

Revising L2 Motivational Self System Questionnaire for Japanese learners of English

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ABSTRACT

In the last three decades, several motivational theories including the L2 Motivational Self System (L2MSS) have been used to explain learners' motivation structure. This theory consists of three key motivational constructs: the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience. A decade has passed since Dörnyei advocated the L2MSS, and studies applying this theory have thrived (e.g., Csizer & Lukacs, 2010; Dörnyei, Csizér, & Németh, 2006; Kormos & Csizer 2008). Recently, You and Dörnyei (2015) published research based on Chinese learners of English (N = 10,413) and called for the study to serve as a baseline. Answering their call, in this study, the authors have revised the existing questionnaire measuring the three key constructs of L2MSS, originally used in Taguchi, Magid, and Papi (2009), and validated the instrument based on the questionnaires collected from Japanese college freshmen (N = 868). Based on the findings, the applicability of the L2 Motivational self-system in different contexts is discussed and the authors called for a revision of the model, especially the Ought-to L2 Self construct.

Dörnyei and Ushioda (2011) identified the focus of research over these five decades as the social-psychological (1959-1990), cognitive-situated (during the 1990s), process-oriented (turn of the century) and socio-dynamic (current) periods. Researchers used key theories from general psychology such as attribution theory (Weiner, 1992), self-efficacy theory (Bandura, 1993), and self-determination theory (Deci & Ryan, 1985). Theoretical models and concepts of L2 motivation such as the socio-economic model (Gardner, 1985) and L2 Motivational Self System (Dörnyei, 2005, 2009),

specific to the L2 learning were developed and a wide variety of studies were conducted both inside and outside of Japan (see Dörnyei and Ushioda, 2009; Dörnyei, 2005 for a review).

Recently, L2 motivation researchers are focusing on the dynamic nature of motivation and argue that learners' motivation ebbs and flows (e.g., Dörnyei & Ushioda, 2009; Dörnyei, MacIntyre & Henry, 2014). While theoreticians are moving towards a direction where learners and the process of language learning are treated as a part of Dynamic Systems (Dörnyei, MacIntyre & Henry, 2014), practitioners such as program administrators or teachers are in need of more accurate measurement instruments to understand the motivational structure of language learners and wants/needs.

Using Exploratory Factor Analysis (EFA) and Rasch analysis, a questionnaire, measuring three aspects of the L2 Motivational Self System (L2MSS) (Dörnyei, 2005, 2009) was validated in this study. While previous studies used a nine factor model (Taguchi, Magid, & Papi, 2009) or an eight factor model (You & Dörnyei, 2015), a six factor model of the L2 motivational self-system (L2MSS), a simple model with a shorter questionnaire was revised based on the original questionnaire and validated in this study. Eight-hundred and sixty-eight college freshmen responded to this questionnaire. The aim of the study was to validate the six factor model of L2MSS using EFA and Rasch analysis and to understand the motivational characteristics of college freshman who are learning English after their prior experience of six years of study in high school. This study reports the process of validating a 29-item questionnaire and discusses the importance of such practice. The data obtained give us an understanding of the motivational characteristics of Japanese college learners of English who have just started studying at a tertiary level. It also provides a research tool for future researchers who are interested in assessing the motivation of their learners with a shorter version of the questionnaire with key concepts on L2MSS.

An overview of L2 motivation research in Japan

At the start of the new millennium, Irie (2002) published a review of studies of English language learning motivation in Japan. In light of two

theoretical aspects, instrumental/integrative motivation (Gardner, 1985, 2001) and mastery/performance goal orientation (Ames, 1992; Dweck, 2000), she reviewed key survey studies (e.g., Miyahara, Nemoto, Yamanaka, Murakami, Kinoshita, & Yamamoto, 1997 and Kimura, Nakata, & Okumura, 2001) published in Japan. Observing the recurring patterns, she concluded that “Japanese university students are likely to appreciate the instrumental value in learning English for exams and a career, and also to have an interest in making contact with native speakers of English and visiting their countries (p. 97).” She also commented that survey studies published after 1990 up to that time dominantly used exploratory factor analysis in analyzing the data and suggested that future researchers should attempt to confirm the patterns identified in earlier studies.

A decade after Irie (2002), Ushioda (2013) reviewed the state L2 motivation studies in Japan. Reviewing the growing literature on L2 motivation, she identified the following three active areas of inquiry (p. 2): learners’ demotivation; learners’ motivational changes in their L2 experience through different stages of their learning; and the meaning of English language and English learning in regards to their sense of self, identities, goals or values. She referred to Berwick and Ross’s (1989, p. 207) description of English education in Japanese universities as a “motivational wasteland” and further commented that “it is no exaggeration to say that nearly all the leading empirical research on demotivation in foreign language learning currently derives from Japan (p. 5).” As she touched upon in her paper, researchers in Japan argue that the learners’ intensity of motivation changes over time (e.g., Hayashi, 2005; Kikuchi 2016; Miura, 2010). Many learners may become demotivated when they are not sure about the usefulness of English language and why they study it (Kikuchi 2009, 2015).

In order to examine changes in L2 motivation or the reason why learners study an L2, what is much needed is an instrument utilizing current motivational constructs discussed in the L2 literature. According to Boo, Dörnyei, & Ryan (2015), who reviewed a large set of journal articles and book chapters published between 2005 and 2014, the use of the L2 motivational self-system has become very popular from 2011. While approximately 30

papers used more than one concept for their theoretical backgrounds, with a majority including the L2 motivational self-system, they reported that about 40 papers, published in 2013-2014, used the L2 motivational self-system solely for the theoretical background.

L2 Motivational Self-System

As discussed in the previous section, the L2 motivational self-system has been heavily related upon the field of recent motivational research. Argued as an integrative synthesis of several key constructs and theories in L2 motivational research, it consists of three principal constructs: the *Ideal L2 Self*, the *Ought-to L2 Self*, and the *L2 Learning Experience*. Using this theoretical background, large survey studies were first conducted in Hungary (Kormos & Csizer 2008; Csizer & Lukacs, 2010). Other researchers also conducted studies in Saudi Arabia (Al-Shehri, 2009), Sweden (Henry, 2009, 2010), Indonesia (Lamb, 2012), and Germany (Busse, 2013). Taguchi, Magid, and Papi (2009) conducted a comparative study in Japan, China, and Iran, which surveyed 1,586 college students. Among such studies, the very recent and largest study (N=10,413) was conducted in China (You & Dörnyei, 2015). In the following section, the key constructs of L2MSS used in these two studies are described.

Table 1 presents the key constructs of L2MSS in You and Dörnyei's survey along with the description of constructs based on Taguchi, et al., (2009, pp. 74-75). There were two changes made for constructs used in You and Dörnyei (2015). One sub-construct of Ideal L2 self, Traveling, was not included, while one sub-construct of Ought-to L2 self, parental expectations, was called Family Influence in You and Dörnyei (2015). They explained that these changes were made based on interviews with 10 Chinese learners of English.

Table 1 Key Constructs in the L2 Self System

Constructs	Description of constructs
Ideal L2 self	The L2-specific aspect of one's ideal self
Instrumental-Promotion	Regulation of personal goals to be successful in obtaining high proficiency in English to make more money or find a better job
Cultural interest	Learner's interest in the cultural products of the L2 culture (e.g., TV, magazines, movies, and music)
Ought-to L2 self	The attributes that one believes one ought to possess (i.e., various duties, obligations, or responsibilities)
Instrumentality-Prevention	Regulation of duties and obligations (e.g., ought to study English to pass an examination)
Family Influence	Examining active and passive parental roles
Language learning experience (Attitudes to L2 learning)	Situation-specific motives related to the immediate learning environment and experience
Intended effort	Learners' intended effort towards learning English

In both studies cited which used a similar questionnaire addressing L2MSS, the validity of the constructs in the questionnaire were not assessed while they reported Cronbach's alpha measuring the internal consistency of each construct in the survey. As noted by Sijtsma (2009), however, Cronbach's alpha reliability only indicates the consistency of person responses. While Cronbach's alpha is widely believed to be a measurement of instrument validity, it only measures the consistency of participant responses to items on the instrument. Arguably, it may not tell us any useful information about the items themselves.

Dörnyei (2010) notes that "reliability and validity are two key concepts in measurement theory (p. 93)." However, the validity of the constructs in the questionnaire used in these studies was not discussed. Construct validity refers to "how well a measure actually measures the construct it is intended to measure (Netemeyer, Bearden, & Sharma, 2003, p. 11). By applying the Rasch model, recent researchers (e.g., Apple, 2013; Kikuchi 2015; Lake, 2016) increasingly have checked the construct validity of the questionnaire they developed. Messick (1995) contends that "validation is empirical evaluation

of the meaning and consequences of measurement (p. 747).” As argued by Bond and Fox (2007, p. 269), “attention to construct validity is not as common as those involved in theory-driven enquiry might hope.” Thus, it is regarded that validating the questionnaire instruments measuring L2 motivational theoretical constructs is a crucial step to crystallize the measurement created. Using both exploratory factor analysis and Rasch analysis, construct validity is checked in this study.

Purpose of this study

In this paper, we adapted a questionnaire that was constructed based on Taguchi et al., (2009) and compare the result with the recent large Chinese study (You & Dörnyei, 2015). To this end, we posited the following research questions:

1. To what extent do the configurations of the L2 motivational self-system in this study correspond to the 8-factor model of Taguchi’s?
2. How do the findings of this study differ from the ones from Chinese college students in You and Dörnyei (2015)?

Method

Participants

A total of 868 Japanese university students who were taking a General English course for freshmen participated in this survey. To sample as wide a variety of students as possible, we collected data from three national universities, a public university, and four private universities in Tohoku, Kanto, and Chubu regions in Japan. The original sample size was 868, but the data of those who did not answer all the questions, and those who did not experience English education in Japan were excluded to reflect the perceptions of Japanese English learners experienced in Japanese schools, so the final sample size was 845. They all agreed to allow the data to be used for the study on condition of anonymity.

Materials

We adopted a 29-item questionnaire with a 6-point Likert scale, based

on the 42 items with which Taguchi et al., (2009) used to explore the L2 motivational self system among Japanese, Chinese, and Iranian EFL learners. The instruction was *how much does each statement apply to you?* To collect unbiased answers, it was clearly stated that the answers to the questionnaire would never affect participants' grades.

Among the 42 items used in Taguchi et al., (2009), the 29 items were adopted for a pilot study in the following manner. In principle, this study focused on the three primary components that Dörnyei (2005) proposed as the L2 motivational self-system, *Ideal L2 self*, *Ought to L2 self*, and *L2 learning experience*. We first eliminated items that do not conceptually fit the three core components from the 42 original items in Taguchi et al (2009), such as the items pertaining to *L2 anxiety* (e.g., I would feel uneasy speaking English with a native speaker) and *self-confidence* (If I make more effort, I am sure I will be able to master English), and *integrativeness* (e.g., How much do you like English?). Of the 42 original items on the questionnaire, only 29 items regarding the L2 motivational self-system were kept in our final instrument. Second, the original 42 items contained question type statements (e.g., Do you like meeting people from English-speaking countries) but we only used statement type questions because question type statements would not be suitable for the instructions of the current survey (*how much does each statement apply to you?*), following the suggestions of Dörnyei (2010). Third, items that ask similar concept were deleted or combined into one item. For example, items like "Do you like English magazines, newspapers, or books?" and "Do you like the music of English-speaking countries (e.g., pop music)?" were similar to "I like English films," and "I like TV programs made in English-speaking countries." Finally, we had all the items checked by two university students who major in English and communication studies. Because they were closer in age to the participants than graduate students or researchers, they were considered to have a similar sensitivity as the participants and could better pinpoint the problems the participants might have.

Procedure

After the initial 29-item questionnaire in Japanese was created, it was piloted with 96 university students in one of the authors' general English classes. Based on the descriptive statistics and the EFA result on the data, we examined if there were any problems pertaining to the construct and items. Because no major problems were found, the 29-item questionnaire was administered at various universities.

Analyses

The data were first analyzed in the following manner. Before conducting factor analyses, the floor and ceiling effects were examined for each item to see if mean scores plus or minus one standard deviation stayed within the range of the 6-point Likert scale. Only *item 12* (My parents encourage me to attend extra English classes after class) did not reach one standard deviation, so it was excluded from the factor analysis. Second, an exploratory factor analysis (EFA) was conducted on the remaining 28 items using the maximum likelihood method with Promax rotation; considering the large sample size, the maximum likelihood method was selected. Promax rotation was selected on the assumption that there would be correlations among the factors. Six factor solutions were chosen, given that six factors were extracted in the pilot study and considering the interpretability of the factor rotation while following the guideline given by Brown (2009). For the interpretations of factor loadings, we set the criterion of .40 or above. The initial trial showed that *item 15*, "*Learning English is necessary because people surrounding me expect me to do so.*" did not reach .40 in any of the 6 factors, so it was excluded. The second trial showed all the remaining 27 items loaded on one of the 6 factors, with a loading over .40. The reliability coefficients were measured by Cronbach's alpha. Then a repeated-measure of one-way ANOVA was conducted to examine if there were significant differences among the 6 factors. Based on these results, the data were compared with the data of You and Dörnyei (2016).

Next, Rasch analysis was conducted using Winsteps 3.92. As noted by Knoch and McNamara (2015), it "offers more powerful tools than other

traditional analysis techniques (p. 294).” Rasch analyses conducted in this study were Rasch item fit analysis and Rasch principal components analysis (PCA) of item residuals. Rasch item fit analysis provides information on how closely the data match the predictions of the model. Linacre (2011) suggests that item fit statistics such as infit and outfit mean-squared (MNSQ) should fall within values of 0.5 to 1.5. With Rasch PCA, we checked for patterns in the residuals that might suggest an additional dimension in the scale. In terms of Rasch PCA, Linacre (2011) suggests that variance explained by the measures should be at least 50% while eigenvalue units of unexplained variance in the first contrast should be less than 3.0 and less than 10% of the variance. We followed these guidelines to determine the construct validity of the six constructs in this study. As we conducted these analyses, various statistics such as person/item reliability and person/item separation were checked. By conducting Rasch analyses, we present reliability indices for both persons and items as well as person/item separation, which displays “the number of different groups within the sample and the number of different item difficulty levels (Apple, 2013, p. 9).”

Results

The descriptive statistics of the all items are shown in Table 2. The EFA identified six factors: *Attitudes to learning English* (F1); the second factor *Cultural Interest* (F2); the third factor *Ideal L2 self* (F3); the fourth factor *Ought to L2 Self and Instrumentality* (F4); the fifth factor *Parental Expectations* (F5); the sixth factor *Intended Effort* (F6). The pattern matrix of the six factors is shown in Table 3; descriptive statistics of the six factors are shown in Table 4, and the correlations among the six factors are shown in Table 5. The Cronbach’s reliability estimates of each factor shows at .93, .88, .92, .78, .85, and .87 for F1, F2, F3, F4, F5, and F6 respectively, which indicates a high internal consistency of participant responses. Observing the cumulative variance, the three key concepts of *Ideal L2 self*, *Attitudes to learning English*, and *Ought-to L2 self and Instrumentality* account for 44.13 %, which is nearly half of the total variance. The six variables together account for 62.20 %.

Table 2 Descriptive Statistics of Questionnaire Items

No.	M	SD	Skewness	Kurtosis
item 1	3.76	1.61	-.247	-1.005
item 2	4.57	1.18	-.739	.315
item 3	3.16	1.32	.252	-.304
item 4	4.10	1.24	-.359	-.252
item 5	4.06	1.29	-.468	-.252
item 6	2.87	1.49	.520	-.555
item 7	4.08	1.13	-.334	.065
item 8	3.67	1.42	-.051	-.698
item 9	4.42	1.26	-.794	.439
item 10	4.34	1.22	-.530	.052
item 11	3.98	1.15	-.282	.111
item 12	2.04	1.33	1.287	.949
item 13	3.68	1.40	-.084	-.568
item 14	3.91	1.26	-.235	-.206
item 15	3.24	1.39	.151	-.604
item 16	2.63	1.47	.628	-.487
item 17	3.87	1.13	-.162	.079
item 18	3.94	1.50	-.265	-.725
item 19	4.31	1.43	-.532	-.568
item 20	4.28	1.27	-.393	-.334
item 21	4.68	1.25	-.827	.193
item 22	3.95	1.42	-.134	-.771
item 23	4.02	1.37	-.312	-.525
item 24	3.61	1.42	-.018	-.737
item 25	4.15	1.28	-.500	-.065
item 26	4.32	1.25	-.522	.061
item 27	2.84	1.53	.422	-.798
item 28	4.59	1.18	-.726	.343
item 29	2.84	1.35	.315	-.475

Table 3 Results of the Factor Analysis Using Promax Rotation

Material	F1	F2	F3	F4	F5	F6	h^2
F1 ($\alpha=.93$)							
item 26	.954	.041	-.032	-.046	.013	-.026	.871
item 10	.904	.005	.020	-.055	.003	-.007	.813
item 14	.836	-.037	.026	.007	.017	.021	.721
item 4	.778	.022	.006	.030	.030	-.005	.654
F2 ($\alpha=.88$)							
item 20	.012	.916	-.078	-.040	.027	.013	.773
item 19	-.005	.808	-.072	-.085	-.014	.063	.586
item 22	-.006	.785	-.101	-.005	.013	.049	.552
item 21	.068	.746	.100	.091	-.091	-.097	.678
item 18	-.053	.568	.272	.001	.060	-.017	.554
F3 ($\alpha=.92$)							
item 8	-.028	-.013	.987	-.116	.000	.048	.908
item 13	.033	-.044	.968	-.071	-.021	.005	.879
item 3	.005	-.036	.837	-.036	.056	.007	.682
Item 24	.109	.031	.602	.146	.026	.016	.614
F4 ($\alpha=.78$)							
item 25	.057	-.050	.047	.803	-.056	-.051	.608
item 9	-.017	-.122	-.128	.669	-.049	.049	.380
item 5	.082	.010	-.229	.604	.075	.063	.404
item 28	.139	.095	.188	.508	-.038	-.123	.419
item 2	-.015	.097	.022	.491	.111	-.079	.324
item 23	-.116	.064	.270	.485	-.094	.051	.354
item 29	-.222	-.023	-.063	.472	.184	.094	.326
F5($\alpha=.85$)							
item 6	-.012	.120	.061	-.047	.782	.006	.672
item 16	-.003	-.067	-.019	.080	.772	.017	.636
item 1	.067	-.014	-.023	-.062	.747	-.025	.513
item 27	.011	-.047	.051	.112	.714	-.019	.604
F6 ($\alpha=.87$)							
item 17	.021	.030	.040	.064	-.007	.816	.792
item 7	.097	.005	.054	-.050	-.003	.809	.794
item 11	.379	.036	.063	.096	-.033	.427	.683
Variance	34.135	11.621	4.438	5.564	2.897	3.543	

Table 4 Descriptive Statistics of the Six Factors

Factor matrix	Mean	SD	Skewness	Kurtosis
Attitudes toward learning English	4.17	1.14	-.39	-.22
Cultural Interest	4.23	1.25	-.06	-.56
Ideal L2 self	3.53	0.84	-.27	.48
Ought to L2 Self and instrumentality	4.10	1.27	.29	-.56
Parental expectations	3.02	1.03	-.20	.18
Intended effort	3.98	1.13	-.44	.11

Table 5 Correlations of the Six Factors

Factor correlation matrix	F1	F2	F3	F4	F5	F6
Attitudes toward learning English	-	-	-	-	-	-
Cultural Interest	.58**	-	-	-	-	-
Ideal L2 self	.62**	.58**	-	-	-	-
Ought to L2 Self and instrumentality	.25**	.24**	.32**	-	-	-
Parental expectations	.20**	.26**	.27**	.47**		
Intended effort	.70**	.47**	.35**	.35**	.23**	-

** $p < .01$

The repeated measures one-way ANOVA found significant differences among the 6 factors ($3.69, 253.85 = 252.78, p < .001, \eta_p^2 = .23$). The post-hoc multiple comparison with Bonferroni adjustment found that all the combinations except those of *Attitudes toward learning English* and *Cultural Interest* and *Attitudes toward learning English* and *Ought to L2 Self* were statistically significant. These results mean that *Ideal L2 self*, *Parental Expectations*, and *Intended Effort* are weaker than *Attitudes toward Learning English*, *Cultural Interest*, and *Ought to L2 Self* and *Instrumentality*; *Attitudes toward Learning English*, *Cultural Interest*, *Ought to L2 Self* and *Instrumentality* are at the same level but *Cultural Interest* is stronger than *Ought to L2 Self* and *Instrumentality*.

Correlations among each factor are all statistically significant (Table 4). Note that correlations between intended effort and five other factors (*Attitudes toward learning English*, *Cultural Interest*, *Ideal L2 self*, *Ought to L2 Self* and *instrumentality*, and *Parental expectations*) vary. While correlations

between intended effort and the first two factors were relatively strong, ones with the other factors were weaker.

Tables 6 and 7 present the result of Rasch analysis conducted in this study. In Table 6, Rasch Item Reliability (R_i), Rasch Item Separation Index (G_i), Rasch Person Reliability (R_p), and Rasch Person Separation Index (G_p) are presented for each construct. R_i indicate the replicability of item placements along the measured construct whereas G_i estimate the separation of items along the measured construct. While R_p estimates the consistency of person responses across various items measuring the same construct, G_p estimates the spread of separation of person on the measured variable (Bond & Fox, 2007).

Table 6 Rasch Item and Person Reliability and Separation Statistics for the Measured Variables

Variables	Item reliability	Item separation	Person reliability	Person separation
Ideal L2 Self	.99	9.61	.90	2.98
Cultural Interests	.99	9.92	.81	2.08
Attitudes to learn English	.99	9.34	.90	3.05
Ought-to L2 self and Instrumentality	.99	16.22	.79	1.93
Parents' Influence	.99	14.35	.79	1.93
Intended Effort	.98	7.22	.90	2.97

As seen in Table 6, the four statistics presented (R_i , G_i , R_p , and G_p) show that items in each construct measured each construct well, although there are two notable patterns. Three constructs, *Ideal L2 self*, *Attitudes to learn English*, and *Intended Effort* appeared to be more reliable than the others. It was observed that there were bigger item separations for two constructs, *Ought-to L2 self and Instrumentality* and *Parents' Influence*. This indicates that there was wider range of endorsability towards these items by the participants in the study.

By examining Table 7, it was confirmed that each construct was unidimensional in terms of criteria described earlier. Although unexplained variance in the first contrast was a bit high for *Cultural Interests* and *Parents'*

Influence, other statistics were within acceptable ranges.

Table 7 Rasch Item and Person Reliability and Separation Statistics for the Measured Variables

Variables	Variance explained by measure (%)	Eigenvalue of unexplained variance in the first contrast	Unexplained variance in the first contrast (%)
Ideal L2 Self	75.6	1.3	8.2
Cultural Interests	62.0	1.4	11.0
Attitudes to Learn English	76.2	1.2	6.9
Ought-to L2 self and Instrumentality	51.5	1.3	8.1
Parents' Influence	65.2	1.2	10.6
Intended Effort	65.8	1.4	6.8

Discussion

The first research question asked about how much the configurations of the L2 motivational self-system in this study correspond with that of the 8-factor model used by Taguchi et al., (2009). In sum, although participants in this study perceived that the two key constructs of the self-system (*Ideal L2 self* and *attitudes to learning English*) are also distinctively different constructs in our study, they perceived the *Ought-to L2 self and instrumentality* constructs as being very similar. While in Taguchi's model, three constructs, *Ought-to L2 self*, *Instrumentality-promotion*, and *Instrumentality-prevention* were three distinctive constructs, our participants perceived them to be one construct. What can we be informed based on this result?

As noted by Teimouri (2017), the original items in Taguchi et al., (2009) measuring Ought-to-L2 Self included mixed constructs; it included both positive and negative outcomes among items. While it included seven items for the Chinese version and six items for the Iranian version of this construct, it includes only two items in the Japanese version. In our study, as observed with items loaded on Factor 4, learners perceived that Ought-to-L2 Self and instrumentality are similar constructs. As Irie (2002) observed, Japanese college students have both instrumental oriented motivation and interests in

other cultures or towards people abroad. Corroborating the studies that Irie (2002) reviewed, this study supports the idea that current university students may have similar kinds of motivation. Notably, new constructs such as Ideal L2 self or attitudes towards learning English were added as key motivators in L2MSS. While these two constructs were perceived as distinctively important in this study, Ought-to L2 self, Instrumentality-promotion, and Instrumentality-prevention, other constructs in L2MSS may be perceived important, yet similar constructs among Japanese college students. The items that loaded on Factor 2 provide some possible insight about “studying” English. It may be that the Japanese freshman surveyed in this study perceive that studying English is a part of Ought-to L2 self.

In answering the second research question, both similarities and differences were found between the Japanese university students in this study and the Chinese university students in You and Dörnyei’s.

To begin with, all four items in the Ideal L2 Self in this study generally coincide with the ones in You and Dörnyei. *Cultural Interest* is considered a sub-construct of *Ideal L2 Self*, and these two constructs are correlated at .58. Both You and Dörnyei and this study contain two items (item 19; *I like English films*); *I like TV programmes made in English-speaking countries* (item 22). In contrast, in our study, items concerning *Attitudes toward L2 Community* is in the construct, *Cultural Interest* (item 18, *I like to travel to English-speaking countries*; item 20, *I like meeting people from English-speaking countries*; item 21, *I like the people who live in English-speaking countries*).

Second, *ought-to L2 self, instrumental-promotion and prevention* are factored in the same group and named as *Ought-to L2 self and Instrumentality* in our study. This shows that Japanese learners highly value the importance of studying English for exams for their motivation. Regarding *Attitudes toward Learning English*, three items about the enjoyment of learning English were consistently grouped together in both studies.

Third, the correlations between intended effort and the three principal motivational variables (*Ideal L2 self, Ought-to L2 self, Attitudes to L2 Learning*) were compared with the result of You and Dörnyei. First, in You and Dörnyei, Ideal L2 self is correlated with *Intended effort* at .52 but .35 in our study.

For *Ought-to L2 self*, .33 for You and Dörnyei and .35 in this study; .64 for *Attitudes to L2 Learning* and .70 in this study. Given these, we can speculate that the *Ideal L2 self* may not be a very strong motivator among learners in our study while *attitudes to L2 learning* and *motivation towards the immediate environment* is an important factor. As noted by Lamb (2017), the ideal L2 self and the L2 learning experience (i.e., *attitudes towards L2 learning*) are found to be more closely related to intended effort than other constructs in many studies in different contexts. This study supports the same trend ($r = .70$) while we found some varieties in the correlation among other constructs.

Conclusion

While it is reported in many studies that L2MSS is a widely used model to understand the learners of English across different countries, we argue that we should be careful about simply using the questionnaire items available in consideration of the content validity of key constructs of L2MSS checked in this study. Even though we agree that constructs such as *Ideal L2 Self*, *Cultural Interest*, *Attitudes to Learning English*, *Parents' Influence*, or *Intended Effort* can be differentiated as distinctive constructs, items especially related to the three constructs (*ought-to L2 self*, *instrumentality-promotion and prevention*) are similar and may need to be used carefully. In fact, several researchers (Dörnyei & Chan, 2013; Lamb, 2012; Teimouri, 2017) also have questioned the construct validity of Ought-to L2 self, and called for the reformulation of the construct. Based on this study, we also cast doubt on this construct.

What we can suggest for new studies, however, is to adapt items used in previous studies. For instance, Yashima, Nishida, and Mizumoto (2017) used items with regards to *Ideal L2 Self*, *Ought-to L2 self*, and *Intended Effort* in their study. They prepared four or five items for each construct, adapted from the existing questionnaire used in Taguchi's study after careful validation. We believe that such a careful practice is important, as discussed in survey development literature (e.g., Brown, 2001; Netemeyer, Bearden & Sharma, 2003).

How useful is this study for practitioners around the world in different

teaching contexts? Above all, it may be useful to use the instrument from this study in other situations. The participants of this study are Japanese college freshmen who are required to study English. Students in different settings would likely respond to the questionnaires in different ways. Administering the questionnaire, ideally revised for the target population as argued above, would be useful at the beginning of a course in order to understand the motivational structure of the students. For instance, students may have strong ideal L2 Selves but weaker intended efforts. Knowing the motivational characteristics of each student may help teachers understand individual students, which eventually helps teachers to work with them more easily.

There are at least two weaknesses of the research design. First, we did not use confirmatory factor analysis to check the validity of the model, though we used Rasch analysis to carefully check the construct validity. Second, the study used a convenience sample based on the researchers' professional network. We suggest that future researchers should consider these points when they design their studies. We adapted the questionnaire as closely as possible from Taguchi, T., Magid, M. and Papi, M. (2009), and described how we developed our questionnaire in depth.

You and Dörnyei conducted their study to present "a baseline for future research that focuses on social and geographical variation as well as temporal evolution within the Chinese context (p. 21)." We hope that our study based on Japanese freshman may serve as such for the Japanese context. It is also our hope that researchers will adapt our questionnaire for their context, reflecting on the procedure presented in this paper, while teachers may use the questionnaire to measure their learners' motivational characteristics.

Acknowledgements

We would like to express our gratitude to all the teachers and students who cooperated with this research; without their support this work would not have been possible. We also would like to thank Matthew Apple, Jeffrey Durand, and J. Lake, for their helpful comments on an earlier version of the paper.

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