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Motivation of Chinese heritage language learners: From a bioecological perspective

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MOTIVATION OF CHINESE HERITAGE LANGUAGE LEARNERS: FROM A BIOECOLOGICAL PERSPECTIVE

For the degree of Master of Arts

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MOTIVATION OF CHINESE HERITAGE LANGUAGE LEARNERS: FROM A
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ABSTRACT

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The purpose of this study is to propose a new theoretical framework for researching variables of motivation for language learning. It will contribute to the discussion on the motivation of Chinese heritage learners by using a new model: the bioecological model. The elements of the bioecological model are process, person, context and time. The bioecological model draws on three schools of motivation for language learning: the psychological process, contextual factors, and dynamic interactions. This study will answer two questions: Are personal attributes, proximal interactions and contextual factors predictors of heritage language learners' motivation? Among these factors, do proximal interactions mediate the predictive power of personal attributes and contextual factors? The study used online questionnaires for data collection. Twenty-three questionnaires were completed and subjected to data analysis. The results support the hypothesis that personal and contextual factors' effect on motivation for heritage language learning could be mediated by proximal interactions.

CHAPTER 1. INTRODUCTION

1.1 Introduction

Heritage language education has drawn much attention in the United States. In the US, heritage language speakers are defined as those who were raised in a family who speak a minority language other than English. Many heritage language speakers are bilingual in English and in their heritage language (Valdés, 2000a, 2000b). This definition assumes that heritage language speakers are exposed to their heritage language at home.

The definitions offered by Fishman (2001) and Van Deusen-Scholl (2003) emphasize cultural heritage in a language community. Fishman describes heritage language learners as those who have particular family relevance to the target language. Van Deusen-Scholl defines heritage speakers as people who were raised with a strong cultural and family connection to their heritage language.

Chinese heritage language learners have some distinctive characteristics. Most Chinese programs in the US teach Mandarin and Cantonese, but more students are interested in Mandarin which is the standardized language of Chinese and there are more Mandarin speakers than Cantonese speakers. As a generic term, “Chinese” encompasses the eight major dialects spoken in the People’s Republic of China, Hong Kong, Taiwan, Macau, in addition to other countries and regions of East Asia and South Asia.

Those dialects are grouped under Wu, Xiang, Gan, Min, Hui, Cantonese, Hakka, and Mandarin, many of which are mutually incomprehensible (He, 2008).

There is no universally accepted definition of a heritage language speaker. Polinsky and Kagan (2007) have noted that in regions where people speak many dialects of Arabic or Chinese, for instance, one variety language which is identified as the official language is taught in the schools. Mandarin Chinese, China's the official language and majority dialect, is widely taught in the United States. In this paper, the definition of a heritage language learner emphasizes the cultural connection, not the amount of exposure to or competence in Mandarin. Most Chinese heritage language speakers are of Chinese ancestry and have a historical connection with Chinese language.

Demographic changes in the US, and the increase in economic opportunities in China have generated great interest in learning Chinese as both a heritage and a foreign language. According to the 2000 US Census¹, only 0.04% of all people who spoke a language other than English at home are Chinese. By 2011² the number had risen to 4.8%, which makes Chinese the second-largest minority language in the US, after Spanish (62%).

The National Security Language Initiative of January 5, 2006 is designed to dramatically increase the number of Americans who can speak critical-need foreign languages such as Arabic, Chinese, Russian, and Hindi. More students through K-16 are starting to learn Chinese, including Chinese heritage speakers. China's rising economy has persuaded more students who are not heritage speakers to make Chinese their second

¹ US Census Bureau. (2000). *Language use and English-speaking ability: 2000*.

² US Census Bureau. (2011). *Language use in the United States: 2011*.

language. As there are more and more trading between the US and China, and people who speak both English and Chinese exhibit a higher competence in business than other people by their linguistic abilities in communicating with people in these two different countries with different cultures.

Even though the number of heritage students is increasing, the learning environment and thus the learning outcome is not optimistic in several aspects. As Jia, Aaronson and Wu (2002) observed, as heritage language speaking children became young adults, the overwhelming majority of them have English as their dominant language but lose whatever proficiency in their heritage language they had had. Due to the lack of certified teachers, teaching materials, and funding, not all schools with foreign language programs will have courses designed for heritage students. Learning in the same classroom with the students who are learning Chinese as a foreign language, heritage speakers have advantages in listening and speaking, but L2 learners do better with tasks that tap into metalinguistic knowledge (Bowles, 2011; Montrul, 2011). These shortcomings could interfere with the language learning of both groups. Wen (1997) has suggested that universities in the United States cannot retain language students who are trying to learn languages such as Chinese and Japanese. Foreign language classes have been designed for foreign language learners, not for heritage language speakers who have different needs.

In order to understand why heritage speakers continue or do not continue learning their heritage language, researchers must identify the predictors of their learning motivation. According to Gardner (1985), Dörnyei (1990) and Noels (2005), greater motivation produces a greater likelihood of attaining high levels of L2 proficiency even

when learning a difficult language such as Chinese. Krashen's (1982) concept of the affective filter signified the importance of motivation. Highly motivated learners are better equipped for success in second language acquisition. Conversely, low motivation, low self-esteem, and anxiety can prevent the learner's receipt of exterior language input and thus no learning takes place. Therefore, it is essential to investigate learners' motivation to promote long-term learning of Chinese as a heritage language

1.2 Statement of the Problem

In the field of second language acquisition, research and discussions of motivation have increased. There are several theories of motivation. However, heritage language learning is slightly different from second language learning. Heritage language learners usually are early bilinguals who have a natural language learning environment. They are linguistically and culturally more prepared for the target language, and usually have positive attitudes toward the language community.

For this reason, theories of second motivation for language learning might not be appropriate for heritage motivation for language learning. For example, Gardner's (1985) social educational model, which categorizes motivation as integrative or instrumental motivation does not fit heritage language speakers. Theories of integrative and instrumental motivation have been used extensively in motivation research. Integrative motivation is the interest in involvement in the target language community; instrumental motivation is associated with practical reasons for learning a language, such as acquiring a well-paying job. By this definition, heritage language speakers have integrative motivation. Thus comparing the two types of motivations is less meaningful for teaching

and learning a heritage language than for teaching and learning a second language. The social educational model is poorly suited to heritage language learning.

Several theories that focus on psychological processes have been applied in accounting for heritage language learning motivation. For instances, expectancy-value theories have been incorporated into the research on motivation for language learning. Researchers tried to make a connection between motivation to learn the language and two psychological factors: expectancy of success and the value of a learning task. Using this framework, Dörnyei (1990) and Skehan (1989) attempted to connect expectancies with past learning experiences. Learners' understanding of past success or failure will affect their present expectancies of the learning success and their learning motivation.

Another major cognitive theory is self-determination theory (Noels, 2005, 2009), which is concerned with the way in which language learners are more self-determined in performing a particular learning behavior. Three psychological traits have been identified: autonomy, competence, and relatedness. Self-determination theory contends that social environmental factors influence learners' autonomy, competence, and relatedness and consequently their learning motivation. This theoretical framework is confined to the individual's cognitive motivational psychology.

Other researchers are interested in the contextual factors that affect motivation for language learning. Dörnyei and Ushioda (2013) summarized contextual influences into two domains. The first of these is the instructional context, which consists of studies of task and materials design and classroom structures. The other domain consists of social and cultural influence, such as teachers, peer groups, families and schools. This framework of language motivation recognizes environmental influences on an

individual's cognition, behavior and achievement. However, these research studies stressed contextual factors at the expense of demographic or psychological characteristics. This approach runs a risk of cultural stereotyping by ascribing certain motivational tendencies to a certain group of language learners.

Some new theories explain the motivation for language learning from a dynamic perspective, and view the motivation for language learning as socially and culturally situated. Ushioda (2009) argues that it is necessary to see language learners as real people who inhabit a cultural and historical context, and whose motivation and identities shape and are shaped by that context. He proposed that motivation for language learning is influenced by the interaction between the individual and the context. This group of theorists views individuals as producers of their motivations, not as products of external factors. They examined the way in which the individual reacts to contextual factors and how the interaction leads to motivational tension.

The theories have failed to account for most of the significant factors or processes and relationships among them. Other researchers have shown concern with the theoretical framework for such a complicated system of influential factors on motivation for language learning. Oxford and Shearin (1994) concluded that the field has not presented a fully articulated model of L2 learning motivation, because such a model will require further debate and development. Even after Dörnyei (2009b) proposed the complex dynamic system, he continued to seek a holistic explanation for it. Dörnyei and Ushioda (2013) have tried with little success to identify the essence of a complex dynamic motivational system. They have suggested pinpointing the motivation or the situation before conducting research. In this case, individual motivational research has provided

information and knowledge to a smaller population, since every situation is different. However, I argue that it is still important to present a holistic view and to explain the similarities in the way that motivation works at different levels of motivation and in different situations. There is thus ample room for researchers to search for or modify a holistic model of motivation for language learning, especially for heritage language learners who are more social culturally constrained, and who are interacting with multiple sociocultural factors.

1.3 The study

1.3.1 Purpose of the study

The purpose of this study is to propose a new theoretical framework for researching variables of motivation for language learning. It will contribute to the discussion on the motivation of Chinese heritage learners by using a new model: the bioecological model. This model encompasses all previously identified factors in other theoretical frameworks including individual cognitive psychology, the contextual approach and the dynamic view. The elements of the bioecological model are process, person, context and time. The bioecological also draws on three schools of motivation for language learning: the psychological process, contextual factors, and dynamic interactions. As this is a cross sectional study, time is not considered here.

There are three major hypotheses in bioecological model, and the present study will focus on two: the proximal process (similar to dynamic interactions in previous studies) increases the motivation for language learning, and that personal psychological characteristics and contextual factor are mediated by the proximal process.

As this is a theory driven study, a holistic theoretical framework is used to explain the motivation for language learning. This study was carried out with two goals in mind: 1) to examine the relationships among various factors influencing Chinese heritage learners' motivation; and 2) to propose a new theoretical framework and test the applicability of a new theoretical model.

The study of Chinese heritage speakers' motivation is necessary to students, Chinese community and the U.S as a nation with diversity and multilingual citizens. Research has shown that bilingual students who continue to develop cognitively in their primary language and develop age-appropriate proficiency in both first and second language can outscore monolinguals academically (Baker & Prys-Jones, 1998). Learning the heritage language and being motivated to continue learning that language can help heritage language speakers to resolve the contradictions between the heritage culture and dominant society and affirm their identity. The results could assist the language instructors in developing appropriate course materials and improve the teacher-student relationship.

In addition, speakers of minority languages have reported that heritage language maintenance and bilingualism are important for their community (Pérez-Leroux, Cuza & Thomas, 2011). The Center for Applied Linguistics (CAL) has stated that heritage language learners present a tremendous resource for the national language shortage in languages other than English. The maintenance of heritage languages contribute to the nation's economy and national security in terms breaking the language border and leading to more international communication.

If the new theoretical model fits, it could be used to guide studies on motivation for second-language learning and motivation for heritage language learning. The holistic theoretical model examines at all significant factors and the relationships among them.

1.3.2 Theoretical framework

The term bioecology, originally socioecology, was proposed as a model for the study of human developmental behaviors or processes by Bronfenbrenner (1979). Instead of considering language learning as a skill comparable to riding a bike, language learning could be seen as a part of a developmental process. Heritage language learners are not only learning this language for a utilitarian reasons, in order to understand their own culture, identity and to develop their bilingualism and biculturalism.

Bronfenbrenner initially described the environment as a set of interacting structures, which could be identified as the microsystem, mesosystem, exosystem, and the macrosystem, and thereby provide a holistic framework for identifying potential influences on human behavior. L2 motivation (why people are learning the language) could be understood through the social ecosystem. The learner has the closest contact with the microsystem: family, peers, school, and community. The social contextual factors at the microsystem level are similar to Dörnyei's (1990) situational factors. The mesosystem connects the structures in the microsystem, for example, between the learner's system and the family. The exosystem is a larger social system than immediate social context and the language learner does not have direct involvement with it. Examples are the workplace language environment of the learner's parents and other family social networks. The macrosystem consists of cultural values, customs, and laws.

It includes what linguists describe as language ideology, which are the rules or laws that govern language like the promotion of the critical language learning.

Bronfenbrenner has revised and reassessed his socioecological model. He argues that in contrast to accepting their contextual influences, people interact with them. The Process-Person-Context-Time model (PPCT) has become the foundation of his mature theory (Bronfenbrenner, 2005; Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 2006). *Process* consists of the individual's activities and interactions with the environment, such as child-child activities, father-child interaction, and reading. The term *person* comprises biological and genetic aspects such as age, gender, parents' education and psychological characteristics. The last element is time, which evaluates any change in behavior.

The key elements and their properties of the bioecological model are defined in Bronfenbrenner and Ceci's (1994: 572) three propositions:

Proposition 1: Human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of time. Such enduring forms of interaction in the immediate environment are referred to henceforth as *proximal processes*.

Proposition 2: The form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the developing person, of the environment – both immediate and more remote – in which the

processes are taking place, and of the nature of the developmental outcomes under consideration.

Proposition 3: Proximal processes serve as a mechanism for actualizing genetic potential for effective psychological development, but their power to do is also differentiated systematically as a joint function of the same three factors stipulated in proposition 2.

Using the bioecological model for human development, heritage language learners' motivation and continuation of learning could be explained in these dimensions. First, motivation for language learning is a type of psychological process closely related to language developmental behavior, which is formed and shaped through the interaction between the language learner and the environment. For example, interactions between the student and language classes, heritage language communities, and families, as well as the media interaction, confined to the Chinese language and culture context including music, TV programs, and internet, are the key of their learning motivation. Second, personal characteristics and environmental contexts are mediated by proximal processes or interactions. Third, time differentiates the effects of proximal process, personal characteristics, and environmental contexts. As mentioned earlier, time will not be included in this study.

1.3.3 Research questions and hypotheses

Figure 1 presents the major variables that are under consideration in this study. Personal attributes include self-confidence, autonomy and competence. Contextual factors are found at the micro, meso and macro levels. The proximal interactions range

from the classroom, family, and community to the media. According to the bioecological model, besides motivation as the response variable, the predictors were categorized as independent or mediating variables. Clearly, proximal interactions with the environment are the mediating variables, while personal psychological attributes and three levels of contextual factors are independent variables.

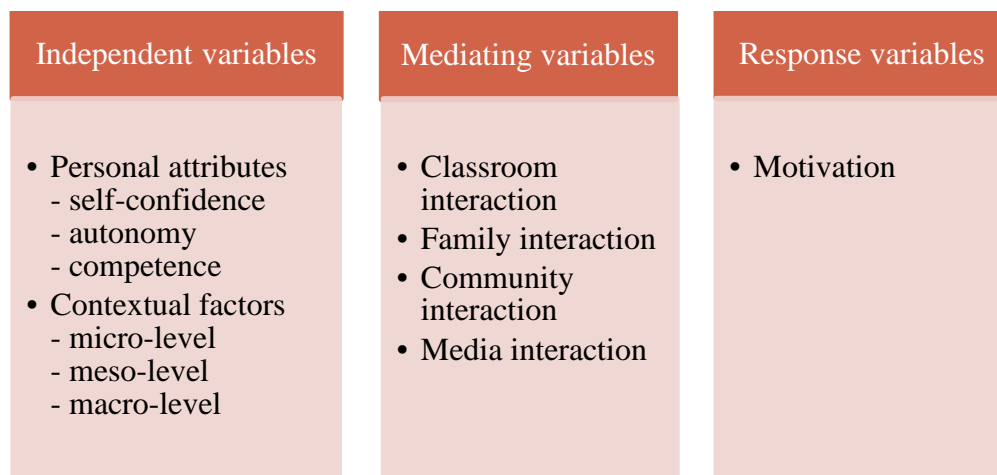


Figure 1 *Variables examined in this study*

This study will answer two questions: Are personal attributes, proximal interactions and contextual factors predictors of heritage language learners' motivation? Among these factors, do proximal interactions mediate the predictive power of personal attributes and contextual factors?

Based on the propositions in bioecological model, three hypotheses are made here. The first is that heritage language learners' motivation is influenced by proximal processes. Classroom interaction, community interaction, family interaction, and media interaction will be tested. Higher levels of these interactions are associated with stronger motivation to learn Chinese as a heritage language. Second, personal attributes and

contextual factors can influence the motivation of Chinese heritage learners. Third, the influences of personal attributes and contextual factors are mediated by proximal interactions.

CHAPTER 2. LITERATURE REVIEW

2.1 Conceptualization of motivation

Language learning is different from learning physics or chemistry in that language learning is a socially bounded activity. The motivation for language learning and goals affect the learning process and outcomes. Foreign language or second motivation for language learning has been studied by researchers for a long time. The field originated in from Canada, which is home to many ethnolinguistic communities.

One of the early and best-known models of motivation is Gardner's (1985) socio-educational model. The most important concept he brought out is integrativeness. Gardner categorizes two kinds of motivation: instrumental and integrative. The instrumental orientation means that learners are studying this language for pragmatic reasons, such as professional advancement, passing a school language requirement, to earn a raise, or to read technical materials in that language. Integrative orientation reflects a genuine interest in learning a language, and reflects a potential interest in engaging with the target language community. As Gardner (2001) described, people who have integrative motivation tend to identify themselves with the target language community, and consequently are more likely to develop positive affect and attitude toward the learning. Certainly, due to the positive affective factors towards the target language

community and the willingness to join that community, integrative motivation is more closely related to language attainment than instrumental motivation is.

The socio-educational model laid a foundation of L2 motivation studies. Later researchers have continued to investigate the instrumental and integrative orientations. Some researchers (Duff & Li, 2008; Lu & Li 2008; Noels, 2005) have consistently agreed with Gardner on the importance of integrative motivation. However, other researchers have concluded that integrative and instrumental motivation are both significant, and that in some cases instrumental motivation outweighs more than integrative motivation in language achievement (Masgoret & Gardner, 2003; Norris-Holt, 2001; Oroujlou & Vahedi, 2011). These contradictory findings imply that instrumental and integrative motivation should not be placed in competition; the motivation of each individual and population should be investigated on its own terms and explained from several perspectives.

Dörnyei (1990) has extended the socio-educational model from the instrumental and integrative orientations to a three-level motivation model. The language level refers to the learners' attitude toward the target language. The learner level pertains to individual differences, in factors such as self-confidence, age, or intelligence. The learning situational level is the learning environment: the language course, the teacher, or the peer group. His extended model deepens and broadens the understanding of L2 motivation.

L2 motivation research has its origins in social psychology; researchers have incorporated cognitive psychology into the study of L2 motivation. One theory that has been applied in L2 motivation is attribution theory which posits that whether the

individual ascribes the failure of learning to he is or her own competence or to external factors influences his or her motivation for further language learning. In other words our motivational disposition toward the language learning is depends on our perception of past successes or failures (Weiner, 1985). Learners are less likely to continue learning a language if they blame their failure to learn that language on their own lack of ability; by the same token learners are more likely to try again when they blame their failure on the language program or on learning strategies that did not work for them.

Another popular social psychology theory has been incorporated into L2 motivation study is self-determination theory. Noels (2005, 2009) has been consistently applying applied the tenets of self-determined theory to L2 motivation. She furthered the explanation of the mechanism of motivation, and connected psychological characteristics with the intrinsic and extrinsic motivation. According to self-determination theory, when the circumstances and people in the learner's social world support his or her sense of competence, autonomy, and relatedness, a more self-determined orientation (e.g. identified, integrated, or intrinsic) is likely to be fostered (Deci & Ryan, 1985). *Autonomy* refers to the individual's feeling of free and voluntarily learning without any external forces. *Competence* is defined as one's perception of one's ability to learn a language. *Relatedness* is the learner's sense of connection with and affection for target language community and culture.

Other streams of motivation research have promoted the concepts of situational and dynamic motivation. Situational motivation means that there are different kinds of motivation in different learning contexts. For example, textbooks, teachers, course components and peer groups vary from one classroom to another.

L2 motivation is identified as a dynamic process rather than as an individual characteristic. Oroujlou and Vahedi (2011) studied the dynamic process between the student and the teacher. They identified L2 motivation as a changing interaction in the classroom, which reveals more about how to increase a learner's motivation for language learning.

Dörnyei (2000) linked motivation to phases in the learning process. The first or preactional phase is associated with goal setting, intention formation and intention enactment. The second or actional phase corresponds to executive motivation. The motivational emphasis shifts from decision-making to implementation and influences actual short-term learning goals. The third phase is the post-actional phase. In this phase, learners tend to reflect upon and evaluate the learning experience in order to contemplate further actions about learning the specific language. Examples of motivational factors in this stage are grades and external feedback.

Overall, the conceptualization of motivation for language learning has evolved from a linear effect to a dynamic situation. Traditionally, researchers investigated the linear effects of learners' psychological characteristics and attitudes to language on language learning decision and achievement. Several researchers have begun to promote studying motivation as a dynamic process characterized by relationships among many motivational factors in a specific environment

2.2 Motivation in heritage language learning

The literature review has provided the framework for research on heritage language learners' motivation. Even though motivation has been abundantly studied, due

to under identification of heritage speakers, their motivation has not been sufficiently investigated. Some comparative research has examined the motivation of second-language and heritage language learners. Only a few studies (for Russian, see Kagan & Dillon, 2001; Geislerik, 2004; for German, see Noels, 2005; for Chinese, see Comanaru & Noels, 2009; Wen, 2011) have been published on motivation among heritage language learners. Gardner's integrative and instrumental model has been the foundation of these studies.

Gersherik (2004) investigated 40 Russian language learners at two US universities, 23 of whom were Russian heritage speakers and 17 of whom were non-heritage students. By comparing the motivation of heritage and non-heritage learners, Gersherik (2004) found that the former had stronger integrative and instrumental motivation than the latter. In addition, most of the Russian heritage learners were found to have stronger integrative than instrumental motivation. This research goes further by investigating the subgroup factors of the integrative motivation, and identifies the importance of community interaction to integrative motivation.

Another study (McLellan, 2005) that examined the heritage and non-heritage learners of Russian has reported the relationship between students' learning preference and the class structure. Class structure is categorized as separate, mixed and combined language class. Forty-four students in mixed classrooms across the first, the second and the third level were included in this study. Heritage group and non-heritage group have both presented their positive and negative comments for the other group, and they showed the preference of interacting between two groups. And the mixed and combined class structure is preferred among these research participants, as it allows mutual

interaction with different strengths and thus accommodate students' varying language learning needs. This study recognized the importance of students' perception of the class structure in learning the language.

Noels (2005) has examined motivation by combining Gardner's (1985) integrative/instrumental model and self-determination theory (Deci & Ryan, 1985) among German heritage speakers and non-heritage learners. Forty-one German heritage students and 55 non-heritage students at two U.S. universities were included in this study. Autonomy, competence, and relatedness, all of which are predicted by self-determination theory are associated with intrinsic motivation and motivational outcomes, such as increased engagement in the learning activity and a greater interest in continuing. In this study, which was limited to participants who had one parent with a German speaking background, no significant differences were found in integrative orientation. Most importantly, the heritage learners were found to be more inclined to learn German in order to interact with the community than non-heritage learners were. This subtle difference between community interaction and other integrative factors should lead to closer observation from the perspective of integrative motivation.

Noels and her colleagues (2009) added social contextual factors to the research on self-determination based motivation among German heritage language learners at two Canadian universities. It drew a conclusion on the significance of autonomy, competence, and support to self-determination theory. Among the social contextual factors, teachers are more important in non-heritage learners' motivation than in that of heritage language learners. The other two social factors -- family and community -- are more influential in the motivation of heritage language learners. There is insufficient research investigating

these social factors for heritage language learners, so additional research is necessary to confirm this result, and add weight to the reliability and validity of these variables.

The case of Korean-Americans (Cho, Cho, and Tse, 1997) contributed the knowledge of motivation in the population of Korean heritage speaker. Twenty-four Korean-American students were recruited in the survey of why ethnic minorities want to develop their heritage language. Students in this research are across all levels from the beginning to the advanced level. This study showed family reason and career-related reason in developing their heritage language. To be more specific, the Korean heritage speakers desire to be able to better communicate with family members, to be connected with the Korean community, and also have the opportunities to extend their career goals by improving their language skills. This study provides the support that interaction with family and the heritage community is affecting the decision of learning the heritage language.

2.3 Motivation in Chinese heritage learners

In the study of developing a profile of Chinese heritage language learners in the FL classroom, Weger-Guntharp (2006) has related the motivation to learners' identity and self-perception of others. This study recruited 25 undergraduate students at a private American university at the east coast. Both quantitative and qualitative research methods have been applied in this study. The major reason for the participants to study Chinese is their self-identification with the heritage group. The connection with the heritage language speaking group is one of the driving forces of learning the language. As one of the participants mentioned, understanding his Chinese heritage is why he study Chinese

in the university. Language courses in formal educational system helps solving the identity struggles of heritage speakers. There is a conflict between identifying with the dominant society and making connection with the heritage family and small communities which are very different from the dominant language and cultures. But the opportunities of learning the speaking the heritage language mitigated the conflict in terms of validate the minority language and culture in a formal setting. Perception of peers is another factor influencing the decision of enrollment in a language class. Classroom activities and partners in those activities affect their motivation in learning. Most participants showed their particular preference of peers for group work. Some perceptions of the teacher could be demotivating among language learners. The participants have mentioned the teacher's limitation of using vocabulary beyond the lesson, and the teacher tend to restrict their use of the full language in order to follow the lesson plan. To sum up, self-identity and perception of immediate others in the learning environment is associated with the language learning motivation.

Noels and Comanaru (2009) have investigated motivation among Chinese heritage learners. One hundred and forty-five university students were recruited for this study, 112 of whom were heritage speakers and 33 were not. Relatedness was found to be the most consistent predictor of self-determined orientation across both groups of learners, and autonomy was found to predict the self-determined orientation among heritage language learners. In other words, the attitude and impression of the language community is essential for learners' motivation to learn Chinese; this is consistent with the findings of the research on German heritage speakers. However, Noels and Comanaru (2009) did not include all six motivational outcomes that the German study did.

Li and Lu (2008) conducted a comparative analysis of the effect of several motivational factors (integrative, instrumental, and situational) on heritage and non-heritage college students' Chinese learning in mixed classrooms. One hundred and twenty students from nine Chinese college classes at two universities in western New York State were included in this study; fifty-nine were heritage students and sixty-one of which were not. The findings were consistent with those of previous heritage language studies on the positive relationships between both integrative and instrumental motivation and learning outcome. In addition, this study pointed out one important psychological trait -- self-confidence -- which is related to attributional and self-determination theory.

Wen (2011) conducted a comparative study of motivation between Chinese heritage and non-heritage learners. The participants were 317 students who were enrolled in Chinese courses at three universities in the US. This study integrated the social educational model (Gardner, 1985), the internal structure model (Csizér & Dörnyei, 2005), and the attribution theory (Weiner, 1985). It found that positive learning attitudes and experience were the strongest predictors of the strength of motivation and continuation of study. Of the two groups, the Chinese heritage students were more motivated by social milieu, cultural interests, and language requirements than non-heritage learners were. In another words, both integrative and instrumental motivation had a positive influence. Furthermore, this study looked closely at integrative orientation; the questions about social milieu were concerned with the influences from family, friends, and community.

The literature has identified many factors that affect heritage language learners' motivation, and each study has its own focus. Most of these studies agree on the

significance of integrative motivation, and tested the significance of contextual factors such as family, friends and community. One study mentioned community engagement, which is the interaction between the individual language learner and the community.

Instead of arguing that either integrative or instrumental motivation is more influential, this study stresses the effect of psychological factors on the motivation to learn a language. The bioecological approach was applied to examine the relationships among those factors by ascribing the psychological characteristics (as proposed by attribution theory and self-determination theory) and age, education to the personal factors, categorizing the family, peer, teacher and community as microsystem factors. Factors which do not interact with individual's language learning process belong to the meso contextual level; among these are institutional policy and school requirements. The largest economic context is founded at the macro contextual level. Besides personal factors and three levels of contextual factors, there is another category of proximal interactions. Engagement with the proximal environment is an important factor in behavior. This category consists of factors like family interaction, classroom interaction, media interaction, and community interaction. There are three groups of factors: personal characteristics, contextual factors and proximal interactions. The objective of this study is to examine the relationships among these factors, especially the way in which personal and contextual factors are mitigated by proximal interactions.

CHAPTER 3. METHODOLOGY

3.1 Participants

The participants in this research study are college students in the United States who have been identified as heritage students of Chinese. Since participants were recruited from college-level Chinese language classes, Chinese language instructors teaching at colleges and universities in the Midwest and on the East Coast sent a questionnaire link to their former and present students. College students who met both of the following conditions were sent the questionnaire: 1) those who are or were enrolled in Chinese language classes; 2) those who had been exposed to Chinese (Mandarin, Cantonese, Hokkien,³ Hakka, Shanghainese, Gan, Xiang, and Min) language and culture at home. The Qualtrics system, discussed in the next section, shows that 37 participants started the survey and 28 completed it, yielding a response rate of 75.7%. After five incomplete surveys were excluded, information from 23 respondents was subjected to data analysis.

³ Hokkien represents Taiwanese in the original questionnaire, which was intended to be Taiwanese Hokkien when designing the questionnaire. Often it is referred as Taiwanese, it is spoken by 70% of the population in Taiwan.

3.2 Questionnaire

The questionnaire was administered through Qualtrics, a web-based survey software program. The questionnaire was distributed on November 10, 2014 and closed on December 10, 2014. Several items from the literature (Dörnyei, 1998; Gardner, 1985; Li & Lu, 2009; Noels, 2008) were adopted in this study, and several new questions were added. The questionnaire consisted of 13 closed and open-ended questions and elicited sociobiographical and linguistic background information: age, gender, educational level, language exposure, language spoken before elementary school, during K-12 and college, registration status regarding Chinese language, language class level, language learning history, continuation, and self-rated motivation. Thirteen questions about behavior were scored on a 5-point Likert scale. For example, when asked “How much contact did you have with Chinese people outside of school?” participants’ choices were *never*, *rarely*, *sometimes*, *often*, and *all the time*. Seventeen questions were asked about participants’ attitudes to and behaviors regarding language learning and language learning environment in various domain; these answers were scored along a 7-point Likert scale. For instance, when asked to respond to the statement “I am confident in learning Chinese,” the participants’ options were *strongly disagree*, *disagree*, *somewhat agree*, *neither agree or nor disagree*, *somewhat agree*, *agree*, and *strongly agree*.

3.3 Descriptions of variables

The demographical and descriptive variables were age, gender, educational level and language history. Each participant gave his or her age. Gender was coded as (1) male, and (2) female. Educational level was coded as (1) freshman, (2) sophomore, (3) junior, (4) senior, and (5) other. Language history was ascertained by asking the type of language to which the participant had been exposed, and by whom. The item “Your language exposure is from” was coded as (1) Mandarin, (2) Cantonese, (3) Hokkien, and (4) other. “Your Chinese language exposure is from” was coded as (1) father, (2) mother, (3) grandparents, and (4) other. Participants could check more than one of these answers. For the question “Are you currently taking a Chinese language course?” (1) Was coded for yes, and (2) was coded for no. For “Are you planning on taking Chinese language class in the future?” (1) Was coded for yes, and while (2) was coded for no.

The main variables used for the analysis primarily fall into two different groups. The first is the dependent variable which is the interest of outcome are self-rated motivation. The second categories are the independent variables which are also referred as predictors that were investigated with regard to proximal interactions, personal characteristics, and contextual factors.

The dependent variable of self-rated motivation is measured by one question: My motivation to learn Chinese is: 1) very low, 2) low, 3) somewhat low, 4) neutral, 5) somewhat high, 6) high and 7) very high. The literature does not have a standardized battery to measure motivation but rather investigating attitudes and motivation in quite a wide range and analyze particular interested items for each different individual study.

The variable of interest here is self-rated motivation, because motivated learners demonstrate more effort and persistence in task behaviors.

For the first group of independent variables proximal interactions, four kinds of interaction in relation to Chinese language and culture were investigated: classroom, community, media, and family. Questions about the frequency of these interactions were asked. Classroom interactions were asked by rating the statement “I actively engage myself in classroom learning” from *never* to *all the time* on a 5-point Likert scale. Community interactions were examined in three questions: one of which is from Noels (2009): “How much contact did you have with Chinese people outside of school?” Answers range from *never* to *all the time* on a 5-point Likert scale. Two other items are “I participate in Chinese language or culture related community,” and “I attend Chinese related cultural or art events.” Three items related to media: “I listen to Chinese music,” “I watch Chinese TV programs and films,” and “I view and post in Chinese on social media like Facebook, Twitter, and Instagram.” Lastly, family interactions were asked by rating two items: “I communicate with family members in Chinese,” and “I discuss Chinese-related issues with family members.”

Personal characteristics included three psychological factors: self-confidence, autonomy, and competence (adapted from Noels 2009). “I am confident in learning Chinese,” “I study Chinese out of personal choice,” and “I have developed very good abilities as a Chinese student.” These are coded as (1) *strongly disagree*, (2) *disagree*, (3) *somewhat agree*, (4) *neither agree nor disagree*, (5) *somewhat agree*, (6) *agree*, and (7) *strongly agree*.

The three levels of contextual factors in the ecosystem were included: microsystem, mesosystem and macrosystem. Course-specific micro factors were from Dörnyei (1998): “Learning in Chinese class is student-centered and interactive,” and “The diversity (heritage & non-heritage) in the Chinese classroom provides a comfortable environment to communicate.” Both were rated on a on a 7-point Likert scale. Teacher, friends and family specified micro factors were from Gardner (1985). The variable of teacher was measured by two items: “The teacher makes learning fun,” and “I look forward to going to class because my Chinese teacher is good,” coded from 1) *strongly disagree* to 7) *strongly agree*. The variable of friends consisted of two items: my friends speak Chinese rated as (1) *never*, (2) *rarely*, (3) *sometimes*, (4) *often*, and (5) *all the time*. I want to communicate better with my Chinese friends, which was rated as (1) *strongly disagree*, (2) *disagree*, (3) *somewhat agree*, (4) *neither agree nor disagree*, (5) *somewhat agree*, (6) *agree*, and (7) *strongly agree*. Three items were asked about family language practice: “My parents speak Chinese at home,” and “There are Chinese television programs playing at home.” Both were rated on a 5-point Likert scale. The other item is “My parents encourage me to learn Chinese,” rated on the 7-point Likert scale.

In the mesosystem, a school-related factor was adapted from Gardner (1985): “I need the course to fulfill the university requirements,” rated on the 7-point Likert scale. Four questions were asked about community language environment: “People in my community before college speak Chinese.” “People in my community now for college speak Chinese.” “The community I lived in before college provides Chinese art and cultural events, such as music, movies, calligraphy,” and “The community I live in now

for college provides Chinese art and cultural events, such as music, movies, and calligraphy.” These four items were rated on a 7-point Likert scale.

At the macrosystem level, economy, societal ideology and online social network were addressed. “It will enable me to compete effectively in the global economy because China is growing fast” (Li & Lu 2008). Ideology was examined by asking about the image of learning Chinese in the participant’s society and in the media. There two items were rated from *strongly disagree* to *strongly agree* on the 7-point Likert scale. Online social network language environment was explored by the item “Chinese language and culture appear on online social networks, such as Facebook, Twitter, and Instagram” from *never* to *all the time* on the 5-point Likert scale.

3.4 Instruments of analysis

SPSS (Statistical Package for the Social Sciences) was used to analyze the data. In this study, descriptive statistics were used to give a general impression of the participants. A general linear regression was used to identify significant variables by entering proximal process factors, personal attributes, and contextual factors individually. All significant factors of proximal process were computed into a single variable representing the proximal process or proximal interaction. Lastly, the variable of proximal interaction was added to each regression model which was identified as significant from the second step. This procedure identifies the mediating effects of proximal interactions on each personal and contextual factor.

CHAPTER 4. RESULTS AND DISCUSSIONS

4.1 Description of the participants

The age of the respondents ranged from 18 to 22 years. At the time of completing the questionnaire, 22 of the participants were enrolled in college; one participant had graduated in May 2014. Of the 23 respondents, 21.7% were freshman, 43.5% were sophomore, 21.7 were juniors, and 8.7% were seniors. They reported exposure to six Chinese dialects or languages: Mandarin, Cantonese, Hokkien, Taishanese, and Fuzhounese (figure 2). Twelve respondents (52.17%) had been exposed only to Mandarin, two respondents (8.7%) had been exposed only to Cantonese, and nine (39.13%) had been exposed to more than two. Of these nine, four had been exposed to Mandarin and Cantonese (17.4%), two had been exposed to Mandarin and Hokkien (8.7%), one had been exposed to Cantonese and Taishanese (4.3%), and two had been exposed to Mandarin, Cantonese and Fuzhounese (8.7). Most respondents (56.52%) reported language exposure from both parents and grandparent, 34.78% of the respondents reported language exposure only from one or two family members, and two reported no language exposure at home. Five of 23 respondents were not enrolled in a Chinese language class at the time of the study. Three participants stated that they did not plan to continue taking Chinese language classes, meaning that 86.96% of the respondents did plan to do so.

On a 1 to 7 scale, students' self-rated motivation is 5.61, with a standard deviation of 1.118. The majority of heritage language learners rated their motivation as relatively high; only 13% described it as neutral and somewhat low.

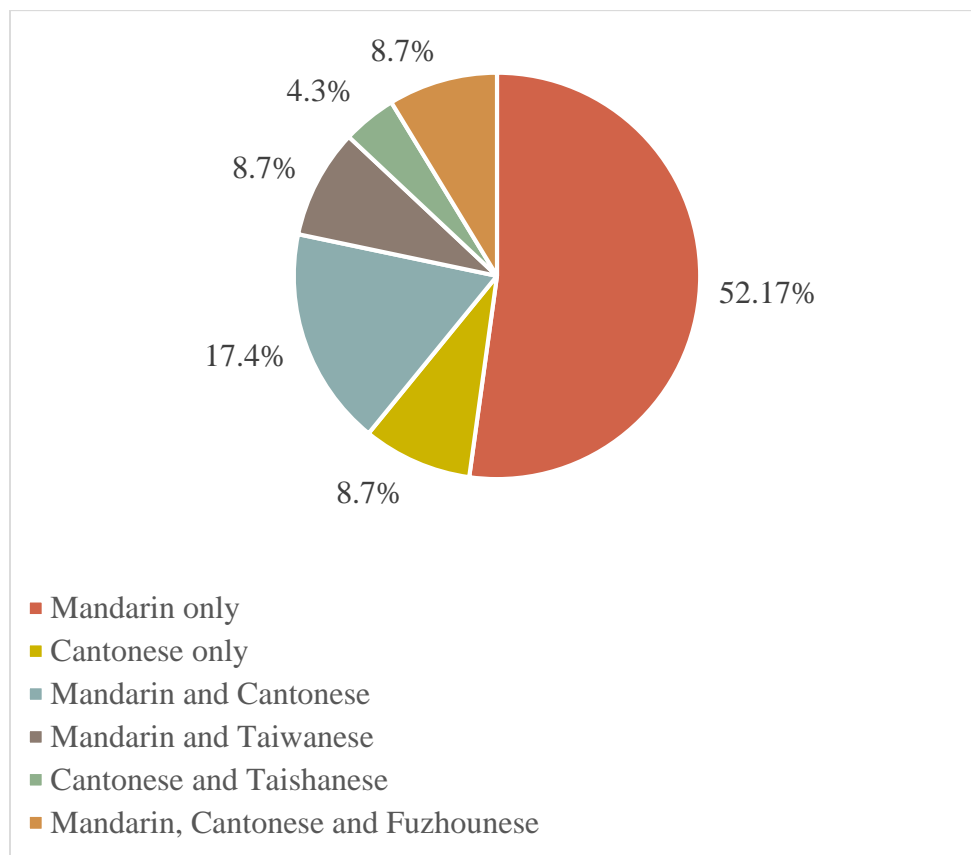


Figure 2 *Types of language exposures*

4.2 Data analyses

The results of several simple linear regressions were showed in Table 1. Each considers the correlation of the independent variable eliminating other intervening influences. At the confidence level of .01, eight variables are found significantly having an effect on self-rated motivation of Chinese heritage speakers. Community interaction ($\beta = .677, R^2 = .458, P = .000$) is highly significant in predicting Chinese heritage speakers'

motivation in learning Chinese. There is a strong positive linear relationship between community interaction and Chinese heritage speakers' self-rated motivation. To be more specific, if the heritage speakers rated their community interaction one point more, their motivation in learning Chinese will increase .677. Noted that this is assuming all other predictor were held constant, which in practice is unlikely a heritage speaker's motivation will increase only by increasing the degree of community interactions, since all predictors are correlated. Even though, it provided primary information for this study attempting to explore the mediation of proximal interactions to each other variables on their prediction for self-rated motivation. This precondition for interpretation applies to the rest of regression analysis in this study. By looking at the R square, it tells us that 45.8% of the variation in self-rated motivation is explained by community interaction. So there is a lot of space left to be explored to account for the variation in motivation. However, this is not the main focus of this study. This study focuses on whether the effect of personal attributes and contextual factors on heritage speakers' motivation is mediated by the extent of their interactions with proximal environments.

Media interaction ($\beta = .584$, $R^2 = .344$, $P = .003$) can be used to predict self-rated motivation of Chinese heritage speakers. With every one-point increase of media interaction, self-rated motivation will increase by .584. In other words, the more that Chinese heritage learners listened to Chinese music, watched Chinese television programs and used Chinese in their online interactions, the higher their self-rated motivation. More than a third (34.4%) of the variation in motivation can be explained by this factor.

Classroom interaction ($\beta = .558, R^2 = .311, P = .006$) is another significant factor, which has a positive linear relationship with self-rated motivation at the coefficient of .558. This variable explains slightly less of the variation of self-rated motivation than media interaction and communication interaction. Among all three significant proximal process factors, the variable of community interaction explains most of the variation in motivation. Interestingly, family interaction which is one of four proximal variables is not significant in this test. The regression result shows no linear relationship between family interaction and heritage speakers' self-rated motivation in learning Chinese.

Among the three personal psychological attributes included in this study, two are significant and one is insignificant in predicting self-rated motivation by itself. Self-confidence ($\beta = .558, R^2 = .318, P = .006$) is the first personal psychological characteristic which can be used to predict heritage speakers' self-rated motivation. There is a positive linear relationship between self-confidence and self-rated motivation; a one-point increase of self-confidence will lead to a .598 increase in self-rated motivation. This factor explains 31.8% of the variation. Another significant psychological trait is competence ($\beta = .598, R^2 = .358, P = .003$), which accounts for 35.8% of the variation. Motivation will increase .358 on the scale if competence was rated one point higher. Autonomy is not found to be a significant factor in predicting self-rated motivation. In other words, whether the heritage speaker is studying Chinese by choice or out of necessity has neither a positive nor a negative relationship with his or her motivation.

Four variables on the micro context level were tested: course-specific, friends, teacher and family. These variables measured the relative positive or negative effect of Chinese language usage and attitude on heritage language learners' class, friends,

teachers and family members. Two variables were examined as significant factors in predicting heritage speakers' motivation: course-specific ($\beta = .589, R^2 = .374, P = .003$) and friends ($\beta = .643, R^2 = .414, P = .001$). Friends can account for the variation of self-rated motivation slightly better than Chinese courses do: 41.4% versus 37.4%. Changing friends will change motivation more than changing a Chinese course. On the one hand, there will be a .643 increase in motivation for each one-point increase in the variable of friends, but a .589 increase from a one-point increase in the course-specific variable. On the other hand, the variables of teacher and family are not significant in predicting the learner's self-rated motivation. The variable of family is less significant with a P-value of .696.

Neither school requirement nor community seemed to predict self-rated motivation. This study shows that having to meet a school language requirement does not affect Chinese heritage language learners' motivation. (Please make connection with the literature review, consistent or contrast.) An unexpected finding was that a Chinese language and cultural presence in the community where heritage speakers live had no linear relationship to learners' self-rated motivation. This part indirectly supports the stance of this study that the interaction with the Chinese community rather than a Chinese language or cultural background might affect their motivation to learn.

Finally, in examining heritage learners' perception of public ideology, Chinese economy and Chinese language and culture on online social networks at the macro context level, online social network ($\beta = .581, R^2 = .337, P = .004$) and economy ($\beta = .427, R^2 = .182, P = .042$) were shown to be significant in predicting heritage learners' self-rated motivation. Online social network accounts for 33.7% of the variation in self-rated motivation, and with a one-point increase of Chinese in social network, motivation

will increase by .581. This rating will go down for each one-point decrease in this factor. The percentage of variance from economy is lower than the comparable figure from the online social network, which is only 18.2%. The same amount of change on the scale is associated with less change in self-rated motivation. The other variable -- perception of public ideology -- has no linear relationship with heritage language learners' self-rated motivation.

Table 1 Summary of Simple Linear Regressions for All Variables

| Variables | Coefficients β | R ² | P Value |
|-----------------------|----------------------|----------------|---------|
| Family interaction | .262 | .069 | .227 |
| Community interaction | .677 | .458 | .000* |
| Media interaction | .584 | .344 | .003* |
| Classroom interaction | .558 | .311 | .006* |
| Proximal interaction | .741 | .549 | .000* |
| Self-confidence | .558 | .311 | .006* |
| Competence | .598 | .358 | .003* |
| Autonomy | .384 | .147 | .071 |
| Course-specific | .589 | .347 | .003* |
| Teacher | .318 | .101 | .149 |
| Friends | .643 | .414 | .001* |
| Family | .086 | .007 | .696 |
| Community | .305 | .093 | .157 |
| School requirement | -.208 | .043 | .341 |
| Public ideology | .401 | .161 | .058 |
| Economy | .427 | .182 | .042* |
| Online social network | .581 | .337 | .004* |

* P-value < .05 is significant.

From the results of the simple linear regressions, eight variables -- community interaction, media interaction, classroom interaction, self-confidence, competence, course-specific, friends and online social network -- were found significant and kept for

further analysis. Three interaction factors will be computed into the single variable of proximal interaction ($\beta = .741$, $R^2 = .549$, $P = .000$) representing respondents' interactions with their proximal environments. The mediation effects of proximal interactions on the prediction of self-rated motivation by two significant personal attributes and three significant contextual factors are examined in the next section.

Table 2 presents the results of regression of self-confidence and proximal interactions. Self-confidence and proximal interactions are both significant in predicting self-rated motivation. By comparing the change of the R square, the percentage of variance in motivation increased from 31.1% to 65.4%, meaning that proximal interactions added a lot of weight to this linear relationship. Higher self-confidence and proximal interactions are related to stronger self-rated motivation. However, looking at the model closely, especially the coefficients which represent to which degree the change of independent variable is associated with the change in the level of response variable self-rated motivation. And it showed the decrease in the predictive power of self-confidence when proximal interactions were introduced. Compared to .558, only .345 will be changed on the scale of self-rated motivation if there is a one-point increase or decrease in self-confidence. The positive linear relationship between self-confidence and self-rated motivation is mediated by the proximal interactions. In short, when proximal interactions are taken into consideration, even a heritage speaker has a high level of self-confidence, but few or no interactions with proximal environments like community, classroom and media he or she will have very weak self-rated motivation in learning Chinese as heritage language.

Table 2 Regressions of Self-Confidence and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .654 | .000* |
| Self-confidence | .345 | .023* | | |
| Proximal interactions | .623 | .000* | | |

* P-value < .05 is significant.

Table 3 presents the regression results of competence and proximal interactions. As expected, the overall model is significant. Competence and proximal interaction can account for 64.8% variance in self-rated motivation, which is 29% more than competence alone. Coefficient of competence in this model was lower than the competence alone in predicting self-rated motivation. A one-point decrease in competence is associated with a .598 decrease in self-rated motivation in the regression model without the proximal interactions, while here with the proximal interactions, a one-point change is associated with a .346 change in the response variable. A similar decrease demonstrates the same mediating effect of proximal interactions on the positive relationship between competence and self-rated motivation.

Table 3 Regression of Competence and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .648 | .000* |
| Competence | .346 | .028* | | |
| Proximal interactions | .594 | .001* | | |

* P-value < .05 is significant.

Tables 4 - 6 present the regression results of course-specific and proximal interactions, friends and proximal interactions, and economy and proximal interactions. The results are similar to the results of self-confidence and competence given above. On the one hand, the overall model and all variables remained significant. On the other hand, the coefficients for course-specific, friends, and economy have declined from .589 to .342, from .643 to .356, and from .427 to .294, respectively, suggesting that the same one-point increase in these three factors will produce only about half the amount of change in self-rated motivation compared to the previous predictions. This is evidence of the mediating effect of proximal interactions upon the personal attributes and contextual factors in predicting heritage learners' self-rated motivation.

Table 4 Regression of Course-Specific and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .646 | .000* |
| Course-specific | .342 | .030* | | |
| Proximal interactions | .600 | .001* | | |

* P-value < .05 is significant.

Table 5 Regression of Friends and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .643 | .000* |
| Friends | .356 | .033* | | |
| Proximal interactions | .558 | .002* | | |

* P-value < .05 is significant.

Table 6 Regression of Economy and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .633 | .000 |
| Economy | .294 | .046* | | |
| Proximal interactions | .684 | .000* | | |

* P-value < .05 is significant.

The results of regression of social network and proximal interactions are different from the five regression shown here. Table 7 shows that the model is significant; however, proximal interactions significantly predict the level of self-rated motivation. Social network is insignificant in relation to self-rated motivation. P value is no longer less than .05. The percentage (58.8%) that accounts for the dependent variable is almost the same as exhibited in the regression of proximal interactions alone (54.9%). In other words, in the intervening factor of proximal interaction, social network lost its predictive power for self-rated motivation among Chinese heritage speakers. This means that part of the association between social network and self-rated motivation could be explained by proximal interactions within the classroom, media and community.

Table 7 Regression of Online Social Network and Proximal Interactions

| | Coefficients β | P Value | R ² | P Value |
|-----------------------|----------------------|---------|----------------|---------|
| Regression | | | .588 | .000* |
| Social network | .238 | .186 | | |
| Proximal interactions | .607 | .002* | | |

* P-value < .05 is significant.

In summary, the statistical results in tables 3-7 show competence and proximal interactions, course-specific and proximal interactions, friends and proximal interactions, social network and proximal interactions, and economy and proximal interactions. The decrease of the coefficients was examined in all five significant personal traits and contextual factors after proximal interactions were added to the model. Table 8 depicts the change in the six factors. It shows the coefficients and significance levels of two significant personal psychological factors and four significant contextual factors, as well as the comparisons of regression results after the addition of proximal interaction to each test. The social network factor became insignificant in predicting self-rated motivation. It is easy to observe that the coefficients of all other five significant variables decreased greatly. The R square almost doubled for each variable, and even tripled for the variable of economy. This supported the finding that proximal interactions have more weight in predicting self-rated motivation than personal attributes and contextual factors.

Table 8 Personal Attributes and Contextual Factors with and without Proximal Interactions

| | Without proximal interaction | | | With proximal interaction | | |
|-----------------|------------------------------|----------------|-------|---------------------------|----------------|-------|
| | β | R ² | P | β | R ² | P |
| Self-confidence | .558 | .311 | .006* | .345 | .654 | .023* |
| Competence | .598 | .358 | .003* | .346 | .648 | .028* |
| Course-specific | .589 | .347 | .003* | .342 | .646 | .030* |
| Friends | .643 | .414 | .001* | .356 | .643 | .033* |
| Social network | .581 | .337 | .004* | .238 | .588 | .186 |
| Economy | .427 | .182 | .042* | .294 | .633 | .046* |

* P-value < .05 is significant.

Table 9 provides the coefficients, R square and P value change for proximal interactions after being added into the model of each six significant variables. Compared to the change in all six personal attributes and contextual factors, the variable proximal interactions did not change much. First, after adding other predictors, proximal interactions remained strongly significant in all six regressions. Second, the combinations of other significant predictors with proximal interactions did not significantly raise the R square. In other words, all six variables individually did not add as much weight to the explanation of self-rated motivation as proximal interactions did. For instance, looking at proximal interactions and social network, the R square changed from .549 to .588, which means that the social network added only 3.9% to the variation of self-rated motivation. Lastly, coefficients did not significantly decrease much in the new models. A one- point increase in proximal interactions can predict a .741 increase in self-rated motivation. After the addition of other factors, the prediction coefficients decreased only slightly. It has not been influenced by personal attributes and contextual factors. In contrast, personal attributes and contextual factors are greatly influenced by proximal interactions in predicting the self-rated motivation, as shown in table 8.

Table 9 Regressions for Proximal Interactions with and without Personal Attributes and Contextual Factors

| | β | R^2 | P | | β | R^2 | P |
|-----------------------|---------|-------|-------|---|---------|-------|-------|
| | | | | Proximal interactions; (Self-confidence) | .623 | .654 | .000* |
| | | | | Proximal interactions; (Competence) | .594 | .648 | .001* |
| Proximal interactions | .741 | .549 | .000* | Proximal interactions; (Course-specific) | .600 | .646 | .001* |
| | | | | Proximal interactions; (Friends) | .558 | .643 | .002* |
| | | | | Proximal interactions; (Social network) | .607 | .588 | .000* |
| | | | | Proximal interactions; (Economy) | .684 | .633 | .000* |

CHAPTER 5. CONCLUSIONS AND LIMITATIONS

5.1 Summary of the study

As a theory-driven study, this study was generated from the literature on a theoretical framework that could explain a complicated system of influential factors on motivation for language learning. Bronfenbrenner's bioecological model, widely used in developmental psychology was applied this study of heritage language speakers' motivation for language learning. Their motivation is inherently related to their interactions with the target culture. Heritage language learners fit the bioecological model that examines the relationship among proximal interaction, personal characteristics, contextual factors and time for interested behaviors.

The purpose of this study is to apply a bioecological model to the study of Chinese heritage language learners' motivation. It is not to test an entire conceptual model, but to explain one aspect of the relationships among all significant factors for motivation for language learning. The objective is to discover the mediating effect of proximal interactions on important personal and contextual factors. It will call attention to the importance of interactional factors in relation to personal and contextual background.

This study has answered two questions. Are personal attributes (self-confidence, competence, and autonomy), proximal interactions (family interaction, community interaction, classroom interaction, and media interaction) and contextual factors (teacher, friend, family, community, course-specific, economy, social ideology, online social network) predictors of heritage language learners' motivation? Among these factors, do proximal interactions mitigate the predictive power of personal attributes and contextual factors?

The study used online questionnaires for data collection. Thirty-seven college students of Chinese as a heritage language began taking the questionnaire, but only 23 questionnaires were completed and subjected to data analysis. This study uses a broader definition of heritage language learner, one that emphasized the learners' ancestral and historical cultural connection with the heritage language. All participants in this study were language learners with a heritage connection with all languages in the Chinese language family, like Mandarin, Cantonese and Hokkien.

5.2 Findings

The findings of this study suggest that community interaction, media interaction, classroom interaction, self-confidence, competence, course-specific, friends, online social network and economy are significant predictors of Chinese heritage language learners' motivation; family interaction, autonomy, teacher, family, school requirement, community, and social ideology are not. The results indicate that proximal interactions mitigate the predictive power of all other personal and contextual significant factors: self-confidence, competence, course-specific, friends, online social network and economy.

This supports the hypothesis that personal and contextual factors' effect on motivation for heritage language learning could be mediated by proximal interactions.

Therefore, in examining, interpreting, and predicting heritage language learners' motivation, it is important to differentiate the contextual factors of family, friends, community (also known as social milieu) from proximal interactions with family, friends and community. Family members who might or might not speak the heritage language, along with the community's heritage language practices constitute the language learners' objective language environments. At the same time, proximal interactions measure the extent to which language learners interact with family, friends, and community in the target language. Furthermore, interactional factors have more power to predict Chinese heritage language learners' motivation, and mediated the influence of personal and contextual factors, as shown in their decreased coefficients. If the students have no interaction with the Chinese language or culture, even if that community has a rich linguistic and cultural life, learners' motivation is less likely to be influenced by it and more likely to be shaped by the interactions.

Among all three variables of significant proximal interactions, community interaction explains the most, with a coefficient of .677. This result definitely supports the new service-learning program incorporating community interactions with language learning, because engagement with the heritage language community increased heritage language learners' motivation. Schwarzer and Petrón (2005) also found that students' community engagement reinforced their motivation for undertaking further language learning; students' experiences in community-based or service-learning contexts may very well open the door for some heritage language speakers to continue with formal

instruction in the language. Even though the goal of service-learning is not related solely to language learning and language pedagogy, it could motivate heritage language speakers to acquire literacy in their heritage language. Moreover, the service-learning program recognizes the importance of proximal interactions with the environment when researching human behaviors, and indirectly supports of the bioecological model.

Two of the new findings are the significant positive correlations between media interaction and self-rated motivation, and between online social network and self-rated motivation. The former looked at the influence of frequently intake of Chinese music, TV programs and films, and viewing and posting on online social networks. Chinese heritage language learners who engage frequently in these behaviors are more likely to have a higher self-rated motivation in language learning. The frequency of Chinese language use on online social networks was also measured. Both the context and the interaction are significant, and the interaction did mitigate the predictive power of context over heritage language learners' motivation. Media materials have been widely discussed in teaching technologies, but not in the research on motivation. Online social networks have barely been mentioned in research, even though such networks are a large part of these students' lives. A new way of influencing the language learners' behaviors in order to stimulate continued learning of the heritage language should consider online social networks, not only by providing heritage language and culture on these platforms but also facilitating interactions.

Surprisingly, neither the contextual variable of family nor family interaction was examined as significant predictors of Chinese heritage learners' self-rated motivation. Family members' language practice at home had no significant correlation with Chinese

heritage language learners' self-rated motivation. The result is not consistent with Wen's (2011) comparative study of heritage and non-heritage learners on their Chinese motivation for language learning. In her study, family influences as part of social milieu were demonstrated to show a positive relationship with Chinese motivation for language learning. However, one study exhibited inefficiency of parents' efforts on Chinese heritage students' motivation of learning the language (Zhang & Slaughter-Defoe). Schwartz's (2008) study of Russian-Jewish immigrants in Israel reached a similar result: parents' language ideology had no impact on their children's command of the heritage language. She ascribes this conclusion to demographic, social and cultural factors which were reportedly conducive to the use of Russian.

I agree that environmental factors other than family influence might play a bigger role in the motivation of learning a heritage language. Interactions with other proximal environments, like close friends, community and media, might mediate the influences of family factors. Since this study sample was limited to college students, searching for and establishing an identity is their main developmental undertaking. Identity is shaped by their interactions with the environment or by their own psychological traits but not necessarily been passed by the family. Future investigation into the reasons that make family heritage and interactions significant or insignificant for heritage motivation for language learning, could reveal the effect other proximal interactions, environmental factors and identity developmental status.

It is noteworthy this group of Chinese heritage language learners have a unique background and history. Students' background is always related to their learning motivation. Students from China do not necessarily have Mandarin as their heritage

language; they might speak Fuzhounese, Cantonese or Taishanese, none of which are linguistically connected to Mandarin. Ignoring the linguistic foundation of these students might jeopardize their motivation to learn and their acquisition of language proficiency. Their linguistic background merits attention because speakers of different heritage languages have different means of language acquisition. For speakers of Cantonese and English, Mandarin Chinese is their third language; for speakers of Cantonese, Taishanese, and English, Mandarin is their fourth. The similarity of these students with the commonly defined heritage language learner is that both have the target language cultural experiences and understanding. In terms of linguistic background, the students who spoke Mandarin as children have different linguistic structures from those who did not. These differences must be acknowledged and respected in the classroom.

Even more complicated are the different competences in four domains. Heritage students who speak Mandarin have an advantage in listening and speaking, but need more instruction in reading and writing. In contrast, heritage students who have only a cultural understanding do not have an advantage when it comes to listening and speaking, but there is a possibility that they have some degree of reading and writing skill. Because Mandarin is used in China's textbooks and government documents. Students who attended school in China might have been able to read and write Mandarin. As competency in four domains among heritage speakers was beyond the scope of this study, it merits future research.

5.3 Limitations

One of the limitations in this study was the small sample size. The larger the sample, the more statistically accurate it is in reflecting the population from which it was drawn. With a sample size of 23, the results of this study cannot reliably represent all Chinese heritage language learners in the US. In addition, because of the online questionnaire the numbers of participants from the Midwest and the East Coast are unknown. An accurate geographical representation of the population therefore cannot be generated from this study.

Another limitation of the study is the data analysis. Simple linear regression was operated for each variable of interest, which means that other factors were assumed constant, even though the purpose of this study was to test the mediation of proximal interactions over other variables. Further research is needed to find the mediating effect for all predictors in one comprehensive model together, where the mediating effect of proximal interaction on personal and contextual factors could be observed. To solve this problem statistically, structural equation modeling is a powerful statistical technique to identify complicated relationships among all predictors. This will be more meaningful for comprehensive practices.

The variables in this research were generated from previous studies for this experimental study on the applicability bioecological model. However, a focus group of Chinese heritage speakers could be used to generate a more reliable questionnaire for the main concept of proximal interactions. For example, questions about classroom interactions, family interactions, community interactions and media interactions are

identified from the literature on motivation for language learning. It is not specifically for the population of heritage language learning or Chinese heritage language learning.

Thereby, interviews and discussion, feedback from the focus group of Chinese heritage speakers could identify potential unknown but crucial proximal interactions. In addition, as a special case of Chinese heritage language learning, other unidentified questions might be elicited from the focus group. A focus group might result in the production of a more comprehensive and reliable questionnaire.

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APPENDIX

APPENDIX

Chinese Heritage Learner's Questionnaire

Q1 Please indicate your age:

Q2 Please choose your gender:

- Male
- Female

Q3 Your level at college:

- Freshman
- Sophomore
- Junior
- Senior
- Other: _____

Q4 Indicate your Chinese language exposure to:

- Mandarin
- Cantonese
- Taiwanese
- Other: _____

Q5 Your Chinese language exposure is from (check all that apply):

- Father
- Mother
- Grandparents
- Other _____

Q6 Languages you spoke before elementary school (check all that apply):

- English
- Mandarin
- Cantonese
- Taiwanese
- Other: _____

Q7 Languages you spoke during K-12 (check all that apply):

- English
- Mandarin
- Cantonese
- Taiwanese
- Other: _____

Q8 Languages you spoke during college (check all that apply):

- English
- Mandarin
- Cantonese
- Taiwanese
- Other: _____

Q9 Are you currently taking a Chinese language course:

- Yes
- No

Answer If Are you currently taking a Chinese language course: Yes Is Selected

Q10 Which Chinese course are you currently taking

- First-year Chinese
- Second-year Chinese
- Third-year Chinese
- Fourth-year Chinese
- First-year Heritage Chinese
- Second-year Heritage Chinese

Q11 What Chinese language courses have you been taking since college:

- First-year Chinese
- Second-year Chinese
- Third-year Chinese
- Fourth-year Chinese
- First-year Heritage Chinese
- Second-year Heritage Chinese

Q12 Are you planning on taking Chinese language class in the future:

- Yes
- No

Q13 My motivation to learn Chinese is:

- Very low
- Low
- Somewhat low
- Neutral
- Somewhat high
- High
- Very high

Q14 Please check the frequencies of the following statements:

| | Never | Rarely | Sometimes | Often | All the Time |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I actively engage myself in classroom learning: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How much contact did you have with Chinese people outside of school? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I participate in Chinese language or culture related community: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I attend Chinese-related cultural or art events: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I communicate with family members in Chinese: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I discuss Chinese-related issues with family members: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I listen to Chinese music: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I watch Chinese TV programs and films: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I view and post in Chinese on social media like Facebook, Twitter, Instagram, and etc. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My friends speak Chinese: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My parents speak Chinese at home: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There are Chinese television programs playing at home: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Chinese language and culture appear on on-line social networks, such as facebook, twitter, instagram, and etc: | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

