3.23	1.03
Personal Goals	24	One of the most important things in this class is getting along with the other students.	405	4.15	.87
Personal Goals	25	This class is important to me because if I learn English well, I will be able to help my children learn English.	405	2.46	.96
Personal Goals	26	This English class will definitely help me improve my English.	405	2.99	1.00
Expectancy/ Control Components	27	If I do well in this course, it will be because I try hard.	405	3.60	.89
Expectancy/ Control Components	28	I expect to do well in this class because I am good at learning English.	405	2.98	1.04
Expectancy/ Control Components	29	If I don't do well in this class, it will be because I don't try hard enough.	405	3.67	.95
Expectancy/ Control Components	30	If I don't do well in this class, it will be because I don't have much ability for learning English.	405	2.80	1.13
Expectancy/ Control Components	31	If I learn a lot in this class, it will be because of the teacher.	405	2.63	.99
Expectancy/ Control Components	32	If I don't learn well in this class, it will be due mainly because of the teacher.	405	2.75	.94
Expectancy/ Control Components	33	If I don't learn well in this class, it will be due mainly because of the teacher.	405	2.46	.92

Expectancy/ Control Components	34	If I don't do well in this class, it will be because the class is too difficult.	405	2.74	.88
Expectancy/ Control Components	35	Americans are very friendly people.	405	2.57	.86
Attitudes	36	The English are conservative people who cherish customs and traditions.	405	3.10	.84
Attitudes	37	Most of my favorite actors and musicians are either British or American.	405	2.40	1.10
Attitudes	38	British and American culture has contributed a lot to the world.	405	3.09	.90
Attitudes	39	I feel uncomfortable if I have to speak in my English class.	405	3.36	1.00
Anxiety	40	It embarrasses me to volunteer answers in my English class.	405	3.63	1.01
Anxiety	41	I don't like to speak often in English class, because I am afraid that my teacher will think I am not a good student.	405	2.81	1.02
Anxiety	42	I am afraid other students will laugh at me when I speak English.	405	2.91	1.11
Anxiety	43	I think I can learn English well, but I don't perform well on tests and examinations.	405	2.80	.91
Anxiety	44	I often have difficulty concentrating in English class.	405	2.85	.95
Anxiety	45	If the fees for this class were increased, I would still enroll because studying English is important to me.	405	3.97	.98
Motivational Strength	46	My attendance in this class will be good.	405	3.92	.94
Motivational Strength	47	I plan to continue studying English for as long as possible.	405	3.86	1.04
Motivational Strength	48	After I finish this class, I will probably take another English course.	405	3.79	1.07
Motivational Strength	49	I often think about how I can learn English better.	405	3.80	.96
Motivational Strength	50	I can honestly say that I really put my best effort into trying to learn English	405	2.67	1.10

Appendix B

Descriptive Statistics for Statements from the Learning Strategies Questionnaire

Learning Strategies Subscale	Item	Statement	N	Mean	Std. Deviation
Memory	1	I think of relationships between what I already know and new things I learn in English.	405	2.56	.98
Memory	2	I use new English words in a sentence so I can remember them.	405	2.54	.99
Memory	3	I connect the sound of a new English word and an image or picture of the word to help me remember the word.	405	2.90	1.11
Memory	4	I remember a new English word by making a mental picture of a situation in which the word might be used.	405	2.96	1.05
Memory	5	I use rhymes to remember new English words.	405	2.79	1.00
Memory	6	I use flashcards to remember new English words.	405	2.73	1.10
Memory	7	I physically act out new English words.	405	2.12	.92
Memory	8	I review English lessons often.	405	2.36	.85
Memory	9	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	405	3.26	1.03
Cognitive	10	I say or write new English words several times.	405	3.40	1.02
Cognitive	11	I try to talk like native English speakers.	405	2.60	1.03
Cognitive	12	I practice the sounds of English.	405	3.10	.99
Cognitive	13	I use the English words I know in different ways.	405	2.77	.96
Cognitive	14	I start conversations in English.	405	2.39	.92
Cognitive	15	I watch English language TV shows spoken in English or go to movies spoken in English.	405	2.73	1.06
Cognitive	16	I read for pleasure in English.	405	2.26	.93
Cognitive	17	I write notes, messages, letters, or reports in English.	405	2.20	.96
Cognitive	18	I first skim an English passage (read over the passage quickly) then go back and read carefully.	405	3.21	1.04
Cognitive	19	I look for words in my own language that are similar	405	2.79	1.02

		to new words in English.			
Cognitive	20	I try to find patterns in English.	405	3.02	1.04
Cognitive	21	I find the meaning of an English word by dividing it into parts that I understand.	405	2.92	1.11
Cognitive	22	I try not to translate word-for-word.	405	3.38	1.01
Cognitive	23	I make summaries of information that I hear or read in English.	405	2.33	.91
Compensation	24	To understand unfamiliar English words, I make guesses.	405	3.42	.99
Compensation	25	When I can't think of a word during a conversation in English, I use gestures.	405	3.40	1.00
Compensation	26	I make up new words if I do not know the right ones in English.	405	2.65	1.05
Compensation	27	I read English without looking up every new word.	405	3.27	1.09
Compensation	28	I try to guess what the other person will say next in English.	405	2.72	1.01
Compensation	29	If I can't think of an English word, I use a word or phrase that means the same thing.	405	3.09	1.01
Metacognitive	30	I try to find as many ways as I can to use my English.	405	2.67	.96
Metacognitive	31	I notice my English mistakes and use that information to help me do better.	405	2.90	.98
Metacognitive	32	I pay attention when someone is speaking English.	405	3.09	.99
Metacognitive	33	I try to find out how to be a better learner of English.	405	3.64	1.02
Metacognitive	34	I plan my schedule so I will have enough time to study English.	405	2.71	.94
Metacognitive	35	I look for people I can talk to in English.	405	2.50	.99
Metacognitive	36	I look for opportunities to read as much as possible in English.	405	2.68	1.01
Metacognitive	37	I have clear goals for improving my English skills.	405	3.17	1.12
Metacognitive	38	I think about my progress in learning English.	405	3.56	.90
Affective	39	I try to relax whenever I feel afraid of using English.	405	3.00	.96
Affective	40	I encourage myself to speak English even when I am afraid of making a mistake.	405	2.54	1.05
Affective	41	I give myself a reward or treat when I do well in English.	405	3.10	1.08
Affective	42	I notice if I am tense or nervous when I am studying or using English.	405	3.04	1.08

Affective	43	I write down my feelings in a language learning diary.	405	1.86	.99
Affective	44	I talk to someone else about how I feel when I am learning English.	405	2.37	1.07
Social	45	If I do not understand something in English, I ask the other person to slow down or say it again.	405	3.30	1.00
Social	46	I ask English speakers to correct me when I talk.	405	2.39	1.08
Social	47	I practice English with other students.	405	2.20	.93
Social	48	I ask for help from English speakers.	405	2.17	.98
Social	49	I ask questions in English.	405	2.12	.91
Social	50	I try to learn about the culture of English speakers.	405	2.92	1.21

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Abstract

Addressing the Explanatory Power of Correlates of Language Learning Motivational Orientations through a Two-Stage Least Squares Approach

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The present study was concerned with explicating the correlates of language learning motivation through the methodological framework of the two-stage least squares approach. Of interest in this study was how motivational orientations are related to the specific learning strategies that Korean high school learners of English commonly use, together with the relationship of these psychological constructs to these learners' attained English proficiency scores. This study also discusses major theories and findings in the motivational research on L2 learning, together with psychological approaches to motivation with regard to second language acquisition (SLA). This is followed by a review and a discussion of language learning strategies, exploring how learning strategies work for the English language learning.

Key Words: motivational orientation, learning strategies, self-efficacy, two-stage least squares, validity
동기적 방향성, 학습 전략, 자아 효능감, 이단계 최소 자승법, 타당도

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