

Motivation of U.S. High School Students in Learning Chinese

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ABSTRACT

This study surveyed 217 American high school students' motivational factors in learning Chinese and the factors that sustain their learning of this language. In addition, the perceptions of teachers and student focus groups were used to verify, explain and expand the survey findings. Due to the constraint of the space, only quantitative research data and findings are included in this paper. The qualitative research data and findings will be discussed in the future. The findings suggested that the future career prospect connected to China's economy was one of the most important factors that motivated students to learn Chinese and sustained their motivation. This finding supports the language globalization hypothesis proposed by Dörnyei and Csizer (2002) as such that Chinese is in the process of being changed into a world language due to the growth of China's economy. In addition, the unique aspect of Chinese language and culture contributes to the challenge of learning Chinese and serves as another important factor to motivate students and sustain their learning. This finding supports self-determination theory (SDT) as learning a challenging subject satisfies learners' needs for competence. It was found non-Chinese students continued significantly longer in Chinese programs. Heritage is ethnic Chinese students' most important motivator to learn Chinese and to sustain their learning. The desire to maintain one's heritage through learning a second language (L2) reflects heritage learners' need for relatedness to their culture, which is one of human beings' innate psychological needs according to SDT. More studies on high school students' motivation for learning Chinese and other less commonly taught languages are needed. This research is intended to provide data for schools in the United States and overseas that are contemplating implementation of a Chinese language program.

Keywords: high school, U.S., motivation, learning Chinese, second language

INTRODUCTION

This study has two objectives. One is to capture U.S. high school students' perceptions of the factors that motivate them to choose to study Chinese and the possible differences that may exist in motivations between ethnic Chinese and non-Chinese background students. The second is to investigate the factors that sustain students' interest in learning Chinese beyond meeting the high school world language graduation requirements.

Prior to the 1980s, most American high schools did not require foreign language as a graduation requirement (Ramage, 1986). Today, most U.S. high schools require students to learn a second language. According to New Jersey State Board of Education (2004), high school students at every school district in New Jersey, for example, need to complete at least five credits of a world language course to graduate. At present, an increasing number of students in the United States are choosing to learn Chinese as their world language despite its challenging aspect (Pufahl & Rhodes, 2011). According to data from the U.S. Foreign Service Institute, it takes English-speaking American students at least three times longer to learn Chinese than to learn a European language (Wen, 1997; Language difficulty ranking, 2011).

What motivates American young people, especially high school students, who are often rebellious and may have a tendency to do the least school work possible, to pursue a challenging language like Chinese for their high school graduation requirement in world language? Do students of Chinese heritage and non-Chinese heritage possess different motivations for learning Chinese? This study seeks to address these questions.

LITERATURE REVIEW

Chinese Programs in the United States

In recent years, a growing number of institutions of higher education and even public-school districts in the United States have added Chinese in their world language programs to meet the increasing demands from students (Welles, 2004; Wen, 1997; Xing, 2006). The percentage of middle and high schools offering Chinese has quadrupled from 1% in 1997 to 4% in 2008 (Rhodes & Pufahl, 2010). This trend seems to be propelled by China's impressive growth in its economy and global influence. In 2010, China surpassed Japan to become the world's second-largest economy after the United States (Dawson & Dean, 2011).

According to a national survey of foreign language instruction in U.S. schools conducted by the Center for Applied Linguistics (Pufahl & Rhodes, 2011), among schools with foreign language programs in the United States, the percentage of public schools offering Spanish, French, and German nationwide decreased from 1997 to 2008. At the same time, the percentage of middle and high schools offering Chinese and Arabic has increased significantly. Chinese programs have increased from 1% in 1997 to 4% in 2008 (Pufahl & Rhodes, 2011). While this trend may be attributed in part to a supply of Chinese teachers by the Chinese government (Zhao & Huang, 2010), Chinese is now offered in schools throughout the United States with rapidly increasing student enrollment (Rhodes & Pufahl, 2010; Welles, 2004).

Students currently learning Chinese in U.S. high schools include both those from an ethnic background linked to Chinese language and culture, and those with no ethnic Chinese background. However, few studies to date have explored whether the motivations of non-Chinese (NC) background and ethnic Chinese (EC) background high school students are the same or different in choosing to learn Chinese, or whether their perceptions regarding the challenges in maintaining their interest in studying Chinese are the same or different.

Theoretical Framework

This study is informed by research in the areas of L2 motivation theory. Research in the area of motivational psychology is characterized by the use of three dominant approaches: expectancy-value theories, goal theories, and self-determination theory (Dörnyei, 2000).

Expectancy-value theories and self-determination theory informed the present study. As the present study is not underpinned by goal theories, the review of goal theories is not included. The review of the literature that underpins this study consists of the following components:

Motivation Research and Theories, and their Connection to Decisions to Learn a Second Language (L2):

L2 motivation theories provided the background and theoretical references for conducting research on student motivations for learning foreign languages. Gardner and Lambert are the most influential pioneers in the study of motivational theory in L2 acquisition. They developed a comprehensive theory of L2 motivation (Gardner, 1968a; Gardner, Glikson, & Smythe, 1978; Gardner & Lambert, 1959a; Gardner & Lambert, 1965a; Gardner & Lambert, 1965b; Gardner & Masgoret, 1999; Gardner, Masgoret, Tennant, & Mihic, 2004a). Their social-psychological approach focused on analysis of L2 motivations to determine which factors significantly contribute to L2 achievement (Gardner, 1978). Gardner (2006) contributed to L2 motivation research with a comprehensive three-part theory. The theory included a definition of L2 motivation and its attributes, socio-educational model, and an Attitude/Motivation Test Battery (AMTB) based on his social psychological theory (Gardner, 2006). The socio-educational model of L2 acquisition developed by Gardner and MacIntyre (1993) and expanded in 1994 (Gardner & Tremblay, 1994 b) was based on the earlier social-psychological approach (Gardner & MacIntyre, 1993).

Gardner and Tremblay (1994) developed an L2 motivation model, which claims that motivational intensity or the amount of motivation defines L2 achievement. A key finding is that Gardner's model focuses on the intensity or the amount of the motivation. This is fundamentally different from the model of self-determination theory (SDT), which focuses on the types of motivation. The survey instrument used in the present study is based on the socio-educational model.

Self-Determination Theory (SDT), and its Definition of Intrinsic and Extrinsic Motivation:

1. SDT is a broad and profound mainstream theory in psychology, which was applied to interpret the findings of the present study and to address the second research question.
2. Self-determination theory (SDT) provides a framework not only to organize L2 motivation research but also a broad theoretical base to interpret and understand the motivation for learning less commonly taught languages (LCTLs). The theory, proposed by Ryan and Deci (1980), postulates that human beings have three innate psychological needs: competence, autonomy, and relatedness. Satisfying these three needs will enhance self-motivation, performance, and mental health. On the other hand, failure to satisfy these three innate needs will lead to decreased motivation, social alienation and psychological pathology, such as depression, alcoholism or drug addiction (Deci & Ryan, 1980; Deci & Ryan, 2000; Deci & Ryan, 2008a; Deci & Ryan, 2008b; Deci, Vallerand, Pelletier, & Ryan, 1991).
3. Cultural identity: need for relatedness. People's need for relatedness is also linked to a desire to maintain a strong cultural identity, with its own implications for human beings' achievement and well-being (Portes & MacLeod, 1996; Portes & Hao, 1998; Portes & Zhou, 1994). An empirical quantitative study conducted by Portes and Hao (1998) examined patterns of language adoption by over 5,000 second-generation immigrant students in South Florida and Southern California and found a consistent positive

association between fluency in two languages and academic achievement (Portes & Hao, 1998). They noted that “after other predictors were controlled for, fluent bilinguals retrained a strong advantage in all measures of academic performance. For example, the bilingual students had a net 8 percent advantage in standardized math and reading scores over their mono-lingual peers, and their GPAs were significantly higher” (Portes & Hao, 1998, p. 290).

4. Language reflects one’s cultural identity and helps people satisfy their needs for relatedness. Losing a first language has unexpected impacts, including the loss of cultural identity, which may negatively affect students’ achievement and social upward mobility (Lee & Zhou, 2004; Moses, 2000). According to the studies edited by Lee and Zhou (2004), ethnic groups which demonstrate strong academic achievements and successful integration into the American society all possess a strong, secure ethnic cultural identity. For example, Chinese immigrant youth do not emulate American peers and believe in the superiority of American culture. They do not feel American culture is better than their own and do not care whether they are accepted by their American peers. In fact, Chinese immigrants in the United States tend to call Americans “foreigners,” which may be a way to assert and secure their cultural identity. In this way, Chinese immigrant youth are immune from the negative influence of the mainstream culture in the United States and maintain their motivation and focus on academic studies (Lee & Zhou, 2004).
5. Maintaining one’s cultural identity serves to meet the basic psychological need for relatedness, as suggested by SDT, which in turn promotes students’ success in adapting to a new environment. Noels (1996) proposed to integrate self-determination theory (SDT) into an L2 motivation study as a means to broaden and advance L2 motivation research. Noels (2003) examined the link between SDT and L2 motivation in an empirical study. Her project
6. was the first examination of SDT in L2 learning context, and one of the very few empirical investigations of intrinsic and extrinsic motivation in the area. It involved the development of an instrument to assess the different subtypes of intrinsic and extrinsic motivation. It also explored the link between these motivational subtypes and various orientations to L2 learning (Noels et al., 2001; Noels, 2003; Noels, Pelletier, Clément, & Vallerand, 2003). Noels’s insights have informed the interpretation of the research findings of this study.

Expectancy-Value Theories:

Expectancy-value theories were proposed by Vroom (1964) and Mitchell (1974), who defined expectancy-value theories as a function of value and expectancies. The theories hypothesize that motivation is driven by the interaction of ability, perceived probability to achieve success, and the perceived value of the task (Mitchell, 1974; Vroom, 1964; Wigfield, 1994; Wigfield & Eccles, 2000). Wen (1997) contributed to the L2 motivation research through incorporating expectancy-value theories in her study using an instrument to examine Asian background college students’ motivation for learning Chinese. Wen (1997) interpreted the concept of expectancy-value theory as “the effort exerted toward any particular action [...] determined by the valence [attractiveness] of outcomes and the expectation that the action would lead to the desired outcomes” (p. 236). Expectancy-value theories offered a theoretical framework to address the second research question through identifying factors that sustained students’ motivation for learning Chinese. In addition, expectancy-value theories provided a tool to

investigate the differences in motivational factors. The survey instrument adopted by the current study was based on expectancy-value theories.

Impact of Language Globalization Process on L2 Motivations:

The present study is also informed by the language globalization process hypothesis proposed by Dörnyei and Csizer (2002).

Dörnyei and Csizer (2002) categorized languages into “world language” versus “non-world language” and discovered the huge impact of world language status on learners’ motivation (Dörnyei & Csizer, 2002). They discovered the trends and patterns of learners’ motivations as related to the status of a language through a longitudinal nationwide survey conducted on two occasions in the 1990s. Their findings are based on survey data collected from 8,593 pupils in 1993 and 1999.

The most important finding of Dörnyei and Csizer’s study (2002) is “the documentation of a ‘language globalization’ process as reflected through its impact on L2 motivation” (p. 454). Dörnyei and Csizer found learners’ motivation for learning a foreign language is heavily impacted by a language’s world language or non-world language status.

Dörnyei and Csizer (2002) stated that the extent of unsuccessful foreign language learning in English-speaking countries such as the United States and the United Kingdom can be attributed to the fact that people there speak the world language as their mother tongue.

According to Dörnyei and Csizer (2002), “The distinction between world language learning and non-world language learning helps to question the common claim that the British and Americans are worse language learners than people in other countries” (p. 455).

The insight of Dörnyei and Csizer (2002) about the huge differences in the motivations of learning a world language versus a non-world language provides a theory to explain why people want to learn one language instead of another. Their theory posits that when a language obtains a true status of “world language,” people will be naturally motivated to learn this language, no matter how difficult the language may be. On the other hand, if a language has lost its status as a “world language” and has changed into a “non-world language,” people’s motivation to learn it may greatly decrease, no matter how easily acquired this language may be. Based on this theory, a language’s world language status in the learners’ minds plays an important role in learners’ motivation to choose to learn this language.

The hypothesis of language globalization process provided theories to address the first research question for the present study.

Motivation Research on Learning Less Commonly Taught Languages Husseinali’s Study: Motivation for Learning Arabic:

Husseinali (2006) conducted a study of U. S. college students’ motivation for learning Arabic and found Arabic foreign language (AFL) heritage learners’ motivations were significantly different from those of non-heritage learners. The study found AFL heritage learners in general were lacking motivation for learning Arabic. The results of the study indicate that AFL learners have

a variety of orientations motivating them to study Arabic. Significant differences were found between heritage and non-heritage learners on instrumental and identification orientations.

Cai's Study: College Students' Motivation for Learning Chinese:

Cai (2011) conducted a study of an online learning community project for Chinese language learning at the college level. Using a mixed-method approach to investigate college students' motivation for learning Chinese before and after completing an online project, Cai found that the participants' motivation for learning Chinese mainly came from their beliefs that they were able to master Chinese, and mastering Chinese was important to them. Prior to Cai's study, few L2 motivation studies adopted a qualitative approach, and the study indicated the value of this approach for increasing understanding of the motivation for L2 study.

Empirical Research

While theories to explain the motivation to learn a second language abound, few empirical studies that examine the specific motivation to learn Chinese have been undertaken to date. The majority of those that examine Chinese language acquisition (Cai, 2011; Chen, 1995; Wen, 1997; Xing, 2006; Yang, 2011) have been conducted at the U.S. college level.

The researcher found only one study of Chinese language education at the U.S. high school level undertaken by Wu (2005). What motivates U.S. high school students to choose to learn Chinese and whether the motivating factors differ by student ethnicity remain largely undetermined. As Chinese programs have quadrupled in the U. S. secondary schools in recent years (Pufahl & Rhodes, 2011), there is a need to examine high school students' motivations for learning Chinese.

RESEARCH DESIGN

This research examines the factors that affected U.S. high school students' motivations for learning the Chinese language in the context of two New Jersey high schools and whether these factors differed by student ethnicity. It addresses two research questions:

1. Which motivational factors influence New Jersey high school students to choose to learn Chinese to meet the high school graduation requirements?
 - a. Is there a difference based on ethnic background in the factors that influence language choice of the students?
 - b. Is there a difference in the motivational factors by Chinese class levels?
2. Which factors sustain students' learning interest and help them persist in learning Chinese beyond meeting the high school graduation requirements?
 - a. Do the factors that sustain students' learning interest differ by ethnic background?

Research Sites

The two high schools in West Windsor-Plainsboro (WW-P) Regional School District in New Jersey were chosen as the research sites. At the time the current study was conducted, there were 850 faculty and staff serving 9,500 students in the school district's 10 schools. The school district had two high schools, two middle schools, and six elementary schools (West Windsor-Plainsboro Board of Education, 2010).

Moreover, the population of the school community reflects the growing trend toward pluralism in American society. Students represent all major racial and ethnic groups: 51 percent Asian, 38 percent White, 6 percent African American, and 5 percent Hispanic (New Jersey Department of Education, 2011a; New Jersey Department of Education, 2011b). The diversity of the student population makes the district's two high schools' ideal sites for education research.

Since 1987, WW-P Regional School District has established the program of teaching Chinese as a world language (Wu, 2011). At the time this research study was undertaken (2012), the Chinese language program at WW-P Regional School District was available to students from grades 4 through 12. At the high school level, the school district offers Chinese programs in five levels from Chinese II to AP Chinese. Beginner level Chinese classes are only available at the middle school and elementary school levels. At WW-P Regional School District, seven Chinese language teachers teach more than 600 students who have selected Chinese as a world language from grades 4 to 12.

Date Collection Methods

This study uses an explanatory mixed-method design (also called a two-phase design approach), that requires the researcher to first collect and analyze quantitative data and then collect and analyze qualitative data to help explain or elaborate on the quantitative results (Creswell, 1994). The rationale for this approach is that the quantitative data and results will show patterns and trends that qualitative data will refine and explain thus adding depth and breadth to the study. For this paper, only quantitative data and findings are reported.

Step 1:

The researcher administered a modified version of a survey based on an instrument developed by Wen (1997) to 217 high school students to collect quantitative information on students' ethnicity, motivations, and expected outcomes from opting to learn Chinese and qualitative information from responses to two open-ended questions in the survey.

The data analysis procedure developed by Husseinali (2006) was replicated with modifications to analyze data for any statistical differences in motivational factors between ethnic-Chinese and non-Chinese students using frequency analysis and independent t tests. In addition, regression analysis was used to determine which variables significantly impacted students' interest in continuing to learn Chinese.

Step 2:

One focus group interview was held in each of the high schools. Each group consisted of 14 to 15 students from both ethnic Chinese and non-Chinese backgrounds. The researcher used qualitative data analysis techniques to code the interview data for themes related to the research questions and explanations of the patterns emerging from the survey.

Step 3:

The researcher interviewed three Chinese language teachers for their perceptions about the motivations of their high school students who choose to learn Chinese and factors that sustained students' learning interest.

Instruments

The purpose of the survey was to collect information from the students learning Chinese at two high schools in New Jersey regarding the factors that motivated them to learn Chinese and factors that sustained their learning interest or motivation. The survey was a modified version of an instrument developed by Wen (1997). Table 1 provided details of the survey items.

Table 1: Student Questionnaire Survey Instrument Overview

<i>Components</i>	<i>Variables / factors to be measured or identified:</i>	<i>Items</i>	<i>Question scale</i>
Part I. General information	Demographic information	8	N/A
Part II. Motivation Information (3 subscales)	1. Integrative motivation	6	1 to 7
	2. Instrumental motivation	6	1 to 7
	3. Effort	6	Multiple choices
Part III. Information on learning outcomes (3 subscales)	1. Valence: how significant students view the outcomes from learning Chinese	6	1 to 7
	2. Expectancy: expected probability to achieve the desired outcome	6	0 to 100%
	3. Ability	6	0 to 100%
Part IV. Open-ended question	1. Reason to choose or not to choose Chinese to learn	2	N/A
	2. Factors sustaining students' learning interest		

Part I contained eight items to obtain biographical information about the participants, which included whether or not they were of ethnic Chinese background.

Part II consisted of 18 items to obtain information about participants' motivational factors for learning Chinese. Responses ranged from 1 (strongly disagree) to 7 (strongly agree) on a Likert scale for the first 12 items and four multiple responses for the last six items.

Part III contained 18 items to obtain information in three areas: valence, expectancy, and ability.

1. Items 1 to 6 measured valence, a measure of the importance that students assigned to the outcomes of learning Chinese. Responses ranged from 1 (very insignificant) to 7 (very significant) on a Likert scale.
2. Items 7 to 12 measured expectancy, a measure of students' perceived probability that they would achieve the desired outcomes from the Chinese class. Responses ranged from 0% to 100% probability.
3. Items 13 to 18 measured students' perceptions of their ability to achieve the desired learning outcomes. Responses ranged from 0% to 100% probability.
4. Part IV contained two open-ended questions to collect students' perceptions of factors that motivated and sustained their interest in learning Chinese.

The details of the survey instrument are presented in Appendix A.

Participants

Two hundred and seventeen students learning Chinese as a world language in grades 9 through 12 at two high schools in central New Jersey participated in the survey. Parental consent was sought from all students enrolled in Chinese language classes in spring 2012. Two hundred and

seventeen usable complete surveys were collected, which was sufficient for the statistical analysis in the research design. Participants included both ethnic-Chinese and non-Chinese students with varying lengths of language learning experience.

Data Analysis

For the Survey:

The data analysis procedure developed by Husseinali (2006) and Wen (1997) was referenced to conduct the data analysis using the following five techniques. For the convenience of data analysis, the data were regrouped as follows.

First, frequency analysis was conducted to determine the percentage of students agreeing/disagreeing with each of the 12 items on Part II of the survey. A response of 5 or above was considered as Agree, a response of 4 was considered as Neutral and a response 3 or below was considered as Disagree. The researcher reported frequency counts of all learners as one group first and later presented the percentage of EC-background students agreeing with each one of the 12 items as one group and NC-background students as another group. The same procedure was repeated to compare responses from intermediate and advanced level students. The purpose of the above frequency analysis was to address Research Question 1 through investigating motivational factors for learning Chinese and the difference between EC and NC-background students and between intermediate and advanced level students.

Second, closely related items on the survey were grouped into three broad motivational factors: (a) instrumental motivation, (b) integrative motivation, and (c) expected effort. Grouping items into motivational factors facilitates the investigation of which factors motivated students for learning Chinese.

Third, independent t-tests were conducted to determine if EC and NC-background students responded differently on each of the above three broad motivational factors. Independent t-tests were used to discover motivation differences between different groups (Wen, 1997). In this study, an independent t-test was used to discover motivation differences between EC and NC-background students who chose to learn Chinese. The hypothesis is that there will be differences between EC and NC-background students in their motivational factors for learning Chinese.

Fourth, the researcher conducted the analysis of correlations of the two sets of variables to identify whether there were any significant correlations between the following variables:

1. Correlations between expectancy and three motivational factors for ethnic Chinese background students. In this study, expectancy is defined as students' expected probability of achieving six desired outcomes in learning Chinese: (a) speak Chinese fluently, (b) communicate in basic Chinese, (c) develop reading skill, (d) receive A Grade, (e) understand Chinese people, and (f) learn Chinese culture. Three motivational factors are defined as instrumental, integrated, and expected effort.
2. Correlations between expectancy and three motivational factors for NC-background students.

The purpose of conducting the correlation analysis was to test the expectancy-value theories through exploring whether students' motivations for learning Chinese are related to their

perceived probability of succeeding in learning. Expectancy-value theories claim that motivation is driven by ability beliefs, expectancies of success, and the perceived task value (Wigfield, 1994; Wigfield & Eccles, 2000).

Fifth, a multiple regression analysis was conducted to determine which motivational factors played a significant role in sustaining students' motivation or interest in learning Chinese.

The purpose of this test was to seek answers to Research Question 2 through identifying factors that significantly impact students' years continuing in Chinese language programs. The three motivational factors and students' ethnic backgrounds were designated as the independent variables, while their years continuing in the Chinese program were set as the dependent variable. The analysis attempted to identify factors that significantly impacted students' years continuing in Chinese programs. The general linear model in the Statistical Package for the Social Sciences (SPSS) addresses the unbalanced sample design should sample size across the group be unequal.

The analysis results are presented in the following tables:

- Table 2. Survey Participants' Background Information.
- Table 3. Participants' Years of Studying Chinese.
- Table 4. Overall Response Frequencies to Items 1 – 12 (All participants).
- Table 5. Positive Response Percentage: EC versus NC participants.
- Table 6. Positive Response Percentage by Chinese Levels.
- Table 7. T-Test Results: Mean and Standard Deviation of the Motivational Factors: EC versus NC Groups.
- Table 8. T-Test Results: EC versus NC Groups (to find out if there are significant differences between the two groups in terms of three broad motivational factors).
- Table 9. Correlations between Motivational Factors and Expectancy: EC versus NC Groups.
- Table 10. Regression Analysis: Factors Impacting the Sustainability of Motivations for Continuing in Chinese Programs.

SPSS statistical software and Excel were used to conduct the above statistical analysis.

RESEARCH FINDINGS

This chapter presents the results of a survey investigating 217 U.S. high school students' motivational factors in learning Chinese and the factors that sustain their motivations and interest in learning this language. Two hundred and seventeen students enrolled in sixteen Chinese language classes at two high schools in central New Jersey participated in the survey of this study. They were from grades 9 through 12 and placed in Chinese classes ranging from levels 2, 3, 4, 5, to Advanced Placement (AP) (college level) according to their Chinese language proficiency. A total of 122 of the participants indicated they were of ethnic Chinese (EC) background, and 95 indicated they came from non-Chinese (NC) backgrounds. There were 109 female and 108 male students. Table 2 summarizes the participants' background information.

Table 2: Survey Participants' Background Information

	Item	<i>n</i>	Percentage
Ethnic Background	Chinese	122	56%
	Non-Chinese	95	44%
	Total	217	100%
Gender	Male	108	50%
	Female	109	50%
	Total	217	100%
Grade Level	9th	63	29%
	10th	60	28%
	11th	53	24%
	12th	41	19%
	Total	217	100%
Chinese Level	II	58	27%
	III	45	21%
	IV	55	25%
	V	37	17%
	AP	22	10%
	Total	217	100%

Note. *n* = number of student participants.

Participants' years of studying Chinese in the United States are presented in Table 3. Of the 217 participants, 29% reported having been enrolled in Chinese programs from zero to four years; 63% reported being enrolled in Chinese programs from five to eight years; 7% had been enrolled in Chinese programs from nine to 11 years and 1% did not provide data.

Table 3: Participants' Years of Studying Chinese

Years in Chinese	<i>n</i>	Percentage
0	1	0%
1	18	8%
2	19	9%
3	10	5%
4	16	7%
5	22	10%
6	47	22%
7	45	21%
8	22	10%
9	12	6%
> 10	3	1%
Did not respond	2	1%
Total	217	100%

Note. *n* = number of student participants.

The first 12 items on the questionnaire were designed to address the first research question (RQ1) and its sub-questions, and to distinguish between two types of motivation: integrative and instrumental. Integrative motivation is powered by students' desire to identify themselves with the target culture and language, while instrumental motivation is generated from the

perceived practical benefits of learning the target language. Two methods were used to analyze student responses to address RQ1: response frequency and the independent t-test.

Results of the Response Frequency Analysis

Response frequency analysis of the first 12 items was conducted to address RQ1 and its sub-questions: “Which motivational factors influence New Jersey high school students to choose to learn Chinese to meet the high school graduation requirements?”

- a. Is there a difference in the factors that influence language choice by the ethnic background of the students?
- b. Is there a difference in the motivational factors by Chinese class levels?”

The first 12 items in the survey examined students’ integrative motivation (items 1 - 6) and their instrumental motivation (items 7 - 12). The analysis compared both EC and NC-background students’ responses to examine any differences in the two types of motivation between the two groups.

Similar Motivational Factors: Both EC and NC Groups:

When students ranked the reasons for studying Chinese provided in the survey, both EC and NC groups reported the same set of motivations. Those ranked highest were “Converse with people,” “Travel to China,” “Getting a good job,” and “Chinese language is important in world economy.” These results indicated both EC and NC-background students were motivated by the same set of factors to learn Chinese (see Table 4).

Table 4: Overall Response Frequencies to Items 1-12 (All Participants)

Item #	Motivational Factor	Mean	Median	Mode	SD	<i>n</i> (valid)	<i>n</i> (missing)
1	Appreciate Chinese literature	4.43	5.0	5	1.607	216	1
2	Converse with people	5.40	6.0	7	1.512	217	0
3	Learn Chinese culture	4.84	5.0	6	1.49	216	1
4	My own heritage	4.78	5.0	7	2.131	180	37
5	Important in world economy	5.64	6.0	7	1.457	185	32
6	Understand Chinese speakers	3.51	3.5	4	1.632	190	27
7	Getting a good job	5.58	6.0	7	1.498	194	23
8	Use it with Chinese friends	4.70	5.0	7	1.897	194	23
9	Travel to China	5.78	6.0	7	1.391	195	22
10	Graduation requirement	4.50	5.0	7	2.064	195	22
11	Class less demanding	2.79	2.0	1	2.058	195	22
12	Study abroad	3.11	3.0	1	1.892	195	22

Note. Min. = 1; Max. = 7. *n* = number of student participants.

For the convenience of data analysis, the data were regrouped as follows. First, frequencies were used to determine the percentage of students agreeing/disagreeing with each of the 12 items on Part II of the survey. A response of 5 or above was considered as Agree, a response of 4 was considered as Neutral and a response 3 or below was considered as Disagree. The researcher reported the overall frequency counts of all participants as one group first and later presented the percentage of EC-background students agreeing with each of the 12 items as one group and NC students agreeing with these items as another group.

Table 5 summarizes both EC and NC-background students' responses to items 1 to 12 under the category of agree percentage.

Table 5: Positive Response Percentage (EC vs. NC Participants)

Item	Start: I'm taking Chinese because	EC Agree %	NC Agree %
2	converse with people	75	78
9	Travel to China	75	82
4	My own heritage	74	25
7	Getting a good job	66	79
5	Important in world economy	63	77
8	Use it with Chinese friends	57	51
1	Appreciate Chinese literature	56	48
3	Learn Chinese culture	53	65
10	Graduation requirement	50	42
11	Class less demanding	29	9
6	Understand Chinese speakers	26	21
12	Study abroad	23	19

Note. Positive responses (Agree) = Likert-scale responses 5, 6, 7. $n = 122$ (ethnic Chinese); $n = 95$ (non-Chinese).
EC = Ethnic-Chinese group; NC = non-Chinese group

In general, the items that received the most positive responses from both EC and NC-background students were the same, and they received similar scores. These results indicate that both EC and NC-background students were motivated to learn Chinese by a similar set of factors.

The scores of these two groups vary most in item 4, "My own heritage" (74% and 25%), which indicates that most EC-background students were also largely motivated by the factors of their own heritage. As item 4 "My own heritage" is not applicable to NC-background students, the large score variance on this item between EC and NC groups is not considered in this study.

NC Group Displays Higher Instrumental Motivation:

Instrumental motivation refers to being motivated by the practical benefits of learning a language. Two other survey results are worthy of comment. First, NC-background students responded significantly more positively in all four most frequently "Agree" items than their EC peers. Among these four items, 13% more NC-background students reported the two items "China important in world economy" and "Getting a good job" as motivational factors for studying Chinese than their EC participants. This suggested that NC-background students display a higher instrumental motivation level than their EC counterparts.

Similar Motivational Factors: Advanced and Intermediate Students:

When the responses of advanced and intermediate level students were compared, both groups' four highest ranked motivators were the same, as were the three lowest ranked motivators. This finding indicates that there is no significant difference in the motivational factors by Chinese class levels, which addressed sub-question (b) of RQ1: "Is there a difference in the motivational factors by Chinese class levels?"

Overall, both advanced and intermediate level students were most motivated to learn Chinese by the prospect of getting good jobs due to China's importance in the world economy while least motivated by the perception that the Chinese language course would make few demands on them (see Table 6).

Table 6: Positive Response Percentage by Chinese Levels

Item	I am taking Chinese because	Level 2 - 3	Level 4 - AP
1	Appreciate Chinese literature	57 %	48 %
2	Converse with people	79 %	34 %
3	Learn Chinese culture *	59 %	58 %
4	My own heritage	61 %	45 %
5	Important in world economy *	76 %	63 %
6	Understand Chinese speakers	20 %	27 %
7	Getting a good job *	75 %	69 %
8	Use it with Chinese friends	56 %	52 %
9	Travel to China *	85 %	72 %
10	Graduation requirement	49 %	45 %
11	Class less demanding	28 %	13 %
12	Study abroad	21 %	21 %

Note. Positive responses = Likert-scale responses 5, 6, 7. $n = 217$.

* Most important motivator.

Results of the Independent *t* Tests

Independent *t* tests were conducted to compare EC-background students' three motivational factors for learning Chinese with those of NC-background students to address RQ1 and its sub-question (a).

The results of the independent *t* tests indicated a significant difference in the scores for instrumental motivation, measured by items 7 to 12 on the survey, between the EC-background students ($M = 27.63$, $SD = 5.78$) and their NC peers ($M = 25.14$, $SD = 5.29$): $t(194) = 3.115$, $p = 0.002$. *M* is the mean score and *SD* refers to the standard deviation in the *t* test. These results suggest that ethnic backgrounds do have an effect on students' instrumental motivation, which is powered by the perceived practical benefits of learning Chinese.

The results of the *t* tests matched the findings from the frequency analysis. A close look at the frequency analysis shows that NC group scored 14% higher in item 5, "China important in world economy" and 13% higher in item 7, "Getting a good job" than the EC group. These findings indicate that EC and NC-background students differed in the intensity of their instrumental motivation to study Chinese (see Tables 7 and 8).

Table 7: *M* and *SD* of the Motivational Factors: EC Vs. NC Groups

Motivational Factors	<i>M</i> (EC)	<i>M</i> (NC)	<i>SD</i> (EC)	<i>SD</i> (NC)
Integrative	29.3111	27.3214	6.41740	6.20002
Instrumental	27.6311	25.1429	5.77518	5.28850
Efforts	15.6529	15.8925	2.94027	2.96157

Note. EC = Ethnic-Chinese group. NC = non-Chinese group.

Table 8: T Test Results: EC vs. NC Groups

Motivational Factors	<i>t</i>	<i>p</i>	Equal Variance	(EC) <i>n</i>	(NC) <i>n</i>
Integrative	1.845	.067	Yes	90	56
Instrumental	3.115	.002 *	Yes	103	91
Efforts	-.589	.556	Yes	121	93

Note. EC = Ethnic-Chinese group. NC = non-Chinese group.

* There is a significant difference between the two groups at the level $p < .01$.

Correlations Between Expectancy and Motivational Factors

A Pearson product-moment correlation coefficient was computed to assess the relationship between the three motivational factors and expectancy for EC-background students and their NC counterparts respectively. Expectancy measures students' expected probability of being successful in learning. Expectancy-value theories state that if people perceive they have a good chance or high probability of being successful in learning or completing a task, they are most likely to be motivated (Wen, 1997). In other words, the higher the expected probability of success, the stronger the motivation will be.

Findings on EC Students: Positive Correlation Between All Three Motivational Factors and Expectancy:

The results revealed a positive correlation between all three motivational factors and expectancy among EC-background students.

- Integrative motivation and expectancy: ($r = 0.342, n = 90, p = 0.001$).
- Instrumental motivation and expectancy: ($r = 0.420, n = 102, p < 0.001$).
- Perceived efforts and expectancy: ($r = 0.482, n = 120, p < 0.001$).

Findings on NC Students: No Correlation Between Instrumental Motivation and Expectancy:

For NC-background students, the results suggested a positive correlation between motivational factor one (integrative) and expectancy, and a positive correlation between motivational factor three (efforts) and expectancy.

- Integrative motivation and expectancy: ($r = 0.608, n = 56, p < 0.001$).
- Perceived efforts and expectancy: ($r = 0.551, n = 93, p < 0.001$).

However, no correlation was found between NC-background students' instrumental motivation and expectancy. This result suggests that the NC group's motivation to learn Chinese based on the perceived benefits from learning this language has no relation to their expectations of being successful or not in learning the language. In other words, NC-background students would choose to learn Chinese because they perceive the value associated with learning this language even though they may not expect to succeed in learning it. Therefore, expectancy or the expected probability to be successful in learning has no relation to NC-background students' instrumental motivation.

In this case, valency or the perceived value of learning a language seems to outweigh expectancy, which is the expectation of being successful or not. These two factors do not seem to occupy an equal position in a learner's mind.

Table 9: Correlations between Motivational Factors and Expectancy: EC vs. NC Groups

Expectancy	Ethnic Chinese	Non-Chinese
Motivational Factors		
Integrative	.342**	.608**
Instrumental	.420**	.164
Efforts	.482**	.551**

Note. ** $p < .01$ Correlation is significant at the .01 level (2-tailed).

Motivation to Persist in Learning Chinese:

A multiple regression analysis was conducted to address RQ2: "Which factors sustain students' learning interest and help them persist in learning Chinese beyond meeting the high school graduation requirement?" This analysis was conducted to determine which factors, among the three motivational factors (integrative, instrumental and efforts) and students' ethnic backgrounds significantly impact students' continuing interest in learning Chinese. In this case, students' years of continuing in Chinese programs indicates how well they are able to sustain their interest or motivation in learning. The following independent variables or predictors were entered: three motivational factors (integrative, instrumental, and effort) and students' ethnic backgrounds. Students' years of continuing in Chinese programs, an indicator of sustained motivation or interest in learning Chinese, was designated as the dependent variable.

Using the enter method, a significant model emerged. $F(5, 137) = 2.870$, $p < .05$, $r^2 = .095$. Significant variables are shown below.

Predictor Variable	Beta	p
NC-background	.224	$p < .05$
Expected efforts	-.250	$p < .05$

(Integrative and instrumental motivations were not significant predictors in this model.) The two prediction equations are as follows:

Years of continuing in Chinese programs = 1.079 (non-Chinese background) + 7.240
 Years of continuing in Chinese programs = -.200 (expected efforts) + 7.240

The results indicated that students' ethnic background significantly impacted their continuing learning interest or years continuing in the Chinese program. NC-background (Beta = 0.224, $p = 0.009$) was a significant positive predictor of students' years continuing in Chinese programs, whereas students' efforts (Beta = - 0.250, $p = 0.006$) was a significant negative predictor of years continuing in Chinese programs. Integrative and instrumental motivations were not significant predictors. Controlling for other factors, an NC-background student continues 1.079 years longer in Chinese programs than an EC student. Overall, the results suggest that NC students would continue significantly longer in Chinese programs or most likely sustain their learning interest longer than EC-background students.

Meanwhile, the third motivational factor (expected effort) was a significant negative predictor of years continuing in Chinese programs. Controlling for other factors, expected effort is

negatively related to the time needed to complete the program. This means that if students were willing to expend more effort, their stay in Chinese programs would be shorter.

This is because students would be able to complete the programs faster. For example, if a high school student performed extremely well by exerting more effort, this student would be able to skip a level and reach the highest level faster. On the other hand, if a student failed the course due to insufficient effort, this student would need to repeat the level, thus extending the years enrolled in the program.

Overall, the results predicted that NC-background students would continue significantly longer in Chinese programs than their EC counterparts when other factors were being controlled. This means that if both the EC and NC groups maintained the same amount of the three motivational factors (integrative, instrumental and effort), NC students would sustain their interest in learning Chinese longer than their EC counterparts. Table 9 below reports the results.

Table 9: Regression: Factors Impacting the Sustainability of Motivations

Predictors	R^2	Beta	t	Sig.
Integrative motivation	0.095	0.106	1.104	0.271
Instrumental motivation	0.095	- 0.002	- 0.028	0.978
Perceived efforts	0.095	- 0.250	- 2.793	0.006*
Non-Chinese background	0.095	0.224	2.643	0.009*

Note. * $p < 0.01$

In addition to the three motivation factors and student participants' ethnic backgrounds, participants' gender was also entered to determine whether gender significantly impacted students' years continuing in the Chinese program or not. The results indicated that there were no significant differences between male and female groups in their years continuing in the Chinese programs. As gender issue is not pertaining to the research questions in the present study, there was no reason to further analyze this factor.

Summary of Quantitative Investigation Findings

The quantitative portion of the present study included survey response frequency analysis, t tests, correlations, and multiple regression analysis. Frequency analysis was used to identify the motivational factors that influence U.S. high school students to choose to learn Chinese and examine possible differences in the motivations between EC and NC-background students. T tests were applied to further investigate the differences in motivational factors between the EC and NC groups. Correlation's analysis was used to examine the relationships between the three motivational factors and students' expected probability of succeeding in learning. Multiple regression analysis was conducted to discover the factors that significantly impacted the sustainability of students' motivation for learning Chinese.

Following are the major findings from the quantitative investigation.

The survey response frequency analysis indicated that students' ethnic backgrounds or Chinese proficiency levels produce no difference in the factors that influence language choice because both EC and NC groups as well as both intermediate and advanced students reported a similar set of motivators to choose to learn Chinese. However, the NC group reported a more positive instrumental motivation, which is powered by the benefits of learning the target language. Students were generally motivated to learn Chinese by the career prospects connected to China's rising status in the global economy.

The results of the t tests also indicated that the EC group differed significantly from the NC group in their instrumental motivation. Correlation tests found a positive correlation between all three motivational factors and expectancy or expected probability of succeeding in learning for EC students. However, no correlation was found between instrumental motivation and expectancy for the NC group. This means that even if NC students perceived that their probability of being successful in learning Chinese was low, they would still be motivated to learn Chinese for its practical benefits. Their instrumental motivation had no relationship to the expected probability of success in learning.

Multiple regression analysis found that the NC group would sustain their interest in learning Chinese beyond that of their EC counterparts and continue significantly longer in Chinese language programs.

DISCUSSION

This chapter discusses the findings of the current study that address the two research questions,

What Motivate American Students to Learn Chinese and Ustain Their Learning?

The results of the study indicate there are three factors that motivate all students to choose to learn Chinese. These are (a) the importance of the Chinese language in the current global economy, (b) the interesting, challenging, and unique aspects of Chinese as a language; and (c) the appeal of accessing Chinese culture through learning the language. There are two factors that sustain all students' motivation for learning Chinese: job prospects connected to China's economy and the interesting aspects of the Chinese language and culture.

Chinese as a World Language:

When generalizing the findings of this study to the larger question of why high school students, when given a choice of languages to learn, choose one over another, the issue of perception of the "status" of the language is clearly important in decision-making. The findings of this study support the language globalization theory (Dörnyei and Csizer, 2002) that the rapid growth of China's economy has elevated Chinese to world language status that students see as a useful asset for future careers. When this occurs, students are motivated to study the language and are able to sustain their learning regardless of its difficulty. In the open-ended survey question, career prospects connected to China's economy was reported as the most important or the second most important factor for both EC- and NC-background students in choosing to learn Chinese and sustaining their learning. In this respect, the study suggests that current student choice between optional languages is operating in the same way as it did for Russian in the 1960s and 1970's when the Soviet Union was seen as a powerful world force, and for Spanish in the 1980's and 90's when it became apparent that the language would rival English use in

the United States. In both cases schools offered these languages, and students with no background in either opted to study them.

The importance of language status is further confirmed in the study by the finding that for the NC students their choice of language was not influenced by perceptions of whether they would be successful in mastering it. NC students listed “Getting a good job” and “Chinese is important in the world economy” as their most important reasons for choosing to learn Chinese and sustain their learning. They appear to be motivated to take up the challenge of learning Chinese regardless of a low expectancy of doing well. This is indicated by the lack of correlation between NC students’ instrumental motivation and the expected probability of being successful in learning.

In contrast, EC students with a knowledge of language and culture gained from their families and communities did not anticipate difficulties in their Chinese courses and felt confident they would obtain the grades they needed to pass. The survey found the perception that the Chinese language course would be an easy option was one of EC students’ most highly ranked motivational factors in learning Chinese, and that there was a strong correlation between these students’ instrumental motivation and expected probability of being successful. What is not indicated by the study is whether, had Chinese not been perceived as a world language, EC students would still have chosen to study Chinese because of their cultural links and expected success in the course or if they would have chosen another language that they perceived would be important for their career plans regardless of its difficulty and the potential for lack of success, like their NC peers.

Interesting, Challenging, and Unique Aspects of Chinese as a Language:

Both EC and NC students indicated in their responses to open-ended survey question 1 that the interesting and unique aspect of the Chinese language was one of their three most important reasons for choosing to study it. The focus group discussions and teacher interviews suggested explanations. Students noted that the uniqueness of Chinese as a language contributes to the difficulty and challenge of learning it.

It may sound surprising that the EC group also reported that Chinese culture was one of the most important motivational factors in their study of Chinese. Most of these heritage students were born and raised in the United States and may not be familiar with Chinese culture. The survey results indicate that they feel a need to understand and connect with their cultural heritage. This may explain why the EC group also indicated that the attractiveness of Chinese culture was one of the most important factors motivating them and sustaining their study of Chinese.

Chinese is acknowledged as a difficult language to learn (along with Russian and Arabic, for example) for a number of reasons. Unlike European languages, Chinese is not derived from Latin roots, so it has no language links for NC students. It is totally different in its structure, pronunciation, and writing system. Instead of an alphabet, it has thousands of characters. Moreover, Chinese is a tonal language, which creates a considerable challenge for Western learners whose mother tongue is not tonal (Liu et al., 2011). Chinese has four major tones, and different tones signify different meanings. NC students explained in the focus group discussions that this difference between Chinese and English makes it difficult to learn, but also keeps

students interested because it requires a new way of thinking. In this respect, the results of the study support Self-Determination Theory (SDT) proposed by Ryan and Deci (1980, 2000) that learning a challenging subject satisfies an innate need for competence and generates a powerful motivation that sustains learning.

NC students acknowledged that learning Chinese takes more hours than learning European languages, but the experience is very rewarding because it makes them stand out from their peers as so few American high school students know Chinese. According to Rhodes and Pufahl (2010), only 4% of middle and high schools in the United States offered Chinese programs in 2008 despite a quadruple increase from 1997. NC students noted gaining a sense of pride from undertaking and succeeding at an endeavor that their peers acknowledge is difficult motivates them and sustains their learning. The present study found NC students continued in the Chinese programs significantly longer than EC students.

However, according to the teacher interviews this may be the result of different placement of NC and EC students as EC students were usually placed in higher-level Chinese language classes because of their prior knowledge of Chinese and ability to finish the program faster than their NC peers. In this case, the shorter stay of EC students in the Chinese program does not indicate this group would not be likely to sustain their motivation longer.

The results of the study clearly indicate that the interest of EC students in the language as a gateway to understanding culture is linked to a desire to relate to their cultural heritage or identity. A critical field that teachers and administrators must understand and embrace is students' cultural identity and its powerful impact on their motivation and academic performance (Ford-Harris, 1991; Gunderson, 2000; Gunderson, 2007; Lee & Zhou, 2004; Portes & Hao, 1998). For heritage learners, losing their language brings unexpected loss, including the loss of one's own cultural identity, which may negatively affect students' achievement and upward social mobility (Lee & Zhou, 2004; Moses, 2000). As such, EC students' interest in Chinese as a gateway to understanding their culture may be interpreted as the need for relatedness to their heritage, which is one of the three basic human needs proposed by SDT and explains the EC students' high ranking of this factor in both their choice of learning Chinese and continuing with the language.

RECOMMENDATIONS FOR FUTURE STUDIES AND LIMITATIONS

This study examined the L2 learning motivational factors of students from a high socio-economic group, who has an awareness of world issues and the practical benefits of learning Chinese. The L2 motivational factors of students in inner city and rural areas may be totally different or non-existent. Future studies may need to examine the possible different L2 learning motivations of students from lower socio-economic groups in inner city and rural areas.

When faced with a challenging language like Chinese, language programs need to ensure that students have ample opportunities to feel successful and proud of their achievement. This is the key for many students to sustain their motivation, and it requires careful thought about goal setting and opportunities to demonstrate competence. What would be an effective way to help students feel successful and proud of learning L2 may be a topic for future research.

There are few studies of high school students' motivation for learning Chinese and other less commonly taught languages. This may be a field for future L2 motivation research.

The present study collected data from students who were in the Chinese program. No data were collected from the students who had dropped out from this language program. The absence of data from the dropout group may create a limitation in understanding the factors that sustained L2 learning. To obtain a deeper understanding of the factors that sustain student learning, future studies may consider including the dropout student group in the research of L2 motivation.

CONCLUSION

This study explored the perceptions of 217 students who are learning Chinese at two New Jersey high schools regarding the factors that influence students to choose to learn Chinese and factors that sustain their learning of this language. In addition, the perceptions of Chinese language teachers and student focus groups were used to verify, explain and expand the findings from the survey of the students. The findings suggested that the perception of future career prospects connected to China's economy was one of the most important factors that motivated students to choose to learn Chinese and sustained their learning of this language. This finding supports the language globalization hypothesis proposed by Dörnyei and Csizer (2002) as such that Chinese is in the process of being changed into a world language due to the rapid growth of China's economy. Therefore, it is imperative the school leaders be sensitive to the learners' language status perceptions in the selection of languages for the world language programs.

The present study also found that the unique aspects of Chinese language and culture contribute to the challenge of learning this language and serve as another important factor to motivate students and sustain their learning. Unlike European languages, Chinese is a pictograph, which entertains visual learning. The uniqueness of Chinese characters and calligraphy carries an inherent beauty, which makes the learning of this language cognitively appealing and motivating to learners. Non-Chinese background students tend to feel proud of their achievements in learning Chinese as they are able to satisfy their needs for competence through meeting the challenge of learning this language. To motivate students and sustain their L2 learning motivation, school leaders need to consider developing a diverse world language program that includes both European and Asian languages to offer students the choices and opportunities to satisfy their needs for competence. Moreover, this study found that heritage is EC students' most important motivator to learn Chinese and one of the important factors to sustain their learning of this language. The desire to maintain one's heritage through L2 learning reflects heritage learners' need for relatedness to their roots and culture, one of the human beings' innate psychological needs according to Deci and Ryan (2008b), as such it plays an important role in developing and enhancing heritage learners' cultural identity, which has profound implications to this group's academic performance and psychological well-being. To ensure the successful performance and growth of heritage learners in the American society, school leaders need to consider implementing a diverse L2 language program to meet the heritage learners' needs for relatedness. The findings were intended to provide data for public schools in the United States and international schools overseas that are contemplating adoption and implementation of a Chinese language program.

References

- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84(3), 261-271. doi: 10.1037/0022-0663.84.3.261
- Cai, S. (2011). *The impact of an online learning community project on university Chinese as a foreign language students' motivation*. (Doctoral dissertation, University of South Florida). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/865045989>
- Chen, Y. (1995). *Language learning strategies used by beginning students of Chinese in a semi-immersion setting*. (Doctoral dissertation Indiana University). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/304199929>
- Clément, R., Dörnyei, Z., & Noels, K. A. (1994). Motivation, self-confidence, and group cohesion in the foreign language classroom. *Language Learning*, 44(3), 417-448. doi: 10.1111/j.1467-1770.1994.tb01113.x
- Comanaru, R., & Noels, K. A. (2009). Self-determination, motivation, and the learning of Chinese as a heritage language. *Canadian Modern Language Review*, 66(1), 131-158. doi: 10.3138/cmlr.66.1.131
- Covington, M. V. (2000). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology*, 51, 171-200. doi: 10.1146/annurev.psych.51.1.171
- Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, California: Sage Publications, Inc.
- Crookes, G., & Schmidt, R. W. (1991). Motivation: Reopening the research agenda. *Language Learning*, 41(4), 469-512.
- Cutshall, S. (2005). Why we need "the year of languages". *Educational Leadership*, 62(4), 20-23.
- Dawson, C., & Dean, J. (2011, Feb 14). Rising china bests, A shrinking Japan. *Wall Street Journal*, pp. A.1.
- Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior. *Journal of Mind and Behavior*, 1(1), 33-43.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. doi: 10.1207/S15327965PLI1104_01
- Deci, E. L., & Ryan, R. M. (2002). Self-determination research: Reflections and future directions. *Handbook of self-determination research*. (pp. 431-441) Rochester, NY, US: University of Rochester Press.
- Deci, E. L., & Ryan, R. M. (2008a). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology/Psychologie Canadienne*, 49(1), 14-23. doi: 10.1037/0708-5591.49.1.14
- Deci, E. L., & Ryan, R. M. (2008b). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182-185. doi: 10.1037/a0012801
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26(3-4), 325-346. doi: 10.1207/s15326985ep2603&4_6
- Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *Modern Language Journal*, 78(3), 273-284. doi: 10.2307/330107
- Dörnyei, Z. (2000). Motivation. (pp. 425-432) Taylor & Francis Ltd / Books. Dörnyei, Z. (2000). Motivation theories. (pp. 432-435) Taylor & Francis Ltd / Books.

Dörnyei, Z., & Csizér, K. (2002). Some dynamics of language attitudes and motivation: Results of a longitudinal nationwide survey. *Applied Linguistics*, 23(4), 421-462.

Emma. (2010). The relationship between language and culture. Retrieved from <http://www.lexiophiles.com/topic/the-relationship-between-language-and-culture>

Ford-Harris, D. Y. (1991). Meeting the psychological needs of gifted black students: A cultural perspective. *Journal of Counseling and Development*, 69(6), 577-580.

Gardner, R. C. (1968a). Attitudes and motivation: Their role in second-language acquisition. *TESOL Quarterly*, 2(3), 141-150.

Gardner, R. C. (1968b). Attitudes and motivation: Their role in second-language acquisition. *TESOL Quarterly*, 2(3), 141-150.

Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation* London: Edward Arnold.

Gardner, R. C., Gliksmann, L., & Smythe, P. C. (1978). Attitudes and behaviour in second language acquisition: A social psychological interpretation. *Canadian Psychological Review/Psychologie Canadienne*, 19(3), 173-186. doi: 10.1037/h0081474

Gardner, R. C., & Lambert, W. E. (1965a). Language aptitude, intelligence, and second-language achievement. *Journal of Educational Psychology*, 56(4), 191-199. doi: 10.1037/h0022400

Gardner, R. C., & Lambert, W. E. (1965b). Language aptitude, intelligence, and second-language achievement. *Journal of Educational Psychology*, 56(4), 191-199. doi: 10.1037/h0022400

Gardner, R. C., & Lambert, W. E. (1959a). Motivational variables in second-language acquisition. *Canadian Journal of Psychology/Revue Canadienne De Psychologie*, 13(4), 266-272. doi: 10.1037/h0083787

Gardner, R. C., & Lambert, W. E. (1959b). Motivational variables in second-language acquisition. *Canadian Journal of Psychology/Revue Canadienne De Psychologie*, 13(4), 266-272. doi: 10.1037/h0083787

Gardner, R. C., & MacIntyre, P. D. (1993). A student's contribution to second language learning. part II: Affective variables. *Language Teaching*, 26, 1-11.

Gardner, R. C., & Masgoret, A. (1999). Home background characteristics and second language learning. *Journal of Language & Social Psychology*, 18(4), 419.

Gardner, R. C., & Tremblay, P. F. (1994a). On motivation, research agendas, and theoretical frameworks. *The Modern Language Journal*, 78(3), pp. 359-368.

Gardner, R. C., & Tremblay, P. F. (1994b). On motivation: Measurement and conceptual considerations. *Modern Language Journal*, 78(4), 524-527. doi: 10.2307/328591

Gardner, R. C. (2006). The socio-educational model of second language acquisition: A research paradigm. *EUROSLA Yearbook*, 6, 237-260.

Gunderson, L. (2000). Voices of the teenage diasporas. *Journal of Adolescent & Adult Literacy*, 43(8), 692-706.

Gunderson, L. (2007). *English-only instruction and immigrant students in secondary schools: A critical examination*. Lawrence Erlbaum Associates. 10 Industrial Avenue, Mahwah, NJ, 07430. Tel: 800-926-6579; Fax: 201-760-3735; e-mail: orders@erlbaum.com; Web site: <http://www.erlbaum.com>: Lawrence Erlbaum Associates.

Hussein, G. (2006). Who is studying Arabic and why? A survey of Arabic students' orientations at a major university. *Foreign Language Annals*, 39(3), 395-412.

Lambert, W. E., Gardner, R. C., Barik, H. C., & Tunstall, K. (1963). Attitudinal and cognitive aspects of intensive study of a second language. *The Journal of Abnormal and Social Psychology*, 66(4), 358-368. doi: 10.1037/h0047396

Language difficulty ranking. Retrieved from <http://www.effectivelanguagelearning.com/language-guide/language-difficulty>

Lee, J., & Zhou, M. (2004). In Lee J., Zhou M. (Eds.), *Asian American youth: Culture, identity, and ethnicity*. Great Britain: Routledge.

Liao, L., & Larke, P. J. (2008). The voices of thirteen Chinese and Taiwanese parents sharing views about their children attending Chinese heritage schools access ERIC: FullText. *Online Submission; US-China Education Review*, 5(12), 1-8.

Liu, Y., Wang, M., Perfetti, C. A., Brubaker, B., Wu, S., & MacWhinney, B. (2011).

Learning a tonal language by attending to the tone: An in vivo experiment. *Language Learning*, 61(4), 1119-1141.

Mitchell, T. R. (1974). Expectancy models of job satisfaction, occupational preference and effort: A theoretical, methodological, and empirical appraisal. *Psychological Bulletin*, 81(12), 1053-1077. doi: 10.1037/h0037495

Moses, M. S. (2000). Why bilingual education policy is needed: A philosophical response to the critics. *Bilingual Research Journal*, 24(4), 333.

Nababan, P. W. J. (1974). Language, culture, and language teaching. *RELC Journal*, 5(2), 18-30.

New Jersey core curriculum content standards for world languages. (2009). Retrieved from <http://www.state.nj.us/education/cccs/standards/7/>

New Jersey Department of Education. (2011a). *New Jersey state report card*. New Jersey:

New Jersey Department of Education. Retrieved from http://www.nj.gov/about_us/state_report_card/.

New Jersey Department of Education. (2011b). *Report card narratives*. New Jersey: New Jersey Department of Education. Retrieved from <http://education.state.nj.us/rc/rc10/rcoptions.php?c=21;d=5715;s=020;lt=CD;st=CD>.

Noels, K. A. (2003). Learning Spanish as a second language: Learners' orientations and perceptions of their teachers' communication style. *Language Learning*, 53, 97-136. doi: 10.1111/1467-9922.53225

Noels, K. A., Clement, R., & Pelletier, L. G. (2001). Intrinsic, extrinsic, and integrative orientations of French-Canadian learners of English. *Canadian Modern Language Review*, 57(3), 424-442.

Noels, K. A., Pelletier, L. G., Clément, R., & Vallerand, R. J. (2003). Why are you learning a second language? motivational orientations and self-determination theory. *Language Learning*, 53, 33-64. doi: 10.1111/1467-9922.53223

Noels, K. A., & Pon, G. (1996). Language, identity, and adjustment. *Journal of Language & Social Psychology*, 15(3), 246.

Phinney, J. S. (1989a). *Ethnic identity in adolescents and adults: A review of research*. access ERIC: FullText. Md: National Institute of Health (DHHS).

Phinney, J. S. (1989b). Stages of ethnic identity development in minority group adolescents. *Journal of Early Adolescence*, 9(1-2), 34-49.

Phinney, J. S. (1990). Ethnic identity in adolescents and adults: Review of research. *Psychological Bulletin*, 108(3), 499.

Portes, A., & Hao, L. (1998). E pluribus Unum: Bilingualism and loss of language in the second generation. *Sociology of Education*, 71(4), 269-294.

Portes, A., & MacLeod, D. (1996). Educational progress of children of immigrants: The roles of class, ethnicity, and school context. *Sociology of Education*, 69(4), pp. 255-275.

Portes, A., & Zhou, M. (1994). Should immigrants assimilate? *Public Interest*, (116), 18-33.

Pufahl, I., & Rhodes, N. C. (2011a). Foreign language instruction in U.S. schools: Results of a national survey of elementary and secondary schools. *Foreign Language Annals*, v44(n2), 258.

Pufahl, I., & Rhodes, N. C. (2011b). Foreign language instruction in U.S. schools: Results of a national survey of elementary and secondary schools. *Foreign Language Annals*, v44(n2), 258.

Pulvermuller, F., & Schumann, J. H. (1994). Neurobiological mechanisms of language acquisition. *Language Learning*, 44(4), 681.

Ramage, K. M. (1986). *Motivational and attitudinal factors as predictors of persistence in foreign language study (sociopsychological, second language acquisition, affective factors)*. (Doctoral dissertation, Stanford University). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/303525353>

Rhodes, N. C., & Pufahl, I. (2010). *Foreign language teaching in U.S. schools: Results of a national survey*. Washington, D.C: CAL.

Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The emotional and academic consequences of parental conditional regard: Comparing conditional positive regard, conditional negative regard, and autonomy support as parenting practices. *Developmental Psychology*, 45(4), 1119-1142. doi: 10.1037/a0015272

Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. doi: 10.1037/0003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. doi: 10.1037/0003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. *Handbook of self-determination research*. (pp. 3-33) Rochester, NY, US: University of Rochester Press.

Schumann, J. H. (1997). The neurobiology of affect in language. *Language Learning, A Journal of Research in Language Studies*, v48

Schumann, J. H. (1990). Extending the scope of the Acculturation/Pidginization model to include cognition. *TESOL Quarterly*, 24(4), 667-684.

Schumann, J. H. (2006). Summing up: Some themes in the cognitive neuroscience of second language acquisition. *Language Learning*, 56, 313-319. doi: 10.1111/j.1467-9922.2006.00367.x

Shaaban, K. A., & Ghaith, G. (2000). Student motivation to learn English as a foreign language. *Foreign Language Annals*, 33(6), 632-644.

Sperandio, J. (1998). *Girls' secondary education in contemporary Uganda: Unintended outcomes of well-intentioned policy*. (Doctoral dissertation, The University of Chicago). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/304505923>

State board of education adopts new high school graduation requirements. (2004). Retrieved from <http://www.state.nj.us/education/news/2004/0107grad.html>

Tremblay, P. F., & Gardner, R. C. (1995). Expanding the motivation construct in language learning. *The Modern Language Journal*, 79(4) 505–518. doi: 10.1111/j.1540-4781.1995.tb05451.x

Tennant, J., & Mihic, L. (2004). Integrative motivation: Changes during a year-long intermediate-level language course. *Language Learning*, 54(1), 1-34. doi: 10.1111/j.1467-9922.2004.00247.x

Urdan, T. C., & Maehr, M. L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research*, 65(3), 213-243. doi: 10.2307/1170683

Vroom, V. H. (1964). *Work and motivation* Oxford, England: Wiley.

Welles, E. B. (2004). Foreign language enrollments in United States institutions of higher education, fall 2002. *Profession*, pp. 128-153.

Wen, X. (1997). Motivation and language learning with students of Chinese. *Foreign Language Annals*, 30(2), 235-251. doi: 10.1111/j.1944-9720.1997.tb02345.x

West Windsor-Plainsboro Board of Education. (2010). *WW-P fast facts*. New Jersey: West Windsor-Plainsboro Board of Education. Retrieved from. <http://www.ww-p.org/cms/one.aspx?objectId=4302941&contextId=3592907>.

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review*, 6(1), 49.

Wigfield, A., & Eccles, J. S. (2000). Expectancy--value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68-81. doi: 10.1006/ceps.1999.1015

Wu, W. (2005). *The role of form-focused communication activities in complex grammar learning: The case of relative clauses in Chinese*. (Doctoral dissertation, University of Pennsylvania). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/305451858>

Wu, W. (2011). *About WW-P school district's Chinese program*. Unpublished manuscript. Xing, Z. J. (2006). *Teaching and learning Chinese as foreign language*. Hong Kong: Hong Kong University Press.

Yang, C. (2011). *The acquisition of mandarin prosody by American learners of Chinese as a foreign language (CFL)*. Doctoral dissertation, The Ohio State University). Retrieved from <http://search.proquest.com.ezproxy.lib.lehigh.edu/docview/863203226>

Zhao, H., & Huang, J. (2010). China's policy of Chinese as a foreign language and the use of overseas Confucius institutes. *Educational Research for Policy & Practice*, 9(2), 127-142. doi: 10.1007/s10671-009-9078-1

Appendixes

Appendix A: Student Questionnaire

Replicated from a published study by Wen (1997) with modifications.

I. General Information

1. Give your age in years: ____
2. Indicate your sex: M: ____ F: ____ 3. Check your ethnic membership below:
3. Are you from Chinese background? Yes: ____ No: ____
4. Circle your classification: 9th Grade; 10th Grade; 11th Grade; 12th Grade;
Other (specify): ____
5. What Level are you enrolled in Chinese? **(Please circle)**:
Level 1; Level 2; Level 3; Level 4; Level 5; AP Chinese
6. How many years have you been enrolled in Chinese program in America? **(Please circle)**:
1 2 3 4 5 6 7 8 9 10 more than 10 years
7. The language(s) you can speak: _____, understand:
_____, read: _____, and write: _____ 8. Are you a native Chinese speaker?
Yes: ____ No: ____ Following are statements with which some people agree and others disagree.

There are ***no right or wrong answers*** since many people have different opinions.

Please give your ***immediate reactions*** to each of the items. On the other hand, please ***do not be careless*** as it is important that we obtain your true feelings. **Circle** the number of the alternative below the statement which best indicates your feeling in that statement.

II. Motivation Information I am taking Chinese:

- | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|----------------|--|
| 1. | so that I will be able to better understand and appreciate Chinese art and literature. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 2. | so that I will be able to meet and converse with more and different people. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 3. | because I want to learn about other cultures to understand the world better. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 4. | because of interest in my own Oriental heritage. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| | Non-Applicable: (for non-Asian background students). | | | | | | | | | |
| 5. | because I feel Chinese is an important language in the economic development of the world. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 6. | because it will help me better understand the problems that Chinese speakers face. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 7. | because I think it will someday be useful in getting a good job. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 8. | because I want to be able to use it with Chinese-speaking friends. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 9. | because I want to use Chinese when I travel to a Chinese speaking country. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |
| 10. | because I need to study a foreign language as a requirement for my graduation. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree | |

- | | | | | | | | | | | |
|-----|--|---|---|---|---|---|---|---|--|----------------|
| 11. | because I feel the class is less demanding than other courses. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Strongly agree |
| 12. | because I need it for study abroad. | | | | | | | | | |
| | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Strongly agree |

When I learn a foreign language, I expect that:

13. I will
- pass on the basis of sheer luck and intelligence.
 - do just enough work to get along.
 - try to learn the language.
 - enjoy doing all the work.
14. I will think about the words and ideas which I have learned in my classes:
- hardly ever.
 - once or twice per week.
 - several times during the week.
 - daily.
15. I will spend about the following amount of time to practice the language after class:
- zero hours.
 - one hour per week.
 - four hours per week.
 - more than six hours per week.
16. I will:
- not necessarily be active in speaking the language in class.
 - answer the questions when I am called.
 - volunteer answers to the questions which are easy.
 - volunteer answers as much as possible.
17. After I get my Chinese assignments back, I will:
- just throw them in my desk and forget them.
 - look them over but not bother correcting mistakes.
 - correct mistakes when I have time.
 - always rewrite them, correcting my mistakes.
18. I will try to speak Chinese after class:
- never.
 - when I have to.
 - when I am offered the opportunity to do so.
 - in a wide variety of situations and as much as possible.

III. Information on Learning Outcomes: Valency, Expectancy, and Ability

How significant are these **outcomes** from your Chinese class to you? **Circle** the number which best indicates your feeling in that statement.

- | | | | | | | | | | |
|--|---|---|---|---|---|---|---|--|------------------|
| 1. To speak Chinese fairly fluently. | | | | | | | | | |
| Very insignificant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Very significant |
| 2. To communicate with Chinese speakers in basic Chinese language. | | | | | | | | | |
| Very insignificant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Very significant |
| 3. To develop reading comprehension of Chinese. | | | | | | | | | |
| Very insignificant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Very significant |
| 4. To receive the grade of "A" from the class. | | | | | | | | | |
| Very insignificant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Very significant |
| 5. To better understand Chinese people and their way of thinking. | | | | | | | | | |
| Very | | | | | | | | | Very |

insignificant	1	2	3	4	5	6	7	significant
6. To learn more about Chinese culture and custom.								
Very insignificant	1	2	3	4	5	6	7	Very significant

What is the probability you expect that you will achieve the above outcomes from the Chinese class that you are taking now? Circle the expected probability for each outcome.

- To speak Chinese fairly fluently.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100
- To communicate with Chinese speakers in basic Chinese language.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100
- To develop reading comprehension of Chinese.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100
- To receive the grade of "A" from the class.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100
- To better understand Chinese people and their way of thinking.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100
- To learn more about Chinese culture and customs.
No probability 100% probability
0 10 20 30 40 50 60 70 80 90 100

What do you think of your own **ability** to achieve the above outcomes? **Circle** your estimated ability for each outcome.

- To speak Chinese fairly fluently.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100
- To communicate with Chinese speakers in basic Chinese language.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100
- To develop reading comprehension of the Chinese language.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100
- To receive the grade of "A" from the class.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100
- To better understand Chinese people and their way of thinking.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100
- To learn more about Chinese culture and customs.
Very low ability Very high ability
0 10 20 30 40 50 60 70 80 90 100

IV. Open-Ended Questions:

- If you could choose again, would you still want to choose Chinese? Why or why not?
- What is the most important factor that keeps your interest in learning Chinese?