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Gender Differences in Korean Secondary School Students' Learning Styles and L2 Motivation

Yoon-Kyoung Kim · Tae-Young Kim*
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To date, gender differences in learning style has not been investigated from the perspective of L2 motivational self-system (Dörnyei, 2005, 2009). This study investigates the perceptual learning style preferences, ideal L2 self, ought-to L2 self, and motivated L2 behavior of 495 Korean male and female secondary school students. The results of the analysis, which is based on survey questionnaires, revealed that the female students were more strongly orientated towards visual learning, while the male students preferred kinesthetic learning. In addition, the female students exhibited a more vivid ideal L2 self and more motivated L2 behavior. The visual and the ideal L2 self were the most accurate predictors for distinguishing differences in learning preferences existing between male and female students. This indicates that the female students' visual preference contributed to their greater ability to form a vivid ideal L2 self. Based on this, it is suggested that language teachers, and in turn their male students, would benefit from developing an understanding of the existing incompatibility between the male students' preference for auditory and kinesthetic styles and the successful development of an ideal L2 self.

[perceptual learning styles/L2 motivational self system, 지각학습유형/제2언어 동기자아체계]

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I. Introduction

While it is evident that motivation plays a significant role in the successful learning of a second language (L2) (Kang, 2010; Kim, 2006), a number of L2 researchers have focused specifically on what role gender might play in determining motivational levels in L2 learning. The research conducted so far appears to indicate that male learners have a tendency to be less motivated than female learners. For example, in Canada and the United Kingdom, research into students studying French as an L2 revealed that the male learners tended to have lower levels of motivation compared with their female counterparts (Kissau, 2006; Williams, Burden, & Lanvers, 2002). The situation was similar in South Korea, where a survey of Korean students learning English also demonstrated that males shared the same tendency to be less motivated than female learners (Kang, 2004; Kim, 2009).

The discovery that gender can have such a major impact on the motivational levels of students naturally led to the question “Why does this difference exist?” One possible answer put forward for this effect in Canada and the United Kingdom, is that as English is the native language learning French might be considered to be low in value, thereby leading to the male students having less motivation to study this L2. In these regions, male students might prefer the study of subjects such as politics, business, medicine, or engineering because they are perceived as being potentially more practical and profitable. However, in Korea, students have to learn English as a major foreign language, in order to have access to extended opportunities for further studies, improved employment options, and promotion when employed. Therefore, the possible causes for this lower level of motivation found in Korean male L2 learners need to be approached from qualitatively different perspectives.

In order to determine the best approach to take, we paid particularly close attention to recent studies concerning the nature of the relationship between perceptual learning styles and L2 learning motivation. Even though gender difference is generally recognized as being affected by sociocultural aspects (Pavlenko, 2004), the studies seem to provide a valuable clue that different perceptual learning style preferences are likely to be related to different levels of motivation (Al–Shehri, 2009; Kim, 2009; Kim & Kim, 2011). In their desire to
develop support for this hypothesis, the researchers conducting these studies based
the motivational factors for L2 learning on a relatively new concept, the L2
Motivational Self System, proposed by Dörnyei (2005, 2009). The ideal L2 self is
one of the major elements of this model, representing the future self-image that
the learner wants to develop by acquiring the L2. Influenced by Dörnyei’s
suggestion that forming an L2 self is related to vision and imagery, the
researchers discovered that the visual learning style was the channel for the
development of a more vivid ideal L2 self, in turn leading to a higher level of
motivated L2 behavior. However, Kim (2009) also discovered that, for Korean
elementary school students, auditory style preferences were equally related to the
students, a significant relationship existed between the visual, the ideal L2 self and
motivated L2 behavior. Given this, an examination of the effect of gender in the L2
motivational self system, in conjunction with perceptual learning styles, would be
of one of the ways to explain why a gender difference in motivation exists. It can
also help come up with possible solutions to the problems that such a difference
can cause.

Currently, only one study has been conducted into the effect of gender in the
new model on L2 motivation in Korea, that being Kim’s (2009) study of Korean
elementary school students. Therefore, this study aims to investigate if Korean
secondary male and female students’ different perceptual learning style preferences
have any relation to the different degrees of L2 learning motivation based on the
L2 motivational self system.

It also needs to be noted that most of the research into the nature of the
relationship that exists between motivation and gender has tended to be somewhat
lacking in practical applications, mainly due to the notion that gender-based
differences are a natural occurrence and therefore not subject to change. Therefore,
in this paper, we put more effort into providing practical applications that can be
used by language teachers in the classroom to deal with gender generated
differences in levels of language learning motivation. The postulated research
questions are as follows:

1. Which of the perceptual learning styles do Korean male and female
   secondary school students prefer?
2. Based on gender, do any statistically significant differences exist in the L2 motivational self systems of the students?
3. What is the effect of the male and female students’ perceptual learning styles and L2 motivational self system on their motivated L2 behavior?

II. Literature Review

As aforementioned, Kim's (2009) study of elementary school students is the only research that has been conducted regarding gender difference in the L2 motivational self system in conjunction with perceptual learning styles of Korean students. Kim's study will be discussed, as well as other studies into the effects of gender difference on perceptual learning styles or motivation. Before that, the background and concepts of the L2 motivational self system will be explained. Al-Shehri's (2009) study concerning the relationship between a visual learning preference and the ideal L2 self will also be discussed in this section. Although Al-Shehri's study does not focus on gender differences in motivation, it was the inspiration for Kim's study and is therefore considered to be relevant.


A relatively new construct for L2 motivation was suggested by Dörnyei (2005). The ground for this development of a new L2 motivation construct was a growing dissatisfaction with Gardner's (1985) integrativeness, a concept that has been highlighted in most of the research conducted into L2 motivation studies (Gardner, 1985, 2001; Gardner & Lambert, 1959, 1972; Lukmani, 1972). In the multicultural setting of Montréal, where Gardner and Lambert (1959) first suggested the concept of integrativeness, it was possible to talk about potential integration, because of the existence of a French community that students could desire to, and attempt to, integrate with. However, in learning situations where English as a foreign language is taught as a school subject, without any direct contact with its speakers (e.g. teaching English or French in China, Japan, Korea or other typical foreign language learning contexts), the aim of integrativeness appears to be less relevant (Dörnyei, 2009). As such, with the lack of a particular L2 group to
integrate into, and the ambiguous nature of integrativeness, several studies in the past, particularly in foreign language situations, have not discovered that L2 learners' motivation corresponded to integrativeness as presented in its original sense by Gardner's (1985) socio-educational model. These challenges to the core of the socio-educational model have resulted in the necessity for a broader and more appropriate conceptualization of L2 motivation.

In response, Dörnyei (2005) applied the concept of future self-images to students' L2 learning motivation, as inspired by Markus and Nurius' (1986) possible self theory and Higgins' (1987) self-discrepancy theory. Markus and Nurius defined possible selves as being specific, individually significant hopes, fears, and fantasies, not just any set of imagined roles or states of being. In this connection, Dörnyei stated that these "possible selves are specific representations of one's self in future states, involving thoughts, images, and senses, and are in many ways the manifestations, or personalized carriers, of one's goals and aspiration (or fears, of course)" (p. 99). In the self-discrepancy theory, Dörnyei focused on the postulation that "people are motivated to reach a condition where their self-concept matches their personally relevant self-guides" (p. 100). That is, the desire to reduce the gap between the actual self and the possible self can be a powerful motivator.

Based on the observations described above, the concepts of the ideal L2 self and the ought-to L2 self have been suggested as being major motivational factors in Dörnyei's (2005, 2009) L2 motivational self system. The ideal L2 self refers to the future L2 speaking self-image that one desires to achieve. The ought-to L2 self refers to "the attributes that one believes one ought to possess in order to avoid possible negative outcomes" (Dörnyei, 2005, pp. 105-106). The final concept of the L2 learning experience "concerns situation-specific motives related to the immediate learning environment and experience" (p. 106). This concept reflects the dynamically changing nature of L2 motivation resulting from external learning contexts.

With regards to forming these L2 selves while learning an L2, Dörnyei (2009) insists that it is significant that L2 learners possess a superordinate vision in order to stay on track. He argues that this is the primary basis for the success of certain learners because "language learning is a sustained and often tedious process with lots of ups and downs" (p. 25). He also compares language learning
to the training of professional athletes, pointing out that successful athletes are often motivated by imagery and vision. In this context, Al-Shehri (2009) hypothesized that learners with a dominant visual learning style are more likely to exhibit a strong capacity for visual imagery and imagination, and that therefore such learners are more likely to develop a stronger ideal L2 self. He examined the visual learning styles, imagination, ideal L2 self, and motivated behavior of 98 university students and 102 high school students. All of them were studying English as either a foreign language in Saudi Arabia, or as a second language in the UK. He discovered that the participants’ visual style was highly correlated with the ideal L2 self and motivated behavior via the creation of mental imagery.

2. Gender Difference in Perceptual Learning Styles and L2 Motivation

This part covers previous studies on gender difference in perceptual language learning styles and in L2 motivation. As for the different learning style preferences between Korean male and female students, Park (2006) investigated 362 elementary school students learning English. The study results revealed that the female students preferred visual learning styles, while the male students preferred kinesthetic styles. The study by Park (1998) into 622 secondary school students showed the same results, with the female students more-visual oriented and the male students more dominant kinesthetic styles.

In Canada, using a mixed method, Kissau (2006) investigated whether or not gender differences in a variety of motivational factors existed among Grade 9 students learning French. He found that the participants' desire to learn French was the best predictor for distinguishing differences in levels of motivation between males and females. The female students responded more positively in most motivational factors such as desire to learn French, integrative motivation, and motivational intensity than the male students did. The cause of these differences was determined to be societal perceptions of French: that is, French was perceived by the male students as being a feminine domain, accordingly leading to lower levels of motivation. The gender-based L2 motivational research conducted by Mori and Gobel (2006) in Japan provided a similar result regarding integrativeness. They discovered that there was a significant difference in integrativeness with female students demonstrating higher levels of this type of
motivation.

In the Korean context, expanding on Al-Shehri’s (2009) study, Kim (2009) investigated 974 elementary school students’ visual, auditory, kinesthetic, imagination, ideal L2 self, and motivated behavior. The results of the study suggested that the auditory learning style also correlated with the ideal L2 self having a positive effect on motivated behavior, while the kinesthetic style was not related to the ideal L2 self and negatively influenced motivated behavior. An additional focus of the study was gender difference in perceptual learning styles and L2 motivation. The female elementary school students involved in the study preferred visual and auditory styles, whereas the male students preferred the kinesthetic style. As for the ideal L2 self, the female students also demonstrated the possession of a more vivid ideal L2 self.

Given this, it is arguable that the female elementary school students’ dominant visual style was likely to be the cause of a more salient ideal L2 self, one which resulted in more motivated behavior. In contrast, the preference for the kinesthetic style evidenced by the male elementary school students could result in a weaker concept of an ideal L2 self leading to a negative impact on motivated behavior. Accordingly, gender differences in L2 motivation are likely to be attributed to different perceptual learning style preferences among male and female L2 learners. Based on this hypothesis, our study investigates Korean secondary school students’ visual, auditory, kinesthetic, ideal L2 self, ought-to L2 self, and motivated behavior. Because the exact feature of the L2 motivational self system has not been fully investigated in the Korean context, we assume that it would be worthwhile to explore gender difference in this model.

III. Method

1. Participants

The total number of participants was 495 Korean secondary school students, all of them attending schools in Sungnam, Gyeonggi Province. Two hundred seventy seven (56%) students were second grade middle school students and 218 (44%) were second grade high school students. In Table 1, the participant profile is provided based on gender and school level. Two hundred fifty two students were
males and 243 were females. The middle school English lessons were conducted three times a week, and the high school classes five times a week. All of the participants' English proficiency levels were intermediate and they belonged to the second group out of three divided groups: beginner, intermediate, and advanced.

### TABLE 1
Frequency Statistics of the Participants' Gender and School Level

<table>
<thead>
<tr>
<th>Gender</th>
<th>N (%)</th>
<th>School Level</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>252 (51)</td>
<td>Middle</td>
<td>162 (33)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>90 (18)</td>
</tr>
<tr>
<td>Female</td>
<td>243 (49)</td>
<td>Middle</td>
<td>115 (23)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>128 (26)</td>
</tr>
</tbody>
</table>

2. Data Collection

Three studies were used to develop the survey method investigating the three different perceptual learning styles and motivational factors found in the L2 motivational self system. First, Cohen, Oxford, and Chi's (2002) *Learning Style Survey* was used to measure visual, auditory, and kinesthetic learning styles. Second, the survey for the ideal L2 self, the ought-to L2 self, and motivated L2 behavior was based on Al-Shehri's (2009) and Taguchi, Magid, and Papi's (2009) study. All of the items were measured using a six-point, Likert-type scale, ranging from *disagree strongly* (1) to *agree strongly* (6).

To further develop the questionnaire utilized in this study, 30 English language students attending a private ESL institute in Sungnam were asked to take part in a pilot study in June 2010. They were excluded from the main study. After completing the questionnaire, they were requested to report if they experienced any difficulties in understanding and responding to the questionnaire. In addition, reliability statistics were run to determine the level of internal consistency, and any items that lowered Cronbach's alpha were eliminated. In the final version of the questionnaire, Cronbach's alpha indexes were α=.673 for visual (6 items), α=.606 for auditory (4 items), α=.801 for kinesthetic (5 items), α=.927 for the ideal L2 self (7 items), and α=.878 for the ought-to L2 self (7 items).

The main-study questionnaire was administered in three middle schools and two high schools in Sungnam in July 2010 (see Appendix for sample questions).
The researchers were only able to personally administer the survey in two middle schools due to school policies, so the other participants were informed of the purpose and directions for the survey by their teachers. All of the students in the five schools were allowed approximately 5 minutes to respond to 53 questions, as the pilot survey took less than 10 minutes with 80 questions.

3. Data Analysis

Three types of quantitative methods were used to analyze the collected data. The first method was frequency analysis, used to determine the percentage of participants based on gender and school level. Second, an independent samples t-test was carried out in order to establish if any significant differences existed in the perceptual language learning styles and the L2 motivational self system based on the participants’ gender. Third, discriminant function analysis was implemented to determine if male and female students were successfully classified based on perceptual learning style preferences and the motivational factors in the L2 motivational self system. This also served the purpose of determining the relative importance of each independent variable when examining gender difference. Fourth, a series of regression analyses were conducted to identify the most influential predictor for male and female students’ motivated L2 behavior. The alpha was set at .05.

IV. Findings and Discussion

Based on the three research questions, six variables were set: visual, auditory, kinesthetic, the ideal L2 self, the ought-to L2 self, and motivated L2 behavior. The collected data are presented and analyzed in this section with the purpose of determining (1) which of the three perceptual learning styles Korean male and female secondary school students prefer, (2) if a statistically significant gender difference exists in their ideal and ought-to L2 selves and motivated L2 behavior, and (3) how the students’ perceptual learning styles and the ideal and ought-to L2 selves influence motivated behavior based on gender. For the serial data analyses, each of the first two parts includes a comparison of the mean scores and the standard deviation of variables, and the standardized canonical discriminant
function coefficient of the variables, based on the participants' gender. The last part involves sequential regression analyses.

1. Perceptual Learning Style Preferences Based on Gender

The comparison of mean scores in perceptual language learning styles between male and female students is presented in Table 2. There were statistically significant differences in all three of the perceptual language learning style preferences.

### TABLE 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>M</td>
<td>3.7728</td>
<td>.95113</td>
<td>-4.890**</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>4.1549</td>
<td>.77497</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditory</td>
<td>M</td>
<td>3.6412</td>
<td>.87064</td>
<td>2.794**</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3.4448</td>
<td>.68531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>M</td>
<td>3.3831</td>
<td>.98044</td>
<td>3.212**</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3.1107</td>
<td>.90304</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N=495; Male=252, Female=243; **p<.01.*

Female students were more visually-oriented than the male students, while the male students preferred the kinesthetic style more than the female students, similar to Kim's (2009) elementary school student study. However, as for the auditory style, the male students demonstrated a stronger preference than the female students, the opposite of Kim's study, in which the female students evidenced a greater preference for the auditory style.

### TABLE 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>.881</td>
</tr>
<tr>
<td>Auditory</td>
<td>-.596</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>-.296</td>
</tr>
</tbody>
</table>

Table 3 provides each variable's standardized canonical discriminant function coefficient.
coefficient. In the case of Korean secondary school students’ gender, the visual style was the strongest predictor. That is, as for determining the distinctions existing between Korean male and female secondary school students, the visual style was the best predictor among the three different perceptual learning style preferences.

2. Gender Differences in the L2 Motivational Self System

Table 4 indicates that statistically significant differences existed between the two gender groups in regards to the ideal L2 self and motivated L2 behavior.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal L2 self</td>
<td>M</td>
<td>4.0946</td>
<td>.99919</td>
<td>-4.680*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>4.5179</td>
<td>1.00921</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ought-to L2 self</td>
<td>M</td>
<td>3.4154</td>
<td>1.14760</td>
<td>1.669</td>
<td>.096</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3.2533</td>
<td>1.00688</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivated L2 behavior</td>
<td>M</td>
<td>3.6276</td>
<td>1.00635</td>
<td>-3.804*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3.9813</td>
<td>.99649</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N=495; Male=252, Female=243; **p<.01.

Female students revealed higher mean scores in the ideal L2 self and motivated L2 behavior than their male counterparts. The mean difference for the ought-to L2 self was not statistically significant, indicating that being male or female had no impact regarding the extent to which students felt pressured to learn the target language. On the other hand, there was a clear difference in the mean scores for the ideal L2 self, with female students appearing to possess much stronger ideal L2 selves than the male students. It can be assumed then that the female students’ dominant visual style contributes to the development of their more elaborate ideal L2 selves because the ideal L2 self requires the forming of images related to L2 learning and use. Arising from this relationship between perceptual learning styles and the L2 motivational self system is another assumption that the male students’ auditory styles are more likely to be associated with their ought-to L2 selves. It is due to the fact that the ought-to L2 self is developed by the use of verbalisms
such as 'must, should, and ought to.'

The data confirming this assumption is displayed in Table 5 which shows the correlation among Korean male and female secondary school students’ perceptual language learning styles, ideal L2 self, ought-to L2 self, and motivated L2 behavior. The correlation coefficient between the auditory style and the ought-to L2 self of the male students was higher than that of the female students. As described earlier, the female students' preference for the visual style demonstrated relatively high correlations with the ideal L2 self.

### TABLE 5
Pearson Correlations of the Variables

<table>
<thead>
<tr>
<th></th>
<th>Visual</th>
<th>Auditory</th>
<th>Kinesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal L2 self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>.309**</td>
<td>M .326**</td>
<td>M -.028</td>
</tr>
<tr>
<td>F</td>
<td>.370**</td>
<td>F .138*</td>
<td>F -.218**</td>
</tr>
<tr>
<td>Ought-to L2 self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>.268**</td>
<td>M .347**</td>
<td>M .120</td>
</tr>
<tr>
<td>F</td>
<td>.224**</td>
<td>F .178**</td>
<td>F .075</td>
</tr>
<tr>
<td>Motivated L2 behavior</td>
<td>M .448**</td>
<td>M .296**</td>
<td>M -.107</td>
</tr>
<tr>
<td></td>
<td>F .450**</td>
<td>F .184**</td>
<td>F -.312**</td>
</tr>
</tbody>
</table>

*Note. N=495; Male=252; Female=243; *p<.05, **p<.01.*

### TABLE 6
Standardized Canonical Discriminant Function Coefficients

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal L2 self</td>
<td>.818</td>
</tr>
<tr>
<td>Ought-to L2 self</td>
<td>-.652</td>
</tr>
<tr>
<td>Motivated L2 behavior</td>
<td>.386</td>
</tr>
</tbody>
</table>

In Table 6, the standardized canonical discriminant function coefficient of the ideal L2 self was the largest (.818). This indicates that the ideal L2 self was identified as being the most closely related to gender difference among the ideal L2 self, the ought-to L2 self, and motivated behavior. The coefficients of the ought-to L2 self and motivated L2 behavior were -.652 and .386 respectively.

The findings described thus far can be extended to the differences in the relationship between the L2 motivational self system and perceptual learning style preferences among male and female students. To sum up, the female demonstrated a stronger visual learning preference and a more vivid ideal L2 self, while the male
exhibited a greater preference for the auditory and the ought-to L2 self. The visual and the ideal L2 self functioned as better predictors than any other variable for explaining the differences occurring due to gender.

In order to explain why these differences exist, we first focused on the relationship between perceptual learning style preferences and the ideal L2 self, as established in Kim’s (2009) study. In his sample of Korean elementary school students, their visual style was correlated with the formation of the ideal L2 self and had the positive effect on their motivated behavior. However, the preference for the kinesthetic style had a negative influence on motivated behavior, without any relation to the ideal L2 self. The expanded study conducted by Kim and Kim (2011) produced similar findings with Korean secondary school students. Accordingly, it is reasonable to conclude that the female students’ dominant visual style contributes to the development of a more elaborate ideal L2 self. By comparison, the male students’ preference for the auditory and the kinesthetic style is more likely to be the reason for being less able to form a vivid ideal L2 self. Therefore, as hypothesized, it is possible that this gender-based difference in motivation is attributable to the difference in preferred learning styles.

3. The Effect of Perceptual Learning Styles and L2 Motivation on Motivated L2 Behavior Base on Gender

The final step was investigating the impact of perceptual learning styles and the motivational factors of the L2 motivational self system on the motivated L2 behavior of Korean male and female secondary school students as shown in Tables 7 and 8.

For sequential regression analysis in Table 7, the male students’ ideal L2 self, ought-to L2 self, visual, and kinesthetic were entered in order as independent variables. The order in which these variables were entered was determined according to the significance for each variable as indicated in the standard regression analysis and the correlation coefficients with the motivated L2 behavior in the previous part. It is as indicated in the model parts in Table 7. The number provided for each model in Table 7 states how many variables were entered, and the variable name for each model indicates that it has been added to the previous model. Auditory was not identified as being statistically significant in the standard
regression analysis, so it was excluded from the entered predictors. The Variance Inflation Factor (VIF) for all of the variables was set at around 1 or 2, and the Tolerance ranged from .763 to .978, indicating the absence of any multicollinearity in this regression model.

### TABLE 7

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>ΔR²</th>
<th>R² Change</th>
<th>t</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1 Ideal L2 self</td>
<td>.689</td>
<td>.475</td>
<td>.473</td>
<td>.475</td>
<td>10.826</td>
<td>.763</td>
</tr>
<tr>
<td>2 Ought-to L2 self</td>
<td>.733</td>
<td>.537</td>
<td>.533</td>
<td>.062</td>
<td>5.758</td>
<td>.804</td>
</tr>
<tr>
<td>4 Kinesthetic</td>
<td>.766</td>
<td>.586</td>
<td>.579</td>
<td>.017</td>
<td>-3.162</td>
<td>.978</td>
</tr>
</tbody>
</table>

Examining model 4, approximately 58% of the variance is explained by all four variables. The addition of each variable, in order from models 1 to 4, added increasing explanatory power for the male students' motivated behavior. Taking into account the unique contribution of each variable to motivated behavior, model 1 indicates that the ideal L2 self alone accounts for 46% of the male students' motivated L2 behavior. The explanatory power of the ought-to L2 self is 6% and visual is 3%, however, kinesthetic had a negative influence on motivated L2 behavior with an explanatory power of 2%.

The sequential regression analysis in Table 8 is concerned with the influence of Korean female secondary school students' perceptual learning styles, and the L2 motivational self system on motivated behavior. The entered independent variables were the ideal L2 self, visual, kinesthetic, and auditory. The order in which the variables were entered was decided in accordance with the significance for each variable in the standard regression analysis and the correlation of the coefficients with motivated L2 behavior. The ought-to L2 self was not identified as being statistically significant and was therefore excluded from the entered predictors.

The Variance Inflation Factor (VIF) of all of the variables was set at around 1 or 2, and the Tolerance ranged from .823 to .893, which validates the absence of any multicollinearity in the regression model. The first variable entered was the
ideal L2 self: the others were entered in succession. The variable names in the listed models present which variable was entered into the previous model. Approximately 59% of the total variance is explained by the four variables. Regarding the unique contribution of each variable to motivated L2 behavior, the ideal L2 self itself explains 53% of the female students’ motivated behavior. The explanatory power of visual is 4%, and auditory is 1%. However, kinesthetic negatively influenced motivated L2 behavior, the explanatory power being 2%.

### TABLE 8

**Sequential Regression Analysis for Variables Predicting Female Students’ Motivated L2 Behavior**

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>$\Delta R^2$ Change</th>
<th>$t$</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1 Ideal L2 self</td>
<td>.731</td>
<td>.534</td>
<td>.532</td>
<td>.534</td>
<td>13.645</td>
<td>.827</td>
</tr>
<tr>
<td>2 Visual</td>
<td>.756</td>
<td>.571</td>
<td>.568</td>
<td>.037</td>
<td>3.825</td>
<td>.823</td>
</tr>
<tr>
<td>3 Kinesthetic</td>
<td>.768</td>
<td>.590</td>
<td>.585</td>
<td>.019</td>
<td>-3.791</td>
<td>.878</td>
</tr>
<tr>
<td>4 Auditory</td>
<td>.774</td>
<td>.598</td>
<td>.592</td>
<td>.009</td>
<td>2.271</td>
<td>.883</td>
</tr>
</tbody>
</table>

The ideal L2 selves of both the male and female students had the most influence on their motivated L2 behavior. For both genders the formation of a vivid ideal L2 self produces an increased motivation to learn the English language. However, regarding the combined influence of perceptual learning styles and motivational factors on motivated behavior, female students’ ideal L2 self together with the visual learning style presented more explanatory power for motivated behavior than was the case with male students. This appears to prove that a combination of female students’ visual and ideal L2 self is a more effective instrument for explaining, and also developing their motivated L2 behavior.

The negative impact of the kinesthetic learning style on motivated L2 behavior was also identical for both male and female students. As male students demonstrated a greater preference for the kinesthetic learning style, as indicated in Table 2, this learning style is likely to have a greater impact on their motivation to study an L2.
VI. Summary and Implications

To date, studies based on the relatively new concepts of Dörnyei’s (2005, 2009) L2 motivational self system have not been fully conducted, especially into the effect of gender difference in L2 motivation. With the hypothesis that gender difference in this model is likely to be related to gender difference in perceptual learning style preferences, our study investigated the differences in visual, auditory, kinesthetic, the ideal L2 self, the ought-to L2 self, and the motivated behavior of 495 Korean male and female secondary school students. Our research findings are summarized as follows:

1. Male secondary school students demonstrated a greater preference for the auditory and kinesthetic learning styles, while female secondary school students preferred the visual-oriented learning style. The difference in perceptual learning preferences was best explained by the visual variable.

2. Female students demonstrated evidence of a more vivid ideal L2 self and motivated behavior, and the ideal L2 self proved to be the best predictor for determining a distinction between the two genders.

3. Among the male and female students, the ideal L2 self had the most influence on motivated L2 behavior, but the combined effect of visual style and the ideal L2 self on motivated behavior was greater among the females than the males.

The implication arising from these results is that male secondary school students will require greater assistance in developing the motivation to learn the target language. According to Dörnyei (2005, 2009), not everyone is capable of generating a vivid ideal L2 self and connecting it to their L2 motivation, therefore teachers will need to help students to create clear images of a future L2-speaking self. However, teachers should not attempt to change a student’s preferred learning style because the nature of learning styles cannot be changed by means of external influences. Also, this difference in motivation according to gender should not be taken as indicting that male students are less capable than female students when it comes to learning an L2. Rather, in order to increase the motivation of male students, it is suggested that teachers focus on enabling them to develop an
Gender Differences in Korean Secondary School Students’ Learning Styles and...

awareness of their preferred perceptual learning style, as those preferences are linked to their ability to form an elaborate ideal L2 self. As for female secondary school students, who are more visually oriented, teachers can help by enabling them to become aware of the fact that the visual learning style is the ideal medium for creating a more vivid ideal L2 self. It is also important that particular attention is given to the needs of those male students who demonstrate a preference for the kinesthetic learning style, due to its incompatibility with the development of the ideal L2 self. Kinsella (1995) states that “a knowledge of one’s own learning style is fundamental in learning to learn” (p. 187). Therefore, a helpful approach for such students is enabling them to understand how a preference for the kinesthetic style can have a negative effect on their motivation, coupled with helping them to maintain a focus on increasing their motivation to learn the L2. However, to maximize the chance of this being effective, it needs to be done in conjunction with the development of an understanding of the significance of forming an ideal L2 self.

Providing activities in the language classroom that are designed to enable students to develop an ideal L2 self is another means by which teachers can help their students increase their motivation for L2 learning. For example, an activity can be based on the concept of languaging developed by Swain (2010). Languaging is the process of talking things through aloud to oneself, a form of self explanation. It can help L2 learners internalize a new language concept or idea. However, it can also be integrated with motivation to increase their desire to learn a L2.

When students do not possess clear self-images for learning and using an L2, they can be helped to develop those images through motivation-enhancing tasks. To be specific, their ideal L2 self can be facilitated through group discussion or individual journal writing, expressing their desired future images regarding L2 learning and use. Students might share these future images in small group discussions, talking about what they would like to achieve from learning an L2. As individuals, they might use journal writing to develop an elaborate ideal L2 self with the help of feedback supplied by teachers. These activities could empower students by providing sources for the development of increased motivation, as well as helping them to maintain that motivation as they continue to progress through the challenging L2 learning process.
It is suggested that the optimum time for such activities is at the very beginning of the semester. This way the L2 learners can benefit from the personalization of idealized images before facing the difficulties involved in learning the target language.

Regarding further research, there is a need to develop more effective languaging activities, ones designed to help L2 learners develop, increase, and maintain their motivation for language study. In addition, because the integration of the L2 motivational self system and languaging is a relatively new approach, more field studies will need to be conducted in order to determine the effectiveness of this approach in the language learning environment.

References


Appendix

Samples of Questionnaire Items

<table>
<thead>
<tr>
<th>Construct</th>
<th>Survey Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>I remember something better if I write it down.</td>
</tr>
<tr>
<td></td>
<td>I use color-coding to help me as I learn or work.</td>
</tr>
<tr>
<td></td>
<td>I understand lectures better when teachers write on the board.</td>
</tr>
<tr>
<td></td>
<td>Charts, diagrams, and maps help me understand what someone says.</td>
</tr>
<tr>
<td>Auditory</td>
<td>I remember things better if I discuss them with someone.</td>
</tr>
<tr>
<td></td>
<td>I need clear oral directions for a task.</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>I need frequent breaks when I study.</td>
</tr>
<tr>
<td></td>
<td>I get nervous when I sit still too long.</td>
</tr>
<tr>
<td></td>
<td>I think better when I move around (e.g., pacing or tapping my feet).</td>
</tr>
<tr>
<td>Ideal L2 self</td>
<td>I like to think of myself as someone who will be able to speak English.</td>
</tr>
<tr>
<td></td>
<td>Whenever I think of my future career I imagine myself being able to speak English.</td>
</tr>
<tr>
<td></td>
<td>If my dreams come true, I will speak English fluently in the future.</td>
</tr>
<tr>
<td></td>
<td>I can imagine a time when I can speak English with native speakers from other countries.</td>
</tr>
</tbody>
</table>
I study English because close friends of mine think it is important. My parents believe that I must study English to be an educated person. I consider learning English important because the people that I respect think that I should do it. If I fail to learn English, I'll be letting other people down.

If I had the opportunity to speak English outside of school, I would do it as much as I can.

예시언어(Examples in): English
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적용가능 수준(Applicable Levels): Secondary

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