

Toward the Development of Instruments to Assess Motivation Based on the L2 Motivational Self System

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Abstract

In this study, we developed and examined scales of L2 selves that measure (A) the intensity level of becoming an English-using self in the future and (B) the magnitudes of discrepancy between future and current English-using selves, which are both theoretically postulated as motivational forces on L2 learning. The scale items reflected Japanese university students' future and present self-images as English users. In keeping with previous studies, we used three different facets of future L2 selves—ideal L2 self, ought-to L2 self, and feared L2 self—as well as present L2 self. We conducted principal component analyses to check the consistency and uni-dimensionality of each set of items. Later, we used the scale items to create two instruments based on possible self theory and self-discrepancy theory, which were the main theoretical frameworks for Dörnyei's (2005) L2 motivational self system. To test the construct validity of these instruments, we conducted correlation analyses with other motivational variables and perceived competence. Subsequently, we identified the different subgroups of learners based on L2 self-images by utilizing the created scales. The results showed that for our participants, it is important to have English-using self-images and a strong desire to become their imagined English-related selves.

Key words: L2 motivational self system, self-discrepancy theory, possible self theory, scales of L2 self, L2 motivation

Introduction

Motivation has been regarded as one of the most important factors that affect the outcome of second language learning (e.g., Shirai, 2008). In the field of English language teaching, a great deal of research has assessed learners' motivational tendency to learn English, thus contributing to our understanding of learners' characteristics and the individual difference variables related to learning behaviors. Many of these studies use quantitative methods, mostly questionnaires consisting of multiple scales that represent various psychological constructs. These constructs are operationalized based on the theoretical definitions in theories such as the Social Educational Model (Gardner, 1985) and the Self Determination Theory (Deci & Ryan, 2000). Recently, Dörnyei's (2005) L2 motivational self system has attracted the attention of many researchers and educators. In this study, we attempted to

develop a set of scales based on Dörnyei's system. In the following sections, we present the procedure that we followed to create and evaluate the scales and we discuss how these scales can be used to help teachers and students in the Japanese EFL context.

Literature Review

Dörnyei's (2005) L2 motivational self system was propounded by an attempt to look for an alternative concept to Gardner's integrativeness, which has long been a key concept in the study of L2 motivation (see Dörnyei & Ushioda, 2009). Integrativeness refers to having an interest in the country or culture in which the target language is used and having an intention to communicate with and become like the people who speak it. Those learners who have an integrative motive also want to identify with L2 speakers. Although many researchers and educators admit that integrativeness can be a powerful motivator for learning target languages, it cannot fully explain what motivates learners who do not have many opportunities to interact with speakers of the target language (e.g., Yashima, 2002). In the theory proposed by Dörnyei, however, learners are seen to identify with their self-images as L2 users rather than with target language speakers (possible L2 selves; Dörnyei, 2005). In other words, they do not have to have specific L2 communities and/or speakers to identify with, as included in the definition of integrativeness.

The L2 motivational self system that Dörnyei developed, drawing on motivation theories from mainstream psychology (Higgins, 1987; Markus & Nurius, 1986), integrated various L2 motivation theories and studies (e.g., Dörnyei & Csizér, 2002; Dörnyei, Csizér, & Németh, 2006; Gardner, 2001; Noels, 2003; Ushioda, 2001; Yashima, 2002). This system hypothesizes that L2 learning behavior is generated in situations where L2 learners recognize the importance of their future self-image as L2 users (i.e., possible self theory; Markus & Nurius, 1986) and where L2 learners try to reduce the discrepancy between future and actual L2 selves (i.e., self-discrepancy theory; Higgins, 1987). In other words, the theory posits that if the vision of the self using the L2 is important for the learner and represents the ideal vision of himself/herself, that image will serve as a powerful motivator.

Possible selves, which indicate future images of oneself, are defined as "the individual's ideas of what they might become, what they would like to become, and what they are afraid of becoming" (Markus & Nurius, 1986, p. 954). Thus, "possible L2 selves" can be a generic term used to refer to the various self-images that relate to using an L2. In the L2 motivational self system, two dimensions of possible L2 selves are distinguished: *ideal L2 self* and *ought-to L2 self* (Dörnyei, 2009).¹ *Ideal L2 self* is defined as "the L2-specific facet of one's ideal self" (p. 29). It represents the image of oneself using English that one would like to become in the future. *Ought-to L2 self* is defined as "the attributes that one believes one ought to possess to meet expectations and to avoid possible negative outcomes" (p. 29). It represents the L2-using self-image that one recognizes one has to become owing to a sense of obligation to normative pressure from sources such as peers, parents, or society.

Scales Developed Based on the L2 Motivational Self System

For the purpose of validating Dörnyei's L2 motivational self system, researchers have developed scales that measure the intensity of becoming *ideal* and *ought-to L2 selves* (Dörnyei

et al., 2006; Irie, 2011; MacIntyre, Mackinnon, & Clément, 2009; Ryan, 2009) based on the possible self theory (Markus & Nurius, 1986) and scales that measure the discrepancy between *possible* and *present L2 selves* (Irie, 2011; MacIntyre et al., 2009) based on the self-discrepancy theory (Higgins, 1987). Our attempt is to align the efforts of these researchers. In this section, we explain the theoretical backgrounds for the scales that we created based on these theories.

Scales based on possible self theory. Possible selves reflect “how individuals think about their potential and about their future” (Markus & Nurius, 1986, p. 954). Accordingly, scales developed based on possible self theory are designed to determine whether one has L2-related future self-images and how desirable it is for him/her to become like those self-images. Dörnyei et al. (2006), Ryan (2009), and Irie (2011) have developed scales of *ideal L2 self*, which were validated by means of examining its correlations with integrativeness (Irie, 2011; MacIntyre et al., 2009; Ryan, 2009; Taguchi, Magid, & Papi, 2009). On the other hand, only a few scales for *ought-to L2 self* have been developed (Dörnyei et al., 2006).

One scale that has never been developed in the study of L2 motivation is a scale for *feared L2 self*. If we see the ideal self as the self that one wants to become, the feared self can be seen as the self that one fears becoming. Oyserman and Markus (1990) stated that people are most motivated when the ideal self is offset or balanced by the feared self. For some Japanese EFL learners, not only the desire to be a person who can use English (*ideal L2 self*) but also the fear of becoming a person who cannot use English (*feared L2 self*) are believed to motivate individuals to learn English. We heard some students make remarks such as, “I really don’t want to be a person who can’t use English, so I’m studying hard”; thus, we hoped that the concept of the *feared self* could capture one aspect of language learners’ motivation. In keeping with the possible self theory, this study tries to develop scales that reflect three types of possible L2 selves: *ideal*, *ought-to*, and *feared*.

Scales based on self-discrepancy theory. Self-discrepancy theory postulates that people aspire to become the self that measures up to their ideal (Higgins, 1987, p. 321). In this sense, people are motivated to take action when their present selves do not match their ideal self-images. In other words, if learners perceive there to be a discrepancy between their future and present L2 selves, they do not think that their actual selves match their ideal future self-images. On the other hand, if learners do not perceive there to be a discrepancy, they believe that their actual selves are already close to their ideal selves. Therefore, when developing a scale, the discrepancy between future and present selves is a key element to measure.

A few scales have been created to examine whether a discrepancy exists between *ideal L2 self* and *present L2 self* (Irie, 2011; MacIntyre et al., 2009). MacIntyre et al. (2009) created a scale that examined whether French learners perceived a discrepancy between their *ideal* and *present* French-using selves. They first created 18 items that reflected French-using self-images. The learners were asked to answer whether the self-image on each item matched their *ideal L2 selves* (yes or no) and whether it described their *present L2 selves* (yes or no). The results confirmed that the discrepancy between one’s future and current L2 selves serves as one’s L2 learning motivation because discrepancy can predict intended effort. Irie (2011) conducted a follow-up study of MacIntyre et al. (2009) with Japanese university students and showed similar findings.

Since these are the only two scales that we know of which were created to measure the gap between future and present L2 selves, the present study tries to develop new scales of discrepancy-based criteria that capture the magnitude of discrepancy by means of quantifying that discrepancy. Self-discrepancy theory originally postulated that if the discrepancy between ideal and present L2 selves is big, then learning motivation will be strong, and vice versa (Higgins, 1987).² We therefore attempt to examine how the magnitude of discrepancy between ideal and present L2 selves relates to the level of motivation based on the original theory.

Purpose and Procedures of the Present Study

The aims of the present study are (1) to create and evaluate the new scales and (2) to discuss, from the perspectives of L2 selves in the Japanese EFL context, how these scales can enrich teachers' understanding of students' motivation. In order to pursue these objectives, we followed the procedures below. First, we conducted a preliminary study to select items that reflect the ideal self-images that Japanese EFL university students have of themselves as English users. Later, using these items, we created new instruments and administered them to a group of Japanese EFL learners. In order to check construct validity, two types of analyses were conducted: principal component analyses and correlation analyses with other motivation-related variables and perceived competence (Phase 1). Finally, some learner profiles were identified from the perspective of L2 selves by using the created scales (Phase 2).

Preliminary Study for Item Selection

In order to select the items that represented Japanese university students' L2 selves as English users, we carried out a preliminary descriptive survey, as described in the proceeding sections.

Method

Participants and Data Analyses

Graduate and undergraduate students at a university in Osaka responded to a written questionnaire during December 2010 and January 2011. Sixteen undergraduate students who majored in English were asked to list both their desired and feared future self-images as English users. In addition, 20 Japanese graduate students who majored in foreign language education were asked to list both the positive and negative traits that exemplified their current selves as English users. We then categorized the descriptive data.

Results

Scale Items

From the undergraduate students' future English-using self-images, we identified 26 categories of self-images that they wanted to become and 24 categories that they feared becoming. From the graduate students' present English-using self-images, we identified 25 categories of positive images and 18 categories of negative images. Based on the above lists and the items from previous studies in a Japanese learning context, such as Yashima's (2009) examination of *international posture* and Ryan's (2009) items for the *ideal L2 self*, two sets of

eight items were created as scale items of possible L2 selves. One set of eight items (see Table 1) were positively worded and reflected the L2 self-images that English learners wanted to become, and the other set of eight items (see Table 2) were negatively worded and reflected the L2 self-images that English learners feared becoming.

Table 1

Eight Positively Worded Items of L2 Selves

1.	A person who has the ability to express his or her opinions or thoughts accurately in English
2.	A person one of whose strengths is being competent in English
3.	A person who uses English in his or her daily life
4.	A person who has a wide vision and can accept various cultures
5.	A person who is competent enough to have no trouble when going abroad
6.	A person who does not hesitate to speak English
7.	A person who establishes ties using English with people from various cultural backgrounds
8.	A person who understands English movies or music without Japanese subtitles

Table 2

Eight Negatively Worded Items of L2 Selves

1.	A person who is not able to express what he or she wants to say
2.	A person who does not have high competence, for example, on TOEIC or TOEFL
3.	A person who does not use English except while learning it in school
4.	A person who is not interested in news or things happening abroad
5.	A person who cannot speak English fluently
6.	A person who is not able to use proper English that is appropriate for each situation
7.	A person who leads a life that has nothing to do with English or what happens overseas
8.	A person who does not make efforts to improve his or her English proficiency

The Design of New Instruments

As mentioned in the introduction, Dörnyei's (2005) L2 motivational self system uses two of psychology's major self theories as frameworks: possible self theory and self-discrepancy theory. Using the positively and negatively worded items, shown in Tables 1 and 2, we created an instrument that consists of four scales that assess the learners' perception of their present and future English-using selves. These scales, shown in Table 3, are designed to assess the learners' perception of their *present* English-using selves, as well as to measure how strongly learners wish to become their *ideal selves*, how strongly they feel they should become their *ought-to selves*, and how strongly they fear becoming their *feared selves* as English users.

Table 3

Four Scales and Their Items

Scales	Items used	Elements measured
(1) <i>Present-descriptive</i>	Positively worded items	Description of <i>present L2 self</i>
(2) <i>Ideal-intensity</i>	Positively worded items	Intensity level of wanting to become one's <i>ideal L2 self</i>
(3) <i>Feared-intensity</i>	Negatively worded items	Intensity level of not wanting to become one's <i>feared L2 self</i>
(4) <i>Ought-to-intensity</i>	Positively worded items	Intensity level of needing to become one's <i>ought-to L2 self</i>

Based on possible self theory, the following assessments were made using each of the four scales. The eight positively worded items were used to determine (1) how accurately the image described in each item represented each student's *present self*. The eight positively worded items were also used to measure (2) *ideal L2 selves* by asking how much the students wanted to be the people described in the items. The eight negatively-worded items were used to measure (3) *feared L2 selves* by asking to what extent the students feared becoming the people described in the items. The eight positively worded items were then used to measure (4) *ought-to L2 selves* by asking to what extent the students thought they had to become the people described in the items. In addition, the responses to (1) and (2) were used to assess the discrepancy between learners' *present* and *ideal selves*. Table 4 summarizes the ways in which each of the instruments corresponds with possible self theory and self-discrepancy theory.

Table 4

Correspondence between Instruments and Theories

Instruments	Variable names	Scale used
Instruments based on possible self theory	<i>Ideal-self</i>	(2) <i>Ideal-intensity</i>
	<i>Feared-self</i>	(3) <i>Feared-intensity</i>
	<i>Ought-to-self</i>	(4) <i>Ought-to-intensity</i>
Instrument based on self-discrepancy theory	<i>Ideal-present-discrepancy</i>	(1) <i>Present-descriptive</i> and (2) <i>Ideal-intensity</i>

The instruments based on possible self theory determined how strongly learners felt that they wished to/should/should not become English users in the future. The other instrument, based on self-discrepancy theory, determined how learners perceived the distance between their current and future English-using selves. Specifically, we measured the gap between *ideal L2 selves* and *present L2 selves* (hereafter called "*ideal-present discrepancy*").³ We followed Endo's (1992) procedure to calculate the gap between *ideal* and *present L2 selves*⁴ by subtracting the score representing student's current self from the score representing ideal-intensity.

Present Study

In the present study, we administered the four scales described above. To determine the underlining structure for each set of new items created in the preliminary study, we first conducted a principal component analysis (hereafter PCA) for each scale. Correlation analyses were then carried out to check the construct validity of each new instrument and to determine the motivational traits of the participants from the perspective of L2 selves. Finally, we attempted to identify the student motivational profiles from the perspectives of L2 selves by utilizing the created scales. Cluster analyses and repeated analyses of variance (hereafter ANOVA) were conducted.

Method

Participants

The participants in this study consisted of Japanese university students ($N = 81$ women) from a school in the Kansai area. All of them took a TOEIC class, in the pursuit of a score of 400, from September 2010 to February 2011. The questionnaire was administered at the end of the semester during the class period. Two-third of the participants were English or culture majors and the other one-third were pursuing majors in other fields such as psychology, information, and environment. Most of them were freshmen. All of the subjects agreed to participate in the present study and signed an informed consent form.

Data Analyses

The present study consisted two phases of analysis. In Phase 1, we followed the procedures used in MacIntyre et al. (2009) and conducted PCA to determine whether the four basic scales were seen as consistent and uni-dimensional.⁵ Cronbach's alpha coefficients were also checked to determine the reliability of the scales. Correlation analyses were then carried out within the four variables of L2 selves (see Table 4) and also between the variables of L2 selves and motivational variables and perceived competence to test the construct validity of the two kinds of newly developed instruments. In Phase 2, by utilizing the created scales, we identified subgroups of learners with different motivational profiles from the perspective of L2 selves. Hierarchical cluster analyses, using Ward's method, were carried out, and subsequently, ANOVA were performed.

Measurements

Instruments based on the possible self and self-discrepancy theories. In the four scales discussed above (*ideal-intensity*, *feared-intensity*, *ought-to-intensity*, and *present-descriptive*), items were measured on six-point rating scales. Anchoring each end of the scale were opposing statements, such as, *I don't think I want to be the person* (1) and *I want to be the person very much* (6) (see Appendix 1).

Motivation-related scales used in previous research. Since the present participants were EFL students studying English in a classroom situation, we decided to use Gardner's (1972) concept of *motivation*, which focuses on L2 learning motivation in class situations, and Yashima's (2009) conceptualization of *international posture*, which focuses on EFL learners'

tendency to relate to the international community, in order to determine the participants' motivational traits as criterion measures.

Motivation. This concept assesses the strength of motivation to learn English in a classroom situation. L2 *Motivational intensity* ($\alpha = .896$) and *desire to learn English* ($\alpha = .799$), originally from Gardner and Lambert (1972), were adopted from Yashima, Zenuk-Nishide, and Shimizu (2004). Each contains six items (e.g., “compared to my classmates, I think I study English relatively hard”) measured on seven-point scales, with (1) meaning *not at all* and (7) meaning *very much*.

International posture. This concept measures the level of interest or attitude toward the international community. Twenty items to measure international posture were taken from Yashima (2009). Four subscales were estimated: six items for *intergroup approach-avoidance tendency* ($\alpha = .777$) (e.g., “I want to make friends with international students studying in Japan”), six items for *interest in international vocation or activities* ($\alpha = .793$) (e.g., “I want to work in a foreign country”), four items for *interest in international news* ($\alpha = .804$) (e.g., “I often read and watch news about foreign countries”), and four items for *having things to communicate to the world* ($\alpha = .774$) (e.g., “I have thoughts that I want to share with people from other parts of the world”). All the items were measured on six-point scales.

Perceived competence of English use in real-life situations. We decided to use *perceived competence* as one of the variables because the perception of one's L2 competence is considered a good indicator of L2 performance, in terms of a greater identification with the target culture (Noels, Pon, & Clément, 1996) and a greater willingness to communicate (Baker & MacIntyre, 2000), for example. Perceived competence in English was assessed using lists of can-do statements from EIKEN grade 2, provided by STEP. Lists of can-do statements represent what each level of EIKEN test takers believe they can accomplish in English outside of test-taking situations.

Can-do. This concept concerns the level of learners' perception about their English competence. Six items for speaking ($\alpha = .838$) and five items for writing ($\alpha = .908$) were adapted from EIKEN's can-do lists (e.g., “I can explain a familiar situation [e.g., reasons for being late or for absence]”). All of the items were measured on six-point scales.

Results and Discussion

Phase 1

Principal component analyses

To examine the factor structure of the items, four separate PCA were conducted: one for *ideal-intensity* responses, one for *ought-to-intensity* responses, one for *feared-intensity* responses, and one for *present-descriptive* responses, following the procedures used in MacIntyre et al. (2009). By examining (1) the eigenvalues that were greater than one, (2) the scree plot of the eigenvalues, and (3) the factor loadings, it was concluded that one factor solution seemed a reasonable interpretability for all four scales.

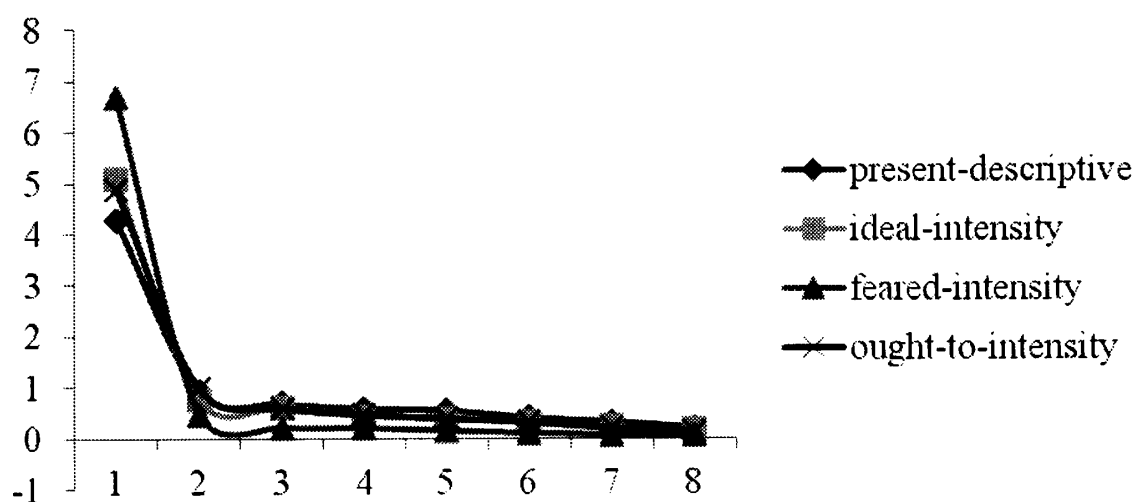


Figure 1. Scree plots from all four basic scales in the newly created L2 self scale

One factor was extracted for all of the scales, and a single clear break was seen in the scree plots after the first factor (see Figure 1). All the factor loadings were ≥ 0.6 on the items for *present-descriptive*, ≥ 0.7 on the items for *ideal-intensity*, ≥ 0.9 on the items for *feared-intensity*, and ≥ 0.7 on the items for *ought-to-intensity*, and the Cronbach's alpha of each scale showed quite a high reliability (see Table 5). Overall, these results indicated that the response vectors measuring different types of *future L2 selves* and *present L2 selves* were internally consistent and uni-dimensional.

Table 5

Factor Loadings and Reliability Coefficients for Present, Ideal, Feared, and Ought-to L2 Selves

	Component			
	<i>Present-descriptive</i>	<i>Ideal-intensity</i>	<i>Feared-intensity</i>	<i>Ought-to-intensity</i>
Variance accounted for:	53.385	63.47	83.483	61.189
Item 1	.748	.871	.920	.779
Item 2	.594	.819	.900	.819
Item 3	.621	.809	.954	.763
Item 4	.647	.694	.862	.725
Item 5	.839	.735	.942	.827
Item 6	.860	.854	.937	.857
Item 7	.748	.791	.851	.782
Item 8	.743	.785	.937	.691
Cronbach's α	.854	.905	.913	.971

Correlation analyses

In order to test the construct validity of the four variables corresponding with the two aforementioned theories, correlation analyses were conducted (A) among the four variables of L2 selves—*ideal-self*, *feared-self*, *ought-to-self*, and *ideal-present discrepancy*—measured by the newly developed instruments and (B) between each variable of L2 selves and the other motivational variables (*motivation* and *international posture*) as well as perceived competence (*can-do*).

Table 6

Results of the Correlation within the Scales of L2 Selves and also between L2 Selves and Strength of Motivation, International Posture, and Perceived Competence

Variables	Mean (SD)	1	2	3	4
1. ideal-intensity	5.07 (.80)	-			
2. feared-intensity	4.36 (1.51)	.306**	-		
3. ought-to intensity	4.61 (0.87)	.545**	.361**	-	
4. ideal-discrepancy	8.96 (2.32)	.629**	.156	.304**	-
5. motivation	4.07 (1.15)	.558**	.239*	.428**	.228*
6. international posture	3.4 (1.00)	.526**	.320**	.360**	.151
7. can-do	3.00 (0.76)	.302*	.009	.295**	-.194

* $p < .05$, ** $p < .01$

Table 6 presents the correlation coefficients as well as the scores of each scale's total mean and standard deviation. There were significant correlations among the variables of L2 selves. In particular, the correlation between *ideal-self* and *ought-to-self* was high. The correlation between the *ideal-self* and *ideal-discrepancy* was also high. Regarding the correlations with *motivation* and *international posture*, all types of L2 selves from the intensity-based instruments (*ideal-self*, *feared-self*, and *ought-to-self*) showed relatively strong significant relationships. With perceived competence (*can-do*), only *ideal-self* and *ought-to-self* showed significant, though relatively weak, relationships. On the other hand, *ideal-present discrepancy* had almost no correlations with *motivation*, *international posture*, and *can-do*. Overall, among the four types of L2 selves, *ideal-self* had the strongest relationship with motivational variables, while *feared-self* and *ideal-present discrepancy* showed a relatively weak or no correlations.

Evaluation of scales

In order to check the underlying structure for each set of new items and to test the construct validity of the four scales, we conducted several analyses. Both *ideal-self* and *ought-to-self*, measured by the instruments based on possible self theory, showed relatively strong correlations with the other motivational variables. This provides some evidence for Dörnyei's (2009) claim that the intensity of one's desire to become an English-using self in the future can be a strong motivational source for learning English. *Feared-self*, however, did not show high correlations with any of the motivational variables, but we acknowledge that the *feared-intensity* scale's statements had a wording problem (double negatives), which may have confused some participants who answered the questionnaire. The magnitude of discrepancy

between ideal and present L2 selves (*ideal-present discrepancy*) measured by the instrument based on self-discrepancy theory did not show significant correlations with most of the motivational variables and perceived competence. These findings suggest that the instruments created on the basis of the possible self theory are more appropriate for capturing L2 selves as an indicator of motivation than that created on the basis of self-discrepancy theory. Among the variables of L2 selves, *ideal-intensity* and *ought-to-intensity* demonstrated relatively strong intercorrelations, which indicates that these two aspects of L2 selves may conceptually overlap.

In Phase 2, which we report about in the next section, we attempted to identify groups of learners who have different motivational profiles by utilizing the newly created scales: *ideal-intensity* and *ought-to-intensity*. Another attempt in Phase 2 is to look at discrepancy between ideal and present L2 selves in more detail. While we created the instrument of *ideal-present discrepancy*, we found the following problem inherent in the discrepancy-based measurement. According to the self-discrepancy theory, a large discrepancy becomes a motivational enhancement whereas a small discrepancy does not. However, theoretically, there are two types of students who perceive a small discrepancy: (A) a low level of ideal and current L2 selves or (B) a high level of ideal and current L2 selves. It is not likely that they have the same motivational tendencies. A problem with the instrument based on self-discrepancy theory, therefore, is that we cannot distinguish between these two types of learners. By conducting a cluster analysis utilizing the *ideal-intensity* and *present-descriptive* scales, we might be able to identify these different student types.

Phase 2

Identifying subgroups of learners based on ideal-intensity and ought-to-intensity profiles

A hierarchical cluster analysis, using Ward's method, was performed using two L2 scales (*ideal-intensity* and *ought-to-intensity*) to identify the subgroups of learners. After examining the results, the number of clusters was set at four (see Figure 2).

Subsequently, ANOVA were conducted, and they showed a significant main effect of the cluster for each variable; therefore, post-hoc tests with Tukey were also applied (see Table 7). Cluster 1 showed the highest level of *ideal-intensity* and a moderate level of *ought-to-intensity*. Cluster 2 scored moderate with regard to both *ideal-intensity* and *ought-to-intensity*. Cluster 3 showed the highest level of *ideal-intensity* and *ought-to-intensity*, whereas Cluster 4 showed the lowest level of *ideal-intensity* and *ought-to-intensity*. We re-applied ANOVAs and post-hoc tests over the variables of *motivation*, *international posture*, and *can-do* (see Table 8).

The results confirmed that Clusters 1 and 3 were associated with relatively higher mean scores of *motivation*, *international posture*, and *can-do*, whereas Clusters 2 and 4 did not. This indicates that the learners who show stronger intensity regarding becoming English-using selves are more likely to be motivated in learning English. Although Clusters 1 and 3 showed the same level of *motivation*, Cluster 1 scored slightly lower with regard to *international posture* and *can-do*.

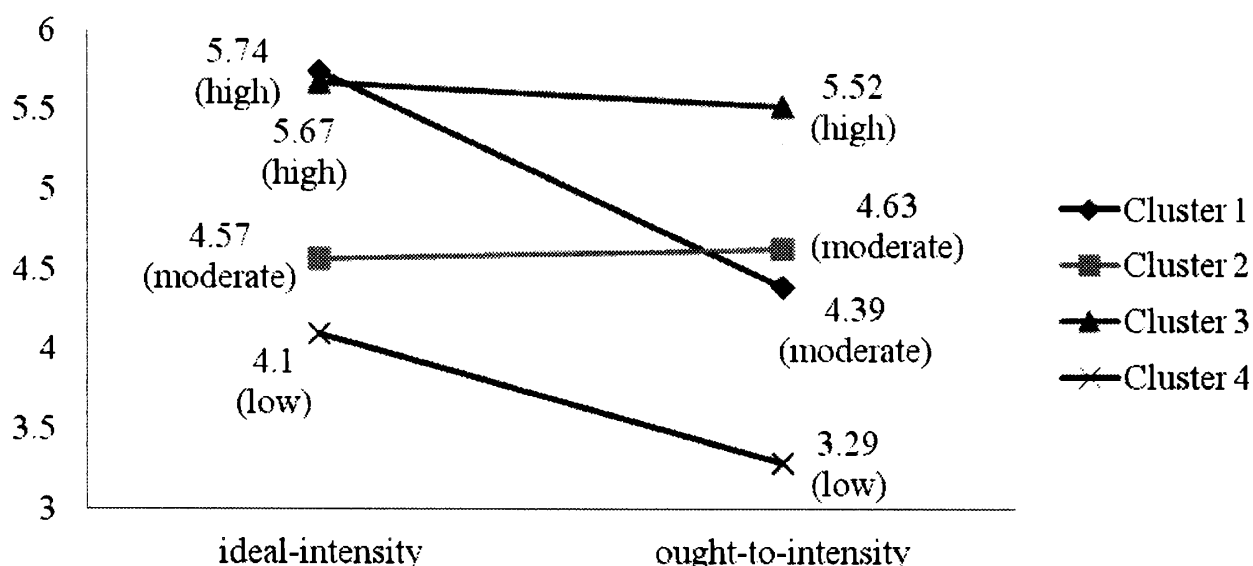


Figure 2. The graph shows for each cluster profiles based on participants' perceptions about their ideal- and ought-to L2 selves

Table 7

Results of Cluster Analysis Using Ideal-intensity and Present-descriptive Scales

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	<i>df</i>	F-value	<i>P</i>	<i>Post-hoc</i> (Tukey)
N	17	23	25	15				
II	5.74 (.272)	4.57 (.566)	5.67 (.312)	4.10 (.549)	3, 76	62.715	.000	1, 3 > 2 > 4
OTI	4.39 (.370)	4.63 (.324)	5.52 (.315)	3.29 (.573)	3, 76	105.283	.000	3 > 1, 2 > 4

Note. II = ideal-intensity, OTI = ought-to-intensity

Table 8

A Summary of Cluster Characteristics: Mean Scores, Standard Deviations of Discrepancy between Ideal and Present Selves, Motivational Variables, and Perceived Competence with Results of ANOVA

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	<i>df</i>	F-value	<i>P</i>	<i>Post-hoc</i> (Tukey)
N	17	23	25	15				
MOT	4.33 (1.06)	3.41 (0.91)	4.92 (0.93)	3.40 (0.97)	3, 76	12.945	.000	3, 1 > 2, 4
IP	3.79 (0.75)	3.14 (1.08)	3.95 (0.77)	2.91 (0.61)	3, 76	6.920	.000	3, 1 > 1, 2 > 2, 4
can-do	3.06 (0.84)	2.74 (0.70)	3.38 (0.61)	2.75 (0.72)	3, 76	4.075	.010	3, 1 > 1, 2, 4

Note. MOT = motivation, IP = international posture

Identifying subgroups of learners based on discrepancy between *ideal-intensity* and *present-descriptive* profiles

The same set of statistical procedures was employed to identify the subgroups of learners to focus on discrepancy using two L2 scales (*present-descriptive* and *ideal-intensity*). The number of clusters was decided at three, and an ANOVA confirmed the significant main effect of cluster for each of the two indicators (*present-descriptive*, $F(2, 78) = 99.738, p < .000$; *ideal-intensity*, $F(2, 78) = 71.529, p < .000$); therefore, a post-hoc test with Tukey was also applied (see Figure 3). Cluster 1 ($N = 41$) showed a moderate level of *present-descriptive* and the highest level of *ideal-intensity*. Cluster 2 ($N = 24$) demonstrated the lowest scores of *present-descriptive* and *ideal-intensity*. Cluster 3 ($N = 16$), on the other hand, showed the highest level of *present-descriptive* and *ideal-intensity*. To examine where the differences exist among three clusters, we re-applied ANOVAs and post-hoc tests over the variables of *ideal-present discrepancy* as well as *motivation*, *international posture*, and *can-do* (see Table 9 in Appendix 2).

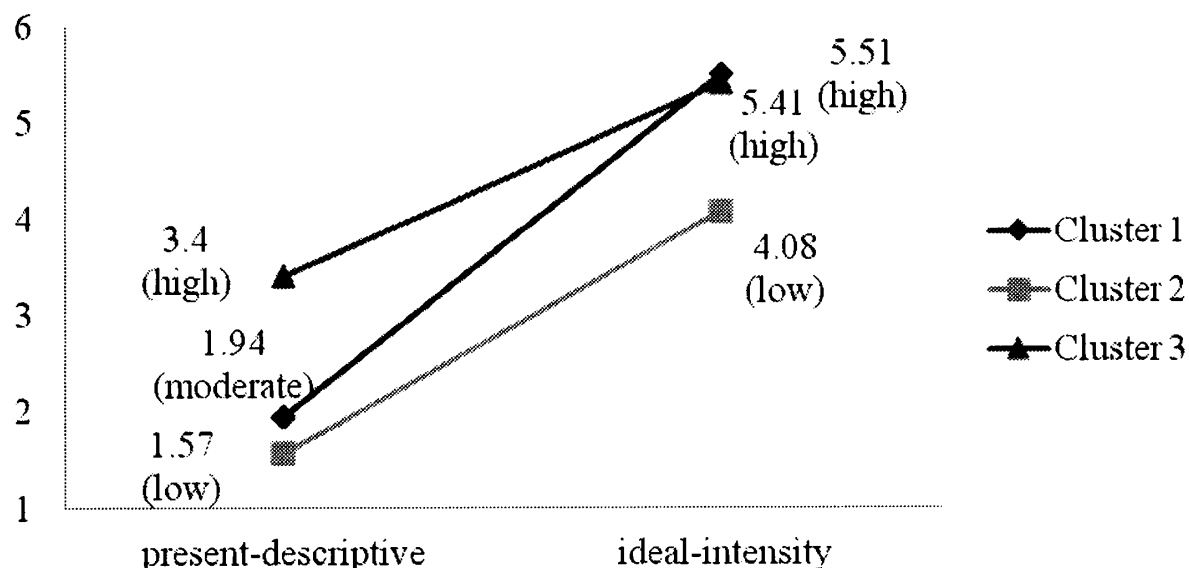


Figure 3. The graph shows motivational profiles of each cluster based on discrepancy between *ideal-intensity* and *present-descriptive* scales

The results confirmed that Cluster 1 showed a large discrepancy and high motivation, which is consistent with self-discrepancy theory. Clusters 2 and 3 demonstrated small discrepancies; however, Cluster 2 showed low motivation whereas Cluster 3 showed high motivation. As discussed before, the problem of the self-discrepancy-based measurement is that these two types of learners, (A) a low level of ideal and current L2 selves or (B) a high level of ideal and current L2 selves, both showed small discrepancies. This may be one of the reasons that the variable of *ideal-present discrepancy* showed relatively weak or no correlations with *motivation* and *international posture* (see Table 6). Nevertheless, it is significant that we can identify these two types of learners by using the created scales. Particularly, the learners in Cluster 2 evaluate their current selves lowly and cannot perceive English-using selves as

ideal. Cluster 2 did not show as high perceived competence (*can-do*) as Cluster 3 (see Table 9). In other words, these low motivated learners in Cluster 2 possibly show lower self-efficacy than those high motivated learners in other clusters. Dörnyei (2009) mentioned that “possible selves are only effective inasmuch as the individual does indeed perceive them as possible, that is, realistic within the person’s individual circumstances” (p. 19). It may be important for learners to feel competent at present to think their future selves are realistically achievable.

In Phase 2, following the two analyses mentioned above, we identified the different subgroups of learners based on L2 self-images and checked how they differ in terms of self-concept, motivation and perceived competence. This could provide teachers with useful information regarding learners’ psychological profiles. We are able to state that in order to enhance English learning motivation among university students in Japan, it is important for those students to have English-using self-images and a strong desire to become their imagined English-related selves. Specifically, having images of *ideal* English-using selves seems to enhance their motivation.

Conclusions

The present study developed two kinds of instruments to measure L2 motivation based on possible self theory and self-discrepancy theory, within the framework of Dörnyei’s (2005) L2 motivational self system. Overall, we found that the instruments based on possible self theory showed stronger relationships with motivation to learn English and perceived competence in English than did the discrepancy-based instrument. These findings suggest that in the present sample, the instruments created on the basis of the possible self theory are more appropriate for capturing L2 selves as an indicator of motivation than the instrument created on the basis of self-discrepancy theory. As we attempted to utilize the newly created scales (ideal-self, feared-self, ought-to-self, and present-self), it is possible to identify learner profiles that can contribute to enhancing teachers’ understanding of students’ motivation as it is represented by self-images. Future research attempts should therefore explore in greater detail the process of how learners develop English-using self concepts and future selves using English through learning experiences. Combining quantitative and qualitative investigations to focus on the development of L2 selves will be a useful future course of study.

In this study, the results of correlation analyses provided evidence that participants who had clear images of ideal selves were not only highly motivated to learn English but also interested in international issues. Experiences such as study-abroad or participating in discussion in international communities of English users might inspire learners to develop more realistic English-using selves. We believe that this will aid educators in creating learning opportunities that help learners enhance their L2 selves, which will lead to higher level of L2 learning motivation and self confidence.

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Notes

¹ Dörnyei's (2005) L2 motivational self system is composed of three components: *ideal L2 self*, *ought-to L2 self*, and *L2 learning experience*. In the present study, only the first two components were used to develop new instruments to measure L2 selves.

² The L2 motivational self system used self-discrepancy theory as one of its theoretical frameworks; however, while Dörnyei mentioned that the discrepancy between ideal and present L2 selves works as motivation, he did not clearly state how the magnitude of the discrepancy between *ideal* and *present L2 selves* may affect motivation. In this study, we decided to follow Higgins's original theory first, in order to examine how the magnitude of discrepancy between *ideal* and *present L2 selves* relates to the level of motivation.

³ Since the length of our manuscript is limited, we only take into account the discrepancy between ideal and present L2 selves (*ideal-present discrepancy*) in this study. However, further research should also consider the discrepancy between *ought-to* and present L2 selves.

⁴ Based on Endo's (1992) formula, $[DS = \sqrt{\sum DS \text{ of each item}^2}$ (DS = discrepancy)], a discrepancy (*ideal-present discrepancy*) was calculated.

⁵ To check the consistency and uni-dimensionality of each set of the scale items, we also conducted factor analyses and obtained the same results as those of PCA. MacIntyre himself opted for PCA for this purpose as it tends to be more stable (P. D. MacIntyre, personal communication, July 25, 2012). Since one aim of the present study was to replicate MacIntyre et al. (2009) in the Japanese EFL context, we opted to report the results of PCA.

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Appendix 1

Scales based on possible-self and self-discrepancy theories

	1 左の各項目について、どの程度 今のあなたにあてはまると思いますか。 全くあてはまらない(1)～よくあてはまる(6)	2 左の各項目があらわすような人に、 将来どの程度なりたいと思いますか。 なりたいとは思わない(1)～絶対なりたい(6)
1. 自分の意見や考えを英語で正確に伝えることができる人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
2. 英語ができることは、自分の強みの1つである人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
3. 毎日、英語にふれる生活をしている人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
4. 視野が広く、さまざまな文化を受け入れられる人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
5. 海外に行っても困らない程度の英語力がある人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
6. 物怖じせず積極的に英語で話ができる人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
7. 英語を使って、さまざまな国のの人たちと交流を持っている人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6
8. 映画や洋楽などを日本語訳なしで分かる人	1 – 2 – 3 – 4 – 5 – 6	1 – 2 – 3 – 4 – 5 – 6

	3 左の各項目があらわすような人に、 将来どの程度なりた <i>くない</i> と思いますか。 なりたくないとは思わない(1)～絶対なりたくない(6)
1. 自分の言いたいことをうまく英語で表現できない人	1 – 2 – 3 – 4 – 5 – 6
2. TOEICやTOEFLなどの英語の資格が高くない人	1 – 2 – 3 – 4 – 5 – 6
3. 勉強する以外にほとんど英語を使わない人	1 – 2 – 3 – 4 – 5 – 6
4. 海外の状況や出来事に興味を持っていない人	1 – 2 – 3 – 4 – 5 – 6
5. 英語を流暢に話すことができない人	1 – 2 – 3 – 4 – 5 – 6
6. 状況に合わせて、英語を適切に使い分けられない人	1 – 2 – 3 – 4 – 5 – 6
7. 英語や海外とは無縁な生活をしている人	1 – 2 – 3 – 4 – 5 – 6
8. 英語が上達するための努力をしていない人	1 – 2 – 3 – 4 – 5 – 6

	4 左の各項目があらわすような人に、周囲の人や社会の期待から、 将来どの程度ならなくてはいいと思いますか。 ならなくてはいいとは思わない(1)～絶対ならなくてはいい(6)
1. 自分の意見や考えを英語で正確に伝えることができる人	1 - 2 - 3 - 4 - 5 - 6
2. 英語ができることは、自分の強みの1つである人	1 - 2 - 3 - 4 - 5 - 6
3. 毎日、英語にふれる生活をしている人	1 - 2 - 3 - 4 - 5 - 6
4. 視野が広く、さまざまな文化を受け入れられる人	1 - 2 - 3 - 4 - 5 - 6
5. 海外に行っても困らない程度の英語力がある人	1 - 2 - 3 - 4 - 5 - 6
6. 物怖じせず積極的に英語で話ができる人	1 - 2 - 3 - 4 - 5 - 6
7. 英語を使って、さまざまな国の人たちと交流を持っている人	1 - 2 - 3 - 4 - 5 - 6
8. 映画や洋楽などを日本語訳なしで分かる人	1 - 2 - 3 - 4 - 5 - 6

Appendix 2

Table 9

A Summary of Cluster Characteristics: Mean Scores, Standard Deviations of Discrepancy between Ideal and Present Selves, Motivational Variables, and Perceived Competence with Results of ANOVA

N	Cluster 1 41	Cluster 2 24	Cluster 3 16	df	F-value	P	Post-hoc (Tukey)
discrepancy	10.6 (1.39)	7.63 (1.98)	6.77 (1.54)	2, 78	44.052	.000	1 > 2, 3
motivation	4.40 (1.04)	3.28 (1.01)	4.44 (1.06)	2, 78	10.052	.000	3, 1 > 2
IP	3.75 (0.82)	2.59 (0.99)	3.97 (0.62)	2, 78	18.219	.000	3, 1 > 2
can-do	2.99 (0.75)	2.64 (0.71)	3.57 (0.50)	2, 78	8.468	.000	3 > 1, 2

Note. discrepancy = ideal-present discrepancy, IP = international posture