MOTIVATIONAL PROFILES OF LEARNING MULTIPLE FOREIGN LANGUAGES

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ABSTRACT

Second language motivation has been well-researched in SLA and has a consistent positive correlation with learning achievement, which is empirically supported by many studies in different contexts with different second languages (Masgoret & Gardner, 2003). However, except for a few recent studies (Dörnyei & Chan, 2013; Henry & Cliffordson, 2013), little is known about how motivation differs when learners attempt to study more than one foreign language simultaneously. This paper reports on how university students in Vietnam are motivated to learn both English and Mandarin. Conceptualizing motivation via the L2 Motivational Self System, proposed and validated by Dörnyei and other scholars, 154 Vietnamese university students were given a motivation questionnaire. Using both quantitative and qualitative profile analyses, the results generally indicated that students have different motivations for learning English and Mandarin.

Motivation is one of the most well-researched constructs in second language (L2) studies. Over the past decade, the number of publications in this area has exceeded those in any other strands of SLA (Boo, Dörnyei, & Ryan, 2015). This large and growing body of research may stem from the fact that motivation appears to be critical to L2 language development, as it gives impetus to a person to initiate and sustain L2 learning. Dörnyei and Csizér (1998) note that even people who do not have a strong language aptitude can still achieve a certain level of proficiency if they are motivated, while linguistically intelligent people cannot if they are unmotivated to learn. This perhaps explains why the motivational construct so often receives attention from both L2 classroom teachers and academic researchers.

Starting the initial and empirical interest in exploring this area in SLA, Gardner and Lambert (1959) laid the foundation for the study of L2 learning motivation from a social psychology

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perspective. Their model was influential across the subsequent decades. At the same time, due to growing interest in this psychological construct, many other approaches and paradigms began to emerge, including the socio-educational model (Gardner, 2001; Gardner & Lambert, 1972), social identity and investment (Norton, 2001; Peirce, 1995), the L2 Motivational Self-system (Dörnyei, 2005; Dörnyei & Ushioda, 2009), dynamic approaches (Dörnyei, Henry, & MacIntyre, 2015), and many more.

It has also been observed that most motivation studies have mainly focused on a single second/foreign language, with English serving as the primary target language. In fact, Boo et al. (2015) have confirmed that "a significant majority (72.67%) of empirical investigations was committed to the study of English as an L2" (p. 151). Though the field has welcomed the "multilingual turn" (Ortega, 2013), still little is known about the motivation of learning third and fourth additional languages, particularly when students attempt to learn them simultaneously.

BACKGROUND OF THE STUDY

Gardner and Lambert (1959, 1972) pioneered motivation research in second language learning with much of their research taking place in the bilingual context of Canada, where both French and English are the official languages. They originally proposed the concept of integrativeness to theorize L2 motivation, that second language learners are motivated to learn a language because they want to be part of or closer to that target language community. This framework has influenced the conceptualization of L2 motivation for decades. However, scholars outside Canada reason that this paradigm is questionable in other contexts where L2 is usually taught as a school subject, and L2 learners do not have direct contacts with speakers of target languages; therefore, calls arose for an expansion of the research agenda compatible with that of educational psychology and other related disciplines (Crookes & Schmidt, 1991; Dörnyei, 1994; Oxford & Shearin, 1994). Of the many approaches to and perspectives on L2 motivation, Dörnyei's (2005) L2 Motivational Self System is particularly notable in that it attempted to synthesize elements of several previous models. However, how this theoretical framework contributes to the study of L3 motivation remains unclear.

The L2 Motivational Self System

The L2 motivational Self-system includes three components: The Ideal L2 Self, the Ought-to L2 Self, and the L2 learning experience. The Ideal L2 Self reflects the successful L2 imagined/visualized person a learner desires to become. It can be an ideal person he/she wants to be with some elements associated with the L2. The Ought-to L2 Self is described as an expected self that is derived from other people and society and is typically projected onto the L2 learner. For example, learners might have pressure from their parents to learn a foreign language. The L2 learning experience is what a learner has in his/her immediate environment (classroom, teachers, etc.) to promote learning. The theoretical framework has been so well-received that it created a *surge* in publications over the past five years (Boo et al., 2015).

Recently, Taguchi, Magid, and Papi (2009) provided strong evidence in support of the importance of the Ideal L2 Self in motivated behavior, and the construct of the Self System. Using a sample of 4,493 English language learners from Japan, China, and Iran (aged 11-53), Taguchi et al. administered questionnaires assessing learners' intended efforts towards learning, the Ideal L2 Self, Ought-to L2 Self, family influence, and goals involving using English to earn money. Their findings from all three contexts corroborated Dörnyei's (2005) conclusions about motivation in Hungary—that intrinsic motivation extends beyond integrativeness and motivation is better explained through the Self-systems—and extended them abroad. Additionally, they found that the Ought-to L2 Self and a desire for professional development played important roles in determining motivated behavior among the participants in China and Iran. Given the socio-economic situations of these countries, the researchers concluded that factors related to professional development could be split between the Ideal L2 Self and the Ought-to L2 Self.

Following Dörnyei's (2005) motivational Self-system model, Kormos, Kiddle, and Csizér (2011) assessed the role of motivation in L2 learning for 518 university, secondary school, and young adult English language learners in Santiago, Chile. The results of their questionnaire found a strong link between the Ideal L2 Self and intended motivated behavior, a strong correlation between attitudes to L2 learning and persistence regardless of age, and an attitude among the participants that suggested that the importance of English as an international language outweighed extrinsic institutional motivational factors. Contrary to their hypothesis, and contrary to research conducted in China and Japan, Kormos et al. (2011) did not find a significant

connection between the Ought-to L2 Self and motivated behavior, leading the researchers to speculate that, with maturation, the participants internalized the attitudes of their parents towards language learning, synthesizing it with their ideal L2 selves, "influencing enjoyment and pleasure derived from language learning" (p. 509). They go on to suggest that that the Ideal L2 Self is a significant predictor of cognitive and affective factors while the Ought-to L2 Self is merely a predictor of cognitive effects. Likewise, in one study surveying 2,783 Korean EFL learners from grades 3 through 12, Kim (2011) found that overall motivational patterns decreased from grades 3-9 and began to increase in grade 10. Kim also found that the Ought-to Self was more closely associated with fear and anxiety and that the Ideal L2 Self was a better predictor of motivated behavior.

The Ideal L2 Self consistently plays the central role in the framework and Dörnyei has recently furthered the model with the concepts of vision and imagery (Dörnyei & Chan, 2013), suggesting that they may be useful for developing motivational strategies in teaching and learning (see Dörnyei & Kubanyiova, 2014). Therefore, imagery capacity will be also included in this study to explore its relationship with other components of the L2 Motivational Self framework.

Motivation of Multiple L2s

Given the "multilingual turn" in SLA (Ortega, 2013), more and more scholars are interested in the motivational construct in learning and using multiple languages (Csizér & Lukács, 2010; Dörnyei & Chan, 2013; Henry & Cliffordson, 2013; Nakamura, 2015). Generally speaking, research suggests that L2 motivation tends to have a negative impact on L3 motivation (Nakamura, 2015). Csizér and Lukács (2010) investigated the motivational differences among teenagers learning both English and German simultaneously in Hungary. The results indicated that only students who identified English as their first foreign language had more positive attitudes to English, and that overall, students reported having a clearer Ideal Self in English even in the German as the first foreign language group. More recently, Henry and Cliffordson (2013) sought to add greater insights to this issue while also exploring how motivation differs between two languages that are learned simultaneously among Sweden adolescents in their final year of secondary education. The researchers found no difference in the data for Ideal Selves in learning English as an L2. To account for this, they suggested that the professional utility of

English may have heavily influenced the participants. The data for L3 motivation, however, more strongly favored female participants over the male participants. The authors suggest that this may be the result of the L3s serving more social purposes than professional. This, if true, would support their hypothesis that gender differences in Ideal Selves are the result of an interdependent self-construct.

One of the most important findings of Henry and Cliffordson (2013) was that Ideal Self visions varied depended on the language being learned. For their participants, the utilitarian function of learning English resulted in a distinctly different vision of the Ideal Self than the less functional, more social languages being learned as an L3. This finding was further corroborated by Dörnyei and Chan (2013). Using a sample of 172 8th grade students (aged 13-15), the authors administered a self-report questionnaire to examine motivations for learning English and Mandarin. They found that Ideal Self-motivation correlated positively with grades in both languages, whereas Ought-to Self motivation had an insignificant connection. With regards to differences between the two languages, they found that Ideal L2 Selves are distinct among the participants for both languages. The findings for the Ought-to Selves, however, are less clear. They indicate that, when studied together, both languages receive an equal amount of social support, and visions weren't clearly divided between the two. The authors speculate that this may be the result of a tendency in Hong Kong to refer to foreign language learning in a collective sense.

More interestingly, Nakamura (2015) explored the ideal selves in the Motivational L2 Self framework among college students learning Japanese and additional languages. While the previous findings suggest that students' language Ideal Selves can compete with one another, and the dominant Ideal Self of a language can be detrimental to subsequent languages, the findings from Nakamura's study indicate that students can have multiple non-competing Ideal Selves, particularly when different languages link to different domains.

Purpose

Conceptualizing L2 motivation under the L2 Motivational Self-System, this study aims at investigating the motivation of Vietnamese university students for learning both English and Mandarin simultaneously. The present study employs a mixed-methods research (MMR) design with a focus on the quantitative end of the MMR spectrum. The main purpose of the study is to

examine whether students learning both English and Mandarin simultaneously have distinct motivational profiles as measured by the different subscales of the model. Moreover, the researcher is also interested in how the differences can be explained by qualitative data. As a result, understanding the motivational profiles for the two languages can be both confirmatory and exploratory. Hence, MMR is the best option to fulfill this goal. Johnson, Onwuegbuzie, and Turner (2007) note that:

> Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (p. 123)

However, Brown (2014) cautions that not all studies combining both qualitative and quantitative approaches can be considered as MMR, where multiple methods must be employed "systematically and in complementary relationship to reinforce each other" (p. 9).

In this study, the qualitative data were collected concurrently with quantitative data through the open-ended questions embedded in the questionnaire. The data are *mixed* in the analysis process to provide more clarity to the research question. The primary research questions are:

RQ1: How does L2 motivation among Vietnamese university students differ between their two foreign languages (English and Mandarin)? (MMR)

This main question can be split into two sub-questions as follows:

RQ1a: Is there a difference in L2 motivation among Vietnamese university students measured by subscales for English and Mandarin? (QUAN question)

RQ1b: To what extent do qualitative data (open-ended questions) converge with the main conclusion from quantitative data? (QUAL question)

RQ2: How does L2 motivation vary between students who decided to major in either English or Mandarin? (MMR)

In the similar effort, there are two sub-questions embedded in the second research question as follows:

RQ2a: Do the two groups have distinct profiles? (QUAN question)

RQ2b: To what extent do qualitative data (open-ended questions) support the conclusions? (QUAL question)

METHOD

Participants

The participants were 154 undergraduate students enrolled in five-year double language-major programs offered by a public university in northern Vietnam. In this program, the students are required to study two foreign languages simultaneously in their first three years. They can then decide to major in one of them according to their preferences and professional orientation (for example, to be English teachers or Mandarin translators). The Common European Framework of Reference for Languages (CEFR) is employed to set the standards for those students as minimum requirements for graduation (B1 for the minor language and C1 for the major one). It is common for female students to outnumber their male counterparts in different language programs and colleges throughout Vietnam. More than 200 questionnaires were delivered to different groups of English-Mandarin students, and 159 agreed to participate in the study. After checking all the information, 154 participants were retained for analysis and five were discarded because of missing data.

Table 1

*Descriptive Statistics for Participants (*N*=154)*

Variables	**Age**		**Age of Onset**				**Sex**			
			English		*Mandarin*		*Male*		*Female*	
	M	*SD*	*M*	*SD*	*M*	*SD*	*Freq*	*Percent*	*Freq*	*Percent*
	20.7	.97	10	1.9	18	.58	9	5.8%	145	94.2%

Variables	**Enrolled Program**		**Academic Standing**				**Intended Major**	
	Education	*Language*	*2nd*	*3rd*	*4th*	*5th*	*English*	*Mandarin*
Frequencies	79	75	45	81	24	4	77	77
Percent (%)	51.3	48.7	29	53	15	3	50	50

The participants' ages ranged from 18 to 24 (M = 20.5, SD = 1.7). All the participants spoke Vietnamese as their first language. Most of them started learning English earlier than Mandarin. As can be seen from Table 1, the students' average age of onset for English was 10 (M = 10, SD = 1.9) while that for Mandarin was 18 (M = 18, SD = .58). Of the 154 respondents in this study, 51.3% were from the teacher education program, and 48.7 % are from the English-Mandarin language. More than half of the participants were third-year students.

Instruments

A questionnaire was constructed for this research with three main components. The first part included a short description of the study and a few closed and open-ended questions to inform the participants of the research purposes and collect their background information including their age, age of onset, gender, and academic details. In the second section, 45 six-point Likert items adapted from previous studies (Dörnyei & Chan, 2013; Taguchi et al., 2009) were arranged randomly. These items are purported to measure five independent variables (five items for each) including (a) L2 Ideal Self, (b) L2 Ought-to Self, (c) self-reported motivation intensity, (d) L2 speaking anxiety, and (e) imagery capacity. The first four variables were designed to investigate the participants' perceptions for both English and Mandarin while the fifth aimed to assess their general imagery capacity. For the 45 items, the participants were asked to evaluate how each statement reflected their selves in five degrees ranging from (1) *very untrue of me* to (6) *very true of me.* The neutral option was removed to prevent the participants selecting an easy option while rating each statement (see Appendix A). Two types of questions were given to explore: reasons for learning each language (orientations) and how the participants would use the languages after graduation (tapping into their future selves).

To minimize language interference and confusion as a confounding variable, the questionnaire was translated into the participants' L1 (Vietnamese) by the researcher and then translated back into English by a professional translator in Vietnam to check for any misunderstandings or misinterpretations of the original constructs. The Vietnamese version was sent to a native Vietnamese student for proofreading and identification of any wording issues or misinterpretations before it was converted into the web-based format. Google forms was utilized to generate the questionnaire thus allowing for responses to be collected via smartphones or desktop computers with internet connections.

Table 2 shows the Cronbach alpha reliability coefficients for the instrument. Values for all the subscales fell within the recommended values often found in social sciences and applied linguistics. Given that many scholars have criticized the misuse of Cronbach's alpha when the core assumptions are not met, particularly the Tau equivalency (which requires equal variance of the true score across all items) (Dunn, Baguley, & Brunsden, 2014; Sijtsma, 2009; Starkweather, 2012), Ω coefficients were computed using R by following the published guidelines (Dunn et al., 2014). Both tests resulted in encouraging values as presented in Table 2 below.

Table 2

Internal Consistency Reliability by Cronbach's Alpha and McDonald's Omega

Variables	*K*	*α*	Ω	*Sample item*
Ideal English Self	5	.79	.79 [.72, .84]	When I think of the future, I can imagine myself using
Ideal Mandarin Self	5	.90	.90 [.86, .92]	these languages in a variety of ways.
Ought-to English Self	5	.76	.77 [.70, .82]	I have to study these languages, because, otherwise,
Ought-to Mandarin Self	5	.81	.81 [.74, .85]	I think my parents will be disappointed with me.
Intended effort in English	5	.76	.76 [.66, .81]	I would like to study these languages even if I were not
Intended effort in Mandarin	5	.89	.89 [.84, .92]	required to do so.
Speaking anxiety in English	5	.85	.85 [.80, .88]	I would feel uneasy speaking with a native speaker of
Speaking anxiety in Mandarin	5	.92	.92 [.90, .94]	these languages.
Imagery	5	.59	.60 [.45, .71]	If I wish, I can imagine some things so vividly that they hold my attention as a good movie or story does.

Note: k = number of items, *α* = Cronbach's alpha, Ω = McDonald's omega, [ ] 95% Confidence Interval

Data Collection Procedures

After being approved by the Institutional Review Board, the data were collected via two main methods: paper questionnaire and e-questionnaire. Consent was first obtained from the participants across different classes, after which they completed the attached paper questionnaire or were given instructions on how to access the form online. Most participants completed the questionnaire in class.

To reduce nonresponse error stemming from missed or skipped questions, the researcher applied two techniques. First, for the online form, all the questions were set to *required* mode; hence, if the participants skipped or missed any questions, the platform would direct them to complete them. Second, for the paper questionnaires, the participants were reminded to respond to all questions and they were double-checked onsite when the papers were collected.

Data Analysis

As soon as the data were collected, they were examined and prepared for analysis. Both quantitative and qualitative data were stored in MS Excel 2016 to facilitate the analysis and triangulation. The quantitative data were checked for errors, missing values and inconsistencies before creating the codebook to facilitate the analysis. A simple procedure for descriptive statistics was conducted to generate an overview of the data. Then, a subset of 25 questionnaire items was submitted to internal consistency reliability checks. Another dataset of composite variables was produced for subsequent analysis. Both SPSS 20 and the R statistics program were

utilized for data analysis. Analyses included calculation of Cronbach's alpha (SPSS 20) and McDonald's omega reliability coefficients ('Psych' package in R), tests for normal distribution (Shapiro-Wilk, Anderson-Darling), and profile analysis ('profileR' package).

For the qualitative data collected from the open-ended questions, a recursive analytical process was employed in that the researcher read through all the responses several times to identify common themes and patterns. After that, the responses were classified into different categories, and checked for frequencies. A checklist matrix was created to facilitate the process (Brown, 2014). Five main categories emerged from this analysis: culture, vitality, promotion, intrinsic, and prevention. The frequencies in these categories are presented in Table 3. A response was coded as *culture* if it mentioned culture-related orientations such as "*I love learning English because I like the native speakers' lifestyles*" or "*Because I love Chinese movies, I love looking at the Chinese writing characters*." Next, many participating students perceived the importance of English as an international language and the growth of the Chinese economy as an opportunity for them to advance their career. These responses were classified as perceived *vitality* of the target language, one of the important constructs in the study of L2 motivation (Csizér & Dörnyei, 2005a). For example, one student commented, "*Because Mandarin is becoming popular*" when explaining her reasons for studying Mandarin. *Promotion* refers to employability and travel while *intrinsic* reasons imply that students love learning and language learning in general. *Prevention* is when students are obliged to learn the language, such as for university requirements. The occurrences of these orientations were counted and reported in Table 3.

Table 3

Five Emerging Categories from the Open-ended Questions

Reasons	Culture	Vitality	Promotion	Intrinsic	Prevention
English	17	61	88	38	12
Mandarin	36	17	67	49	17

Profile analysis, also known as the multivariate approach to repeated measures or mixed ANOVA, was used to answer the quantitative research questions. This technique is considered an alternative to the univariate repeated-measures ANOVA when all variables are measured on the compatible subscales (commensurability). In profile analysis, the data are usually plotted with the subscales on the horizontal axis and with the responses or scores on the vertical axis.

Generally speaking, profile analysis permits researchers to explore whether groups of interest display different profiles on a set of scaling instruments. Specifically, the three primary questions that can be answered by profile analysis are: (a) parallelism of profiles, (b) overall difference among groups, and (c) flatness of profiles. The parallelism tests examine whether different groups show parallel profiles by using difference scores (also segments) created from adjacent pairs of subscales. This is similar to the test of interaction in univariate ANOVA. Likewise, the group difference is similar to univariate ANOVA of between-group differences. This levels test examines the within-group differences among the means of all subscales combined. As such, follow-up comparisons for each subscale can be conducted to identify the sources of difference without committing Type I error (i.e., a test of multiple hypotheses or rejecting the null hypothesis when it is true). The flatness test assesses the similarity of responses elicited from each subscale across groups. While profile analysis allows researchers to answer three different questions, only the group difference test is of interest in the present study. However, it is important to note that, if the parallelism null hypothesis cannot be rejected, it is not recommended to proceed with the remaining tests (see Tabachnick & Fidell, 2013, pp. 314-348).

In this study, four variables of interest were measured on four subscales for both languages. They were all measured using six-point Likert scales, five items for each scale, to create the same score range (5-30) for commensurability as required by profile analysis. The procedure for checking basic assumptions was repeated in both research questions.

Sample size, missing data, and power. From the initial sample of 159 students, an exploration in SPSS using descriptive statistics was employed to examine any missing data, identifying five cases. A careful examination revealed that these cases had more than one missing value either in the background information or in the subscales; therefore, the researcher decided to discard them. As a result, 154 valid cases out of 159 were used in the analyses (missing data 3.1%). Tabachnick and Fidell (2013) notes that: "there should be more research units in the smallest group than there are dependent variables (DVs)"; given that there were four DVs in this analysis with 154 cases in total, this assumption was met.

Multivariate normality. While Tabachnick and Fidell (2013) stress that "*unless there are fewer cases than DVs in the smallest group and highly unequal* n*, deviation from normality of sampling distributions is not expected."* (p. 318). The descriptive statistics for the different subscales showed that the data were normally distributed in all cases.

Linearity. Tabachnick and Fidell (2013) suggest that "w*ith many symmetrically distributed DVs and large sample sizes, the issue may be ignored"* (p. 318). The sample size for this study is quite encouraging. Additionally, different variables were often reported to be linear in the previous studies (Dörnyei, 2005)

Absence of outliers. There was one multivariate outlier in the data, as assessed by Mahalanobis distance. This case was therefore deleted before the researcher ran the analysis.

Homogeneity of Variance-Covariance Matrices. Because the sample sizes were equal, it was not necessary to evaluate the homogeneity of variance-covariance matrices.

Multicollinearity and singularity. Because each variable was measured on a six-point Likert scale, Spearman's rank-order correlations were run to examine the relationships. There was a positive correlation between L2 Ideal Self with motivation intensity and imagery consistently across two languages. Although different subtests were correlated, the magnitude of the association was not high enough to cause multicollinearity or singularity. Table 4 shows the correlations between the L2 self-system components and other variables.

Table 4

The Correlations between the L2 Self System Components and Other Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Imagery Capacity (1)	1.00								
E-Ideal Self (2)	.28*	1.00							
E-Ought-to Self (3)	.12	.11	1.00						
E-Motivation intensity (4)	.23*	.50*	-.00	1.00					
E-Speaking anxiety (5)	-.13	-.19*	.21*	-.31*	1.00				
M-Ideal Self (6)	.20*	.30*	.23*	-.04	.08	1.00			
M-Ought-to Self (7)	.03	.01	.63*	-.02	.13	.28*	1.00		
M-Motivation intensity (8)	.21*	.08	.25*	.02	.01	.75*	.31*	1.00	
M-Speaking anxiety (9)	-.13	.05	.09	-.02	.38*	-.27*	.12	-.39*	1.00

Note: E = English, M= Mandarin; *. Correlation is significant at the 0.05 level (2-tailed).

RESULTS AND DISCUSSION

Research Question 1: **How does L2 motivation among Vietnamese university students differ between two foreign languages (English and Mandarin)? (MMR question)**

The first sub-question aimed to examine whether the participating students exhibited different motivational profiles for the two foreign languages. In other words, the researcher wanted to know if there was a statistically significant difference between the average scores for English and Mandarin by combining the subscales. To test this hypothesis, profile analysis was performed on four subtests: L2 Ideal Self, L2 Ought-to Self, Motivation Intensity, and L2 Speaking Anxiety. The grouping variable was the two foreign languages (English and Mandarin). The main focus of this study was the levels test. Since the assumption of sphericity for the repeated-measures test was violated (Mauchly's sphericity test), the Greenhouse-Geisser criterion was used for adjustment. Results revealed a statistically significant difference between the two target languages when scores were averaged over four subtests, $F(1, 305) = 4.046$, $p = .046$, $\eta^2 = .013$, with power of .52. However, it is important to note that while a statistically significant difference was detected, the effect size, as reported by partial eta square, was inconsequential ($\eta^2 = .013$), indicating that only 1.3% of the variance associated with differences across the subscales could be explained by the target languages. In other words, the participating students showed only small overall differences in their ideal selves, ought-to selves, motivation intensity, and speaking anxiety according to each language. Moreover, the results suggest that the present study did not have sufficient power to detect an effect even though the difference was statistically significant with an alpha level of .05. Increasing sample size could solve this problem, yet the effect size does not encourage further studies.

Table 5

Profile analysis of Subtests by Languages

Source of variance	*SS*	*df*	*MS*	*F*	*p*	Partial Eta^2	Power
Within Group							
Subtest (flatness)	7019.371	2.002	3506.414	89.205	.000	.226	1.000
Subtest*Group (parallelism)	1390.974	2.002	694.839	17.677	.000	.055	1.000
Error	23999.818	610.569	39.307				
Between Group							
Group (level)	149.052	1	149.052	4.026	.046	.013	.516
Error	11290.574	305	37.018				

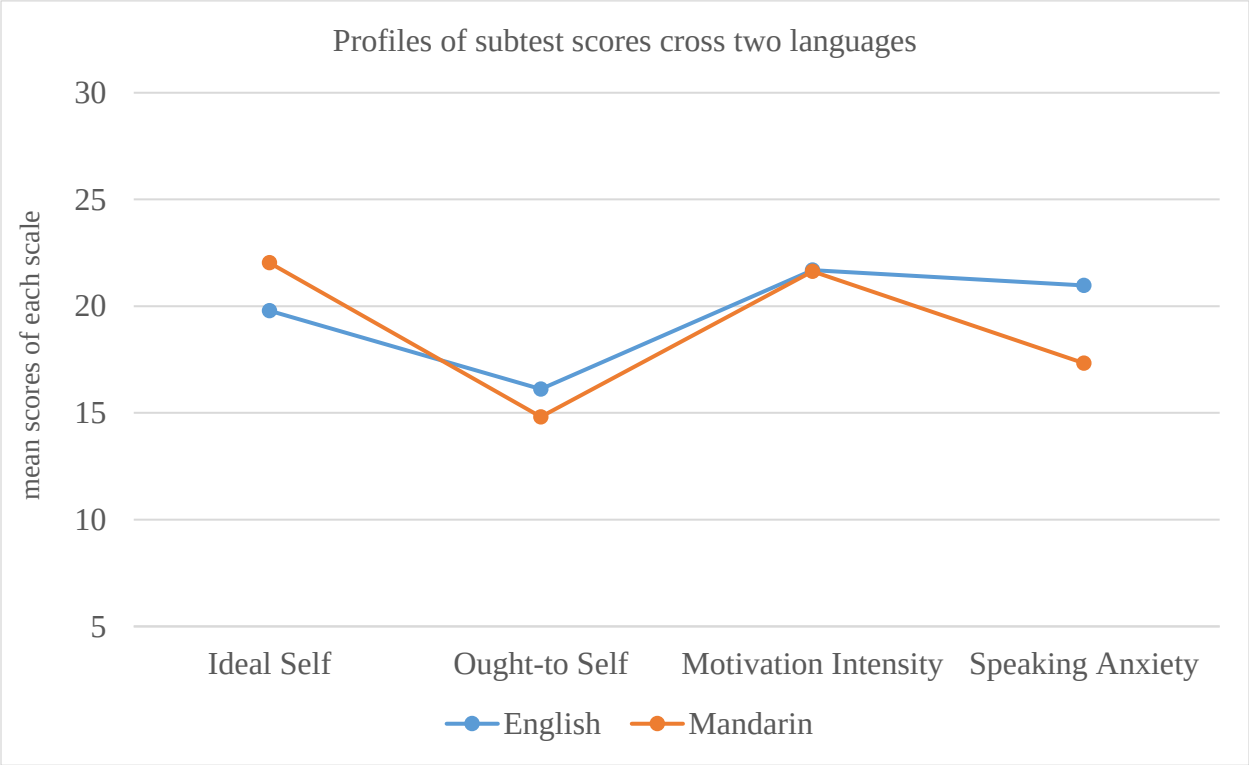

Figure 1. Profiles of subtest scores for two languages.

Examining Figure 1, it can be seen that three subscales display the discrepancies in the mean values. Specifically, the participants demonstrated more vivid ideal selves in Mandarin than in English. However, the Mandarin Ought-to Self was not as strong as its English counterpart. This

result was similar to L2 speaking anxiety. Surprisingly, it seems that there was no difference in motivation intensity between both languages.

To check these observations, paired samples *t*-tests were employed to examine if the differences were statistically significant. Figure 1 provides a quite accurate picture of the variation for each subscale. Table 6 displays the results from the paired sample *t*-tests.

Table 6

Paired Samples t-test of Motivation for English and Mandarin

	Difference			95% Confidence Interval				
	Mean	*SD*	*sem*	Lower	Upper	*t*	*N*	*p* (2-tailed)
eideal - mideal	-2.240	6.305	.508	-3.244	-1.237	-4.409	153	.000
eought - mought	1.299	4.707	.379	.549	2.048	3.424	153	.001
emotive - mmotive	.052	6.809	.549	-1.032	1.136	.095	153	.925
eanxiety - manxiety	3.643	6.795	.548	2.561	4.725	6.652	153	.000

* *Note:* e = English; m = Mandarin; *SD* = standard deviation; *sem* = standard error of mean

According to these results, Mandarin appears to be more positive in that the participating students show more vivid Ideal selves, less clear Ought-to selves, and lower speaking anxiety in Mandarin. While the findings from the present study align with the previous ones in that students have distinct ideal selves for each foreign language (Dörnyei & Chan's, 2013), they are not in line with most previous studies suggesting that the first foreign language learned usually has a negative effect on the second one (Csizér & Dörnyei, 2005b; Csizér & Lukács, 2010). Most students in the present study started learning English early and began their Mandarin studies later in life. One explanation for the discrepancy could be the participants themselves. While most other studies were conducted with middle or high school students in Europe, participants in this study, as well in Nakamura (2015), are college-aged. The participants might have achieved a certain level of maturation in their self-concepts.

Now, let's explore how the qualitative data (open-ended questions) converged with the main conclusions from the quantitative data for the first MMR question. At the end of the questionnaire, the participants were asked to reflect if their motivation for learning English was different from or the same as learning Mandarin by checking a *yes* or *no*, and specifying why if

applicable. The responses corroborate the main conclusions drawn from the quantitative data: 57% of the respondents said their motivation was different while 42% stated that there was no difference. This seems to complicate the interpretation, as those who reported a difference often had different reasons for each language, usually one for professional reasons and the other for fun or due to requirements. For example, one student noted, "*English is important and necessary to my life while Mandarin is exciting and enjoyable"* (~ ID: 2015-11-25-09). Another participant added: "*Completely different, my motivation for learning English is due to the institutional requirements and grades, while my motivation for learning Mandarin is because of my curiosity, enjoyment, and future career*" (~ ID: 2015-11-26-Y40). Likewise, those who stated that there was no difference often commented that both languages were equally important, or that they had a general passion for learning languages. For instance, one student shared: "*I share the same passion for languages, love languages. I desire to study abroad, speak English and Mandarin as native speakers*" (~ ID: 2015-11-26-Y38). Data quantified from the participants' responses also reveal that the main reasons for learning English were due to its international posture and promotional opportunities, while motivation for learning Mandarin was more culture-related or intrinsic (see Table 3).

Research Question 2: **How does L2 motivation vary among students who decided to major in either English or Mandarin? (MMR)**

In the analysis of the first research question, the mean scores for the motivation intensity subscale appeared to be canceled out by confounding factors, particularly when different groups are combined (Simpson's paradox). A close examination revealed that the number of students deciding to major in each language was rather equal. This motivated the second research question about language choice and motivation profiles. A similar procedure for profile analysis was conducted, finding a statistically significant result ($F(1, 152) = 8.543$, $p = .004$, $\eta^2 = .053$). The partial eta square indicates that 5.3% of variance associated with differences across the subscales could be explained by the intended-major languages. In other words, students planning to major in English showed small differences in their English and Mandarin Ideal selves, Ought-to Selves, motivation intensity, and speaking anxiety compared to those planning to major in Mandarin.

Table 7

Profile Analysis of Subtests by Intended Major Language

Source of variance	*SS*	*df*	*MS*	*F*	*p*	Partial Eta^2	Power
Within Group							
Subtest (flatness)	8588.997	4.218	2036.057	54.138	.000	.263	1.000
Subtest*Group (parallelism)	3192.805	4.218	756.868	20.125	.000	.117	1.000
Error	24114.698	641.204	37.608				
Between Group							
Group (level)	434.922	1	434.922	8.543	.004	.053	.828
Error	7737.847	152	50.907				

As can be seen from Figure 2, there is a consistent pattern that those who major in English have a clearer English Ideal Self, less social influence as reflected in English Ought-to Self, strong motivation intensity to learn English, and lower English speaking anxiety. However, their Ideal Self, Ought-to Self, motivation and anxiety in Mandarin went the opposite way, particularly in comparison with those who were majoring in Mandarin. The pattern is also repeated for Mandarin-majors when it comes to English and their favored language. This observation is supported by the qualitative data. The main reasons for learning English among English-majors were the perceived vitality of the language, promotion, and intrinsic values, while the dominant reasons for learning Mandarin were culture-oriented and prevention. Those who planned to major in Mandarin showed more orientations to the culture, promotion, and intrinsic reasons to learn Mandarin, while the main reasons for learning English were still due to its importance and for promotional reasons. However, the overall discrepancy was small as revealed by the effect size, $\eta^2 = .053$. This means that language students planned to major in accounted only for 5.3% of the difference in motivational profile.

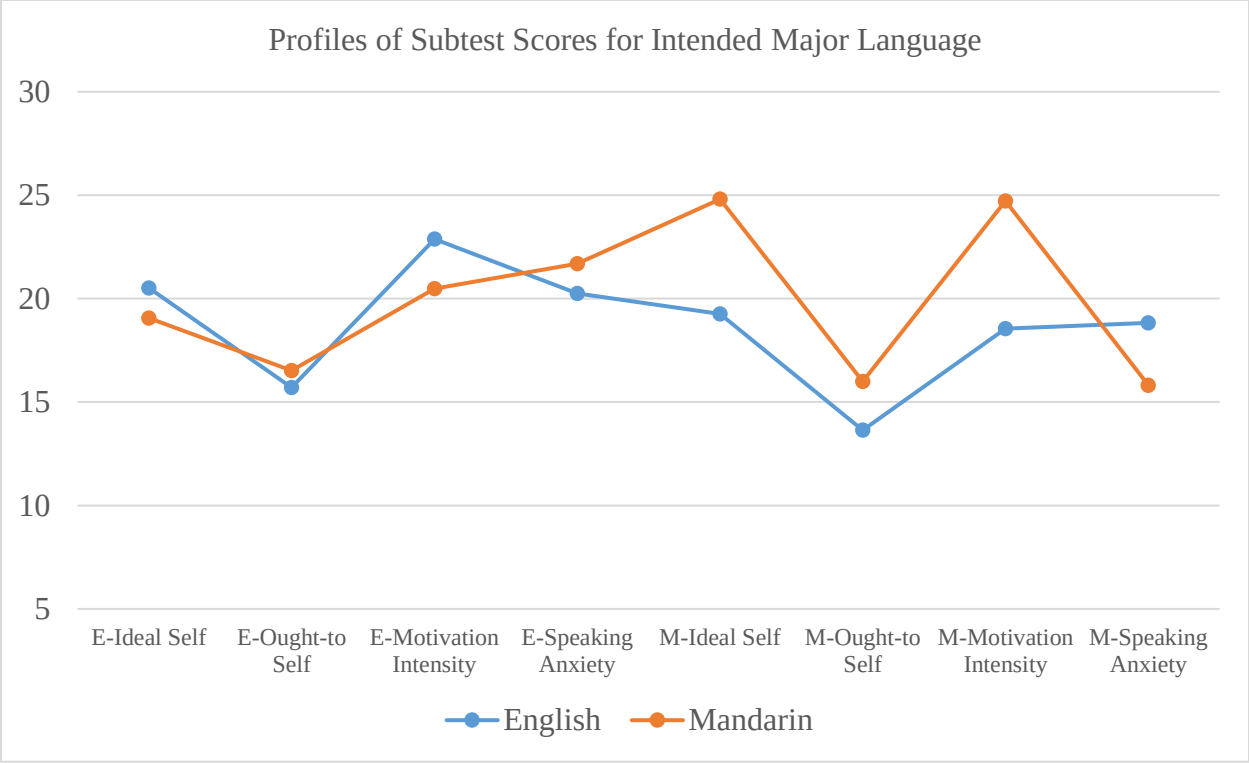

Figure 2. Profiles of subtest scores for intended major language.

The pattern from the profile analysis is also consistent with what the participants reported in the open-ended questions. It could be seen that Vietnamese university students' decision to major in a first foreign language had impact on the second one (Tables 7 & 8). The result is in line with previous studies on an impact of L2 on L3 motivation. However, for college students, this interpretation needs to be approached differently: instead of negative impact as reported in other studies, it is better to interpret this in terms of priority or temporary competition. Apparently, most participants started learning English earlier than Mandarin, yet their motivations changed through different stages of education. Nakamura (2015) similarly noted that participants can have competing L2 ideal selves in some domains while sharing the same future self-image in others. This contrasts with the findings of Csizér and Lukács (2010), which showed that teenagers only showed positive attitudes and motivation to learn English when it was the first foreign language.

Table 7

English Majors' Reasons for Learning English and Mandarin

Reasons	Cultural	Vitality	Promotion	Intrinsic	Prevention
English	13	32	44	25	2
Mandarin	18	12	24	19	12

Table 8

Mandarin Majors' Reasons for Learning English and Mandarin

Reasons	Cultural	Vitality	Promotion	Intrinsic	Prevention
English	4	30	45	13	10
Mandarin	19	5	44	31	5

CONCLUSION

This study drew on both quantitative and qualitative data, with results indicating that students have distinct motivational profiles for each of the two foreign languages they are studying. The motivational paths were clearer when the language choice was examined as a grouping variable. Responses from the open-ended questions were also telling in that a recurring pattern of the students' L2 learning motivation was identified. Those majoring in English recognized it for its international posture, aid in employability, and educational opportunities it provides, while they mainly viewed Mandarin as being useful for culture-related or intrinsic reasons. In contrast, those majoring in Mandarin perceived it to be significant for future job opportunities, and were learning English primarily for intrinsic reasons.

Limitations

While the present study attempted to employ the mixed research methods to better understand the motivational profiles of students learning two foreign languages simultaneously, some remaining issues are worth further explorations. First, the participants in this study were mainly female students; as shown in previous research, the findings may not be applicable to male students in a similar cohort. For instance, in Henry and Cliffordson's (2013) study on L3 motivation, female participants had stronger motivation for learning an L3 than male participants. Moreover, in the present study the participants were not randomly selected; thus,

there is no attempt to generalize the study's outcomes to other groups of students. Future studies should consider including gender as a factor for survey research of this kind.

Next, one observation from the data was that the participating students appeared to exhibit clearer ideal selves in Mandarin compared to English and display less speaking anxiety in Mandarin in general. What might account for this pattern is worth exploring in the future studies. One possibility could be the cultural relatedness between Vietnam and China; this may allow students to visualize themselves in different intercultural communicative situations. Comparatively, there are many unknowns between Vietnam and English-speaking countries. Even though open-ended questions were included to elicit students' responses regarding their motivational orientations and future self-images, in-depth interviews with individuals or focus groups could provide more thorough descriptions of motivation profiles for different languages, and pinpoint the aforementioned patterns in their future images and anxiety.

This leads to the third limitation of the study: a reliance on a Likert-scale questionnaire as the main instrument. Along with the inherent shortcomings of a one-shot cross-sectional survey, the instrument for this study has not been validated before, particularly the translated version. Researchers have pointed out that a translated instrument should be treated as a new instrument. Future research should address this issue by using the existing data for psychometric examination of the subscales. For example, the data could be studied using Rasch analysis or factor analysis.

Finally, while the results of the present study indicate that the participants had distinct motivational profiles for each language, the discrepancy seems to be relatively small. Many confounding variables could contribute to this, including students' proficiency in each language and their age. Previous studies show that student L2 motivation can fluctuate over time. For instance, Kim (2011) found that overall motivational patterns decreased from grades 3-9 and began increasing in grade 10 among Korean learners of English. Combining second to fifth year students in this study may have clouded the effect. More detailed and stratified examination is thus worth carrying out in the future studies.

Theoretical Implications

This study shed light on multilingual motivation from a recently developed theoretical framework. The findings indicate that multilingual learners have different motivation profiles for

each language they are learning. Specifically, the multilingual learners in this study constructed different visions of themselves in each language, although how they differed in doing so was negligible. Overall, the findings showed that the participants exhibited better motivation for a certain language while studying two simultaneously. The picture is clearer when language choice is examined, yet presents the dilemma of deciding on the causes and effects. Whether the students are more motivated to select one of the languages over the other, or whether their choice of language major affects their motivation is less clear.

Reflecting on the theoretical framework, it is worth pointing out Dornyei's (2005) attempt to merge the concepts of integrativeness and instrumentality in Gardner's socio-educational model with the Motivational L2 Self system in relation to the current study. Specifically, the participants' responses from open-ended questions in the present study reveal a rather complicated picture. Many of them expressed positive attitudes and a desire to integrate with target language cultures in different ways, particularly for Mandarin. While the participants did not mention specific English cultures they wanted to integrate with, they did talk about the certain aspects of *Western* culture via movies or music in general. Likewise, the *Ought-to Self* component of the framework did not appear to function appropriately: it correlated positively with speaking anxiety and negatively with the motivation intensity. In fact, some studies such as Csizér and Lukács (2010) have even discarded this subscale in their analysis when the internal consistency is not met (low Cronbach alpha values). Future studies should examine the L2 Motivational Self system model more critically in terms of theoretical soundness and psychometric reliability.

Methodologically, the present study suggests that profile analysis is an encouraging alternative to multi-scale, multi-test repeated study designs, and a strong method to avoid Type I error. This is particularly poignant given the tendency in previous studies to commit to using multiple *t*-tests (Csizér & Lukács, 2010). Even incommensurable scales can be transformed to *z* scores or to logit scores by applying more rigorous psychometric analysis (Rasch analysis for Likert scale, Bond & Fox, 2015). Profile analysis is also a powerful tool for longitudinal studies when data are collected at different time points.

The present study employed a mixed methods research design. It allowed the researcher to make better sense of the quantitative data and gain further insights into the area of investigation through the qualitative data. While the quantitative data and analysis helped the researcher

answer the yes/no question through hypothesis testing, particularly a difference in motivational profiles of learning the two languages simultaneously in the current study, *so what?* questions constantly came up in the researcher's mind after results obtained from quantitative data analysis. Combining the qualitative data allows the researcher to examine the research questions in a more meaningful way. Indeed, responses from the open-ended questions in this study provided the researcher with more perspectives on learners' L3 motivation. It could be impossible to produce both a general pattern and a meaningful description of how motivation of learning the two foreign languages differs in either a quantitative or a qualitative study. Using mixed-method research was illuminating for the researcher to understand the complexity of L3 motivation.

Practical Implications

On the practical side, this study provides empirical data for language teachers to understand the language learning motivation of multilingual learners in the context examined herein. The participants displayed distinct motivational profiles for each language, particularly through L2 Ideal Self and motivation intensity. Therefore, language teachers are encouraged to implement language-specific motivational strategies in their classrooms. Furthermore, knowing which language students plan to major in can help teachers to predict their motivation intensity for learning each language. As a result, teachers can develop relevant instructional strategies for each group student whose language choice might affect how much they invest into each language.

ACKNOWLEDGEMENTS

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APPENDIX A

UNIVERSITY *of* HAWAIʻI® MĀNOA

Department of Second Language Studies

CONSENT TO PARTICIPATE IN RESEARCH

Motivation in Learning Multiple L2s

My name is Phung, Van Huy. I am a graduate student at the University of Hawaii (UH). As part of my degree program, I am conducting a research project. The purpose of my project is to better understand the thoughts and beliefs of learners of English and Mandarin in Vietnam.

Project Description – Activities and Time Commitment: If you decide to take part in this project, you will be asked to fill out a survey. The survey questions are mainly multiple choice. However, there will be a few questions where you may add an open-ended response. The survey is accessible on a website, which I will provide you with a link to. Completing the survey will take approximately 25 minutes.

Benefits and Risks: There will be no direct benefit to you for taking part in this project. The findings from this project may help the researcher to better understand the motivation differences among those who are learning two foreign languages at the same time.

Confidentiality and Privacy: I will not ask you for any personal information, such as your name or address. Please do not include any personal information in your survey responses.

Voluntary Participation: You can freely choose to take part or to not take part in this survey. There will be no penalty or loss of benefits for either decision. If you do agree to participate, you can stop at any time.

Questions: If you have any questions about this study, please call or email me at phunghuy@hawaii.edu or 808-365-9867. You may also contact my adviser, Dr. Ziegler, at e-mail: nziegler@hawaii.edu; phone: 907-299-0681). If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at 808.956.5007 or uhirb@hawaii.edu.

To Access the Survey: Please go to the following web page: https://goo.gl/r69GQ7. You should find a link to the survey and instructions for completing it. Completing the survey will be considered as your consent to participate in this study.

☐ I have read the consent and agree to participate into this research project.

Please keep a copy of this page for your reference.

Approved: Institutional Review Board, University of Hawai'i at Manoa, November 20, 2015, CHS# 23512

APPENDIX B:
MULTIPLE L2 MOTIVATION QUESTIONNAIRE

This study is carried out to help us better understand the thoughts and beliefs of learners of English and Chinese in Vietnam. This questionnaire is not a test, so there is no "right" or "wrong" answers and you do not even have to write your name on it. We are interested in your personal opinion. The results of this survey will be used only for research purposes so please give your answers sincerely, as only this will ensure the success of this project.

A. BACKGROUND INFORMATION. *Circle or fill in the blank for the following items.*

You are in your: *1st 2nd 3rd 4th 5th year of the program.* **Age**: _____

Gender: ○ *Male* ○ *Female* ○ *Others* **Major**: ○ *Education* ○ *Language* ○ *Other*

Which language do you plan to major in? ○ *English* ○ *Mandarin* **First language: ___**

What age did you start learning: *English?* _____ *Mandarin?* _____

B. QUESTIONAIRE: Please rate the following statements based on the scale below by circling ◯ the relevant number

1	2	3	4	5	6
Very untrue of me	Untrue of me	Slightly untrue of me	Slightly true of me	True of me	Very true of me

FOR EXAMPLE, **Hamburger**

I am happy when this dish is available at parties	**1**	**2**	**③**	**4**	**5**	**6**
Whenever I think of this dish, I feel like I am hungry	**1**	**2**	**3**	**4**	**⑤**	**6**

Notes: Only select ONE number from **1-6** corresponding to the levels "*very **untrue** of me - very **true** of me"* for each following statement and DON'T SKIP any statements.

		Very UNTRUE **of me** ---------- **Very** TRUE **of me**					
a.	If I wish, I can imagine some things so vividly that they hold my attention as a good movie or story does.	1	2	3	4	5	6
b.	Sometimes images come to me without the slightest effort.	1	2	3	4	5	6
c.	When I am thinking, I often have visual images rather than thoughts in my mind.	1	2	3	4	5	6

d.	My daydreams are sometimes so vivid I feel as though I actually experience the scene.	1	2	3	4	5	6
e.	When reading fiction, I usually have a vivid mental picture of the scene that has been described.	1	2	3	4	5	6

English		**Very** UNTRUE **of me** ---------- **Very** TRUE **of me**					
1.	I often imagine myself speaking English as if I were a native speaker of English.	1	2	3	4	5	6
2.	I study English because close friends of mine think they are important.	1	2	3	4	5	6
3.	I am prepared to expend a lot of effort in learning English.	1	2	3	4	5	6
4.	When I think of the future, I can imagine myself using English in a variety of ways.	1	2	3	4	5	6
5.	I have to study English, because, otherwise, I think my parents will be disappointed with me.	1	2	3	4	5	6
6.	When I am in my language class, I volunteer answers as much as possible.	1	2	3	4	5	6
7.	I can imagine myself being a very competent speaker of English.	1	2	3	4	5	6
8.	People around me believe that I must study English to be an educated person.	1	2	3	4	5	6
9.	I would like to spend lots of time studying English.	1	2	3	4	5	6
10.	I can imagine myself writing e-mails in English fluently.	1	2	3	4	5	6
11.	I would like to concentrate on studying English more than any other topics.	1	2	3	4	5	6
12.	Studying English is important to me in order to gain the approval of my family.	1	2	3	4	5	6
13.	I can imagine myself participating in a debate in English.	1	2	3	4	5	6
14.	I consider learning English important because the people I respect think that I should do it.	1	2	3	4	5	6
15.	I would like to study English even if I were not required to do so.	1	2	3	4	5	6
16.	I get nervous and confused when I am speaking English in my class.	1	2	3	4	5	6

17.	I would feel uneasy speaking with a native speaker of English.	1	2	3	4	5	6
18.	If I met a native speaker, I would feel nervous.	1	2	3	4	5	6
19.	I am afraid that other students will laugh at me when I speak English	1	2	3	4	5	6
20.	I start to panic and am confused when I have to speak in English without preparation.	1	2	3	4	5	6

Mandarin		**Very** UNTRUE **of me** ---------- **Very** TRUE **of me**					
1.	I often imagine myself speaking Mandarin as if I were a native speaker of Mandarin.	1	2	3	4	5	6
2.	I study Mandarin because close friends of mine think they are important.	1	2	3	4	5	6
3.	I am prepared to expend a lot of effort in learning Mandarin.	1	2	3	4	5	6
4.	When I think of the future, I can imagine myself using Mandarin in a variety of ways.	1	2	3	4	5	6
5.	I have to study Mandarin, because, otherwise, I think my parents will be disappointed with me.	1	2	3	4	5	6
6.	When I am in my language class, I volunteer answers as much as possible.	1	2	3	4	5	6
7.	I can imagine myself being a very competent speaker of Mandarin.	1	2	3	4	5	6
8.	People around me believe that I must study Mandarin to be an educated person.	1	2	3	4	5	6
9.	I would like to spend lots of time studying Mandarin.	1	2	3	4	5	6
10.	I can imagine myself writing e-mails in Mandarin fluently.	1	2	3	4	5	6
11.	I would like to concentrate on studying Mandarin more than any other topics.	1	2	3	4	5	6
12.	Studying Mandarin is important to me in order to gain the approval of my family.	1	2	3	4	5	6
13.	I can imagine myself participating in a debate in Mandarin.	1	2	3	4	5	6
14.	I consider learning Mandarin important because the people I respect think that I should do it.	1	2	3	4	5	6

15.	I would like to study Mandarin even if I were not required to do so.	1	2	3	4	5	6
16.	I get nervous and confused when I am speaking Mandarin in my class.	1	2	3	4	5	6
17.	I would feel uneasy speaking with a native speaker of Mandarin.	1	2	3	4	5	6
18.	If I met a native speaker, I would feel nervous.	1	2	3	4	5	6
19.	I am afraid that other students will laugh at me when I speak Mandarin	1	2	3	4	5	6
20.	I start to panic and am confused when I have to speak in Mandarin without preparation.	1	2	3	4	5	6

C. OPEN-ENDED QUESTIONS: Your responses are VERY IMPORTANT for us to understand and interpret your motivation for learning two foreign languages.

1. What are the main reasons for learning **English**?

……

……

……

2. What are the main reasons for learning **Mandarin**?

……

……

3. How do you plan to use **English** after you graduate?

……

……

4. How do you plan to use **Mandarin** after you graduate?

……

……

……

5. Is your motivation for learning English different from or the same as learning Mandarin? How & Why? ☐ SAME ☐ DIFFERENT

……

……

APPENDIX C:

HUMAN SUBJECTS APPROVAL FOR EXEMPTION

Office of Research Compliance
Human Studies Program

UNIVERSITY of HAWAI'I® MĀNOA

November 20, 2015

TO: Huy V. Phung
Nicole Ziegler
Principal Investigators
Second Language Studies

FROM: Denise A. Lin-DeShetler, MPH, MA
Director

SUBJECT: CHS #23512- "Motivation Differences in Learning Multiple L2s"

This letter is your record of the Human Studies Program approval of this study as exempt.

On Nov 20, 2015, the University of Hawai'i (UH) Human Studies Program approved this study as exempt from federal regulations pertaining to the protection of human research participants. The authority for the exemption applicable to your study is documented in the Code of Federal Regulations at 45CFR 46.101(b)(Exempt Category 2).

Exempt studies are subject to the ethical principles articulated in The Belmont Report, found at http://www.hawaii.edu/irb/html/manual/appendices/A/belmont.html.

Exempt studies do not require regular continuing review by the Human Studies Program. However, if you propose to modify your study, you must receive approval from the Human Studies Program prior to implementing any changes. You can submit your proposed changes via email at uhirb@hawaii.edu. (The subject line should read: Exempt Study Modification,) The Human Studies Program may review the exempt status at that time and request an application for approval as non-exempt research.

In order to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so. Signed consent forms, as applicable to your study, should be maintained for at least the duration of your project.

This approval does not expire. However, please notify the Human Studies Program when your study is complete. Upon notification, we will close our files pertaining to your study.

If you have any questions relating to the protection of human research participants, please contact the Human Studies Program at 956-5007 or uhirb@hawaii.edu. We wish you success in carrying out your research project.

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