

THE ASSOCIATIONS BETWEEN STUDENT PERCEPTIONS OF THE CLASSROOM  
PSYCHO-SOCIAL LEARNING ENVIRONMENT AND MOTIVATION TO LEARN  
CHINESE

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**Title**

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## ABSTRACT

The purpose of this study was to investigate the associations between students' perception of their classroom psychosocial learning environment and motivation to learn Mandarin Chinese, which can support teachers in creating a good classroom environment. The students took two surveys (Likert scale and open-ended questions) that measured their perception of the classroom environment and the learning motivation. Descriptive statistics (mean, standard deviation, percentage) and inferential statistics (simple correlation, multiple regression, and two sample t-test) were used to analyze the quantitative data. The open-ended questions were coded and categorized based on the student responses. There were statistically significant associations between student perception and motivation for learning. The three scales of Task Orientation, Involvement, and Equity seemed to influence students the most to learn. The Task Orientation had the strongest relationship with student motivation. Moreover, the results of gender difference showed that only Task Orientation was significantly different between the two subgroups.

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## LIST OF ABBREVIATIONS

CLCEI.....	Chinese Language Classroom Environment Inventory
CLMOTS .....	Chinese Language Motivation Scale
CFL .....	Chinese as a foreign language
MSLQ .....	Motivated Strategies for Learning Questionnaire
MALLI.....	Motivation and Attitudes for Language Learning Inventory

## CHAPTER 1. INTRODUCTION

The classroom psychosocial learning environment affects students' learning outcomes. Motivation is one of the most important variables. According to Erikson (1963), who proposed the psychosocial theory, there are eight stages of psychosocial development for a person. The positive psychosocial development comes from a person's good interaction with the social environment, within which the psychosocial crisis is well resolved. Therefore, a good classroom environment can support positive psychosocial development, and creating a positive psychosocial classroom environment is crucial for promoting students' academic learning. As some researchers has mentioned, a positive learning environment must be established and maintained throughout the year (Woolfolk, 2010). It is also necessary to study the psychosocial classroom learning environment, exploring what kind of environment can provide students with optimal learning conditions, meet their emotional needs, and promote their academic and affective development.

The classroom learning environment plays an important role in students' motivation for language learning. Motivation is not only an important concept in psychology, but also in language education. During the process of language learning, motivation determines how high students general proficiency level becomes, how persistent students are in their attempts to reach their goals, and how well their learning quality and achievement are (Oxford & Shearin, 1994). It has been found that a good classroom environment related to course, teacher, and group can enhance students' motivation for language learning (Dörnyei & Csizér, 1998). Research about the associations between students' perception of their classroom learning environment and their motivation for learning Chinese has been conducted in Singapore; however, this kind of research has not yet been conducted in the USA.

Considering all the elements mentioned above, the purpose of this research is to measure the associations between students' perceptions of their classroom psychosocial learning environment and their motivation to learn Mandarin Chinese (in the following it is written as Chinese) and explore which variable has the most influence on students' motivation. The research questions are:

1) Are there associations between students' perceptions of their Chinese language classroom's psychosocial learning environment and their motivation to learn Chinese?

2) What elements of the classroom environment influence students' motivation to learn Chinese?

3) Are there any differences in perceptions of a Chinese language classroom's psychosocial learning environment between males and females?

The theoretical foundation for the study will be established in the literature review, and the methodology section will explain how the associations between students' perceptions of the Chinese classroom psychosocial environment and their motivation to learn Chinese as a foreign language were measured through surveys. All instruments for measuring students' perceptions and motivation and documents related to IRB protocol can be found in the Appendices.

## CHAPTER 2. LITERATURE REVIEW

Students spend much of their time in classrooms every day; therefore, the classroom learning environment has received much attention from many educational researchers and educators. Goh and Young (1995) pointed out that the focus of research has been shifting gradually from the study of the impact of traditional variables (such as intelligence and achievement) on student learning to other important variables, including the classroom learning environment. The research has explored the associations between classroom learning environment and students' cognitive and affective learning outcomes, such as academic achievement, examination results, participation, attitude, satisfaction, and motivation. Classroom environments have the potential to promote a positive learning climate that fosters student motivation and engagement (Spearman & Watt, 2013). In the foreign language learning area, students' motivation to learn has significant influence on their academic performance. Many elements affect students' learning motivation, and motivation has close relationship with the psychosocial characteristics of the classroom learning environment.

### 2.1. Classroom learning environment and its psychosocial dimension

There are multiple answers to the question of what constitutes a good education. Välijärvi and Sahlberg (2008) have pointed out that educational excellence is not only statistical averages of student achievement; it also requires students enjoying learning in school. Therefore, good education should also consider the educational environment of school and students' perception of their learning environment, especially the classroom learning environment, since students spend much of their time in a classroom every day.

### 2.1.1. The theoretical foundation of the psychosocial classroom learning environment

The current field of learning environments has been shaped by several influential figures over the years. In 1936, Kurt Lewin found that personal behavior is a result of the interaction between the individual and his/her environment, and Murray expanded upon this idea in 1938 by considering that individual behavior is affected internally by characteristics of personality and externally by the environment itself (Fraser, Aldridge, & Adolphe, 2010; Wolf & Fraser, 2008). After that, Walberg and Anderson (1968) developed the *Learning Environment Inventory* (LEI), and Trickett and Moos (1973) explored the social environment in the classroom. All of their works have been seen as the milestones in the development of the field of learning environments by later researchers (e.g. Zandvliet & Fraser, 2005; Fraser et al., 2010; Wolf & Fraser, 2008).

The contextual theories of Bronfenbrenner have also laid a solid foundation for understanding the role of environment in student learning. From the perspective of contextual theories, learning can be understood as something that cannot be isolated from the activity and context in which it takes place. According to Bronfenbrenner's (1977, 1979) Ecological Model of Human Development, at the innermost level of the environment containing the developing person, there is a microsystem related with the person's immediate relationships and activities, in which classroom is an important element. In addition, among all the elements of the microsystem, there are a set of interactions and relations, and all relationships in the microsystem are reciprocal (Bronfenbrenner, 1977; Bronfenbrenner, 1979). If other people in the setting are supportive, then the quality of the relationship is enhanced (Tissington, 2008). This can partially explain why teacher support is an important dimension in a good classroom environment and why it has become an essential item in almost all the classroom environment instruments. Bronfenbrenner (1979) explicitly emphasizes that what matters for behavior and development is

the environment as it is *perceived* rather than as it may exist in objective reality. This provides the theoretical foundation for the current classroom learning environment research. Moreover, Walberg (as cited in Fraser, et al., 2010) provides the theoretical support for the research of classroom learning environment by proposing that students' learning is a function of student aptitude variables (age, ability, and motivation), instructional variables, and four psychological environments (the home, classroom, peer group and mass media environments). However, the opinion of the four psychological environments of Walberg is consistent with and confirms the contextual theory of Bronfenbrenner.

There are a variety of factors taken together to influence students' satisfaction within their classroom learning environment, and it includes both physical and psychosocial factors (Zandvliet & Fraser, 2005; Zandvliet & Straker, 2001). The classroom environment can be roughly classified as having two dimensions. The first one is the physical level. The physical dimension includes factors such as noise level, lighting, temperature, and seating design. The second dimension is psychosocial. Most research related to the classroom environment and student learning outcomes refers to this second dimension (e.g. Dorman & Fraser, 2009; Fraser & Fisher, 1982; Haertel, Walberg, & Haertel, 1981; Seng & Fraser, 2008; McRobbie & Fraser, 1993). Therefore, the investigation of associations between students' cognitive and affective learning outcomes and their perceptions of psychosocial characteristics of their classroom environment has been the strongest theme among the research field of classroom learning environment during the past decades (Fraser, 1998; Fraser & Fisher, 1982; Haertel, et al., 1981; McRobbie & Fraser, 1993). The associations between classroom learning environment and many learning outcomes have been explored, such as academic achievement (e.g. Chionh & Fraser, 2009; Goh, Young, & Fraser, 1995; Wolf & Fraser, 2008), inquiry skills (e.g. McRobbie &

Fraser, 1993), motivation (e.g. Chua, Wong, & Chen, 2009a; Coyle, 2013; Fukuda & Yoshida, 2013; Maherzi, 2011; Opolot-Okurut, 2010; Pratt, 2012; Spearman & Watt, 2013; Velayutham & Aldridge, 2013), satisfaction (e.g. Zandvliet & Fraser, 2005), and attitude (e.g. Chionh & Fraser, 2009; Fraser et al., 2010; Goh et al., 1995; Wolf & Fraser, 2008; Wong & Fraser, 1996). All of these studies found that there were associations between students' learning outcomes and their perceptions of psychosocial characteristics of their classroom environment.

However, in the literature referring to the classroom environment, there is little illustration about the theory resource of the psychosocial environment and the reason for considering classroom learning environment from the psychosocial perspective. Actually, psychosocial theory describes the relation of individual emotional needs to the social environment (Woolfolk, 2010). Erik Erikson (1963) proposed eight sequential stages of psychosocial development through the life cycle, and his psychosocial perspective provides theoretical source for understanding students' needs in relation to the environment in which they grow and learn and the influence of classroom learning environment on them.

Erikson's psychosocial theory bridges the students' emotional and social needs with the classroom learning environment. His theory focuses on the students' emotional and social developmental struggles and the driving forces for the social and emotional changes students experience under the school and classroom environment. All scales in the classroom learning environment instrument for measuring student perceptions of their classroom psychosocial characteristics, such as cohesiveness, autonomy, involvement, teacher support, and cooperation, are related to students' emotional and social needs. Only by knowing student psychosocial needs and constructing a needs-based environment, can the education promote student emotional and social development as well as help students achieve academic success (Vatterott, 2007).



Psychosocial development will occur for all persons within a school or classroom setting, whether or not that setting takes such development into consideration or furnishes optimal conditions for it. It is better to consciously structure the school environment to provide optimal conditions than to ignore the inevitability of such development and provide a non-optimal or even inhibitory environment (Marcia, 2009). Research of the psychosocial characteristics of classroom learning environment explores what kind of environment can provide students with optimal conditions, meet their emotional needs, and promote their development.

Furthermore, some researchers found that classroom psychosocial environment was significantly and directly associated with student satisfaction with their learning. In contrast, no direct associations were found between student satisfaction and measures of the physical classroom environment (Zandvliet & Fraser, 2005). This also confirms the necessity of the research about positive psychosocial classroom learning environment.

#### 2.1.2. Classroom learning environment instrument

The studies of classroom learning environment have developed many valid, economical, and widely-applicable assessment instruments (Fraser, 1998), such as the *Individualised Classroom Environment Questionnaire* (Fraser, 1990), *College and University Classroom Environment Inventory* (Fraser & Treagust, 1986), *Science Laboratory Environment Inventory* (Fraser, Giddings, & McRobbie, 1995; Fraser & McRobbie, 1995), and the *What is happening in this class* (WIHIC)? questionnaire (Fraser, McRobbie, & Fisher, 1996). In addition, the instruments used for measuring student perceptions of classroom environments have evolved during the past decades, with the later instruments simplifying, adapting, combining, and developing from the previous one. Some important innovations have been made for the classroom learning environment instrument. For example, Fraser and several researchers learned

from the previous studies that there could be discrete and differently-perceived learning environments rather than a common learning environment experienced by all students (Tobin, 1987; Tobin & Gallagher, 1987; Tobin & Malone, 1989). Based on this recognition, Fraser and his coworkers proposed a different form of a learning environment instrument. The Personal Form and Class Form asked students for their personal perception of their role in the environment of the classroom rather than their perception of the learning environment in the class as a whole (Fraser et al., 1996). These forms enriched the classroom environment research and provided suited solutions for solving some potential problems related to the traditional classroom environment instruments, such as assessing differences in perceptions that might be held by different students within the same class. Aligning with this new recognition and with using the new forms, the *What Is Happening in This Class (WIHIC)?* questionnaire (Fraser et al., 1996) was developed. Among all the instruments, this is the most widely used around the world today (Fraser et al., 2010), and it has been translated into various languages, such as Taiwanese Chinese, Korean, and Indonesian (Chua et al., 2006) and can be used in any classroom environment context (Chua, Wong, & Chen, 2009b).

Based on this, it should be noted that Chua, Wong, and Chen (2006) developed an important instrument, the *Chinese Language Classroom Environment Inventory (CLCEI)*, for measuring students' and teachers' perceptions of their Chinese language classroom learning environment. The CLCEI is a bilingual instrument, and its English version is customized from the English version of the "*What is happening in this class? (WIHIC)*" questionnaire (Fraser et al., 1996) It consists of six, eight-item scales examining six different dimensions of the Chinese language classroom learning environments, including *Student Cohesiveness*, *Teacher Support*, *Involvement*, *Cooperation*, *Task Orientation*, and *Equity*. Various statistical procedures have

been used to test the validity and reliability of the scales of the CLCEI. The results indicated that each of the scales exhibited high internal consistency reliability and satisfactory discriminant validity and factorial validity. For the student-actual form of the CLCEI, the Cronbach alpha coefficients ranged from .82 to .91 when the individual student's score was used as the analysis unit (Chua et al., 2006). Moreover, like the original WIHIC instrument, each scale of the CLCEI had the ability to differentiate student perceptions from different Chinese language classes. The CLCEI contributes to the field of classroom environment as the first English-Chinese bilingual instrument for use in Chinese language classrooms (Chua et al., 2006).

The research of classroom learning environment has obtained widespread attention from different countries, such as USA, Australia, Singapore, Indonesia, and Uganda. In addition, it is apparent that the theory of classroom learning environment has been widely used in different subject fields. Chua, Wong, and Chen (2009a) have explored the associations between Chinese language classroom environment and students' motivation to learn the language. They used the *Chinese Language Classroom Environment Inventory* (CLCEI) to investigate teacher and student perceptions towards Chinese language classroom learning environments and used the *Chinese Language Motivation Scale* (CLMOTS) (Soh, 1993) to measure student motivation. Through a simple correlational analysis, they found student motivation to learn Chinese positively correlated with all the six learning environment dimensions under investigation. Further, the result of multiple regression analysis indicated that student motivation was associated with only three dimensions, "Teacher Support," "Involvement," and "Task Orientation," where the "Task Orientation" dimension had the most significant association with student motivation to learn Chinese.

## 2.2. Student motivation toward language learning

Motivation is important for student language learning. Student involvement and their learning quality and achievement are determined by learning motivation. Motivation provides the primary impetus to initiate second or foreign language learning and later the driving force to sustain the long and often tedious language learning process (Guilloteaux & Dörnyei, 2008). Without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and even appropriate curricula and good teaching cannot ensure student achievement. Furthermore, high motivation can make up for considerable deficiencies both in language aptitude and learning conditions (Dörnyei & Csizér, 1998).

Research on student motivation in language learning has been extensively explored. The most influential one is Gardner and Lambert's (1959, 1972) social psychological model, especially their identification of the integrative motivation and instrumental motivation. After that, much of the research has addressed the role of integrative and instrumental motivation in shaping language achievement, identifying integrative motivation as a significant predictor (e.g., Ely, 1986; Gardner, 2000; Hernández, 2010; Masgoret & Gardner, 2003).

Even though Gardner and Lambert's work built up a strong foundation for the motivation research, there are some limitations on their work. Some researchers pinpoint that Gardner's social-psychological approach concerns language motivation mainly with social attitudes toward second-language acquisition and second-language community (Crookes & Schmidt, 1991; Dörnyei, 1994; Soh, 1993). Crookes and Schmidt (1991) believed being placed on the social psychological aspects of language learning, the motivation research kept away from the way the language teachers have used in education. They advocated providing a satisfactory connection between motivation and language-learning processes and language pedagogy. Soh (1993) also

thought that socio-educational approach of measuring language motivation has its focus on social attitude rather than language-relevant feelings and behaviors in the classroom context. He advocated for the language motivation having direct classroom relevance and immediate pedagogical implication as well. Dörnyei (1994) expressed the similar opinion that the main emphasis of Gardner's motivation theory is on general motivational components grounded in the social milieu rather than in the foreign language classroom.

The researchers considered the motivation from the classroom perspective in order to provide a set of practical guidelines for actual teaching and for motivating students (Dörnyei, 1994). The research provides practitioner-oriented results to link the teachers' doing and the students' needing in the classroom learning context. For example, some research results indicated that many factors influence students' motivation, such as individual differences, self-confidence, and language anxiety. Except for that, a good classroom environment related to course, teacher, and group can also enhance students' motivation for language learning (Dörnyei & Csizér, 1998), and even the classroom environment and learner identity (values, attitudes, and notions of self) are crucial determinants of motivation (Coyle, 2013). Based on experimental research, Dörnyei (2001) proposed a theoretical framework to summarize and accommodate the various motivational strategies and researches that includes four main dimensions. One of them is creating basic motivational conditions, which refers to the good teacher-student relationship and a supportive classroom atmosphere. Fukuda and Yoshida (2013) also found that a good classroom environment and strong student-teacher relationship will improve student learning motivation and further promote them to spend more out-of-class time on the learning, which is essential for the foreign language learning. Other researchers (e.g. Maherzi, 2011; Pratt, 2012) also reported that supportive classroom environment was associated with student language

learning motivation. According to these results, the language teachers can promote students' learning motivation from building up a supportive classroom learning environment.

Researchers continue to analyze language learning motivation. For example, Guilloteaux and Dörnyei (2008) believe that motivation research has reached a maturity level with more and more researchers focusing on pedagogical implications through conceptualizing motivational strategies. However, they thought that the research should also pay more attention to whether or not the motivational strategies are effective in a language classroom.

Although much research is being conducted on language learning motivation, only a few studies have been done on motivation in a Chinese as a foreign language (CFL) classroom. The CFL motivation research has mainly been conducted at the post-secondary level (e.g. Cai & Zhu, 2012; Rueda & Chen, 2005; Wen, 1997; Yu & Watkins, 2008). Additionally, the CFL motivation research either focused on the Asian background students or compared motivation between the Asian and non-Asian students (e.g. Rueda & Chen, 2005; Wen, 1997; Yu & Watkins, 2008). For example, Wen (1997) conducted research about the motivational factors for students who are from Asian and Asian-American backgrounds with learning Chinese at the university level. The results indicated that intrinsic interest and expectations of learning task and effort motivated student learning at different levels. Rueda and Chen (2005) compared the motivational beliefs about CFL between Asian heritage students and the non-Asian heritage students; they also do the comparison among the intragroup of Asian heritage students. Finally, the research mainly used Gardner's theory as the framework for development of the motivation measurement tool (e.g. Rueda & Chen, 2005; Wen 1997; Yu & Watkins, 2008), with Cai and Zhu's (2012) research as the exception. Cai and Zhu (2012) used second language (L2) motivational self system theory as guideline to investigate the impact of an online learning

community project on university student motivation for learning Chinese as a foreign language. The results indicated that there was a significant difference in the L2 learning experience aspect of the motivation before and after the online project.

There are many inventories designed for measuring student motivation toward a certain subject. For example, the Fennema-Sherman attitudinal scales (Fennema & Sherman, 1976) have a motivation subscale to measure effectance, also known as competence motivation, as applied to mathematics. With using the social-cognitive view, Pintrich, Smith, Garcia, and McKeachie (1993) have developed the Motivated Strategies for Learning Questionnaire (MSLQ). This questionnaire has been used in a wide variety of contexts to study college students (Crede & Phillips, 2011). It is noteworthy that Wong, Chai, Chen, and Chin (2013) developed a new survey, “Motivation and Attitudes for Language Learning Inventory” (MALLI), to measure secondary school students’ learning motivations and several other factors in the learning of both Chinese and English languages in Singapore. In this survey, relevant subscales were adapted from MSLQ and CLCEI. Even though this survey was designed for secondary students, the current research cannot use it. The main reason is that this instrument is not only for measuring student motivation, but also other learning strategies and variables. And some subscales, such as ICT, are not fit to the Chinese learning for the current students in America who will participate in this research. In addition, as mentioned above, Cai and Zhu (2012) contributed a motivation survey guided by the learning situation theory. However, their questionnaire is designed for the university-level students, and some items in the survey created for the L2 learning experience subscale are relevant to their online community project study.

Soh (1993) developed two scales related to language-relevant feelings and behaviors in the classroom context for measuring elementary student motivation to learn Chinese and English

in Singapore. The Chinese survey is called the Chinese Language Motivation Scale (CLMOTS). The trial of the CLMOTS involved Primary grade five students for whom Mandarin was the home language of the great majority (78.9%). However, even though the students in Singapore needed to learn the mother tongue language according to their parents' ethnicity, they were required to learn English as the "First Language," which was also the medium of instruction. (Bokhorst-Heng & Caleon, 2009).

The development of the CLMOTS was aligned with the rules of classroom relevance and immediate pedagogical implication. First, it incorporated Harter's (1981) conception of classroom motivation and took into account Crookes and Schmidt's (1991) specific components of classroom language motivation (preliminaries, activities, feedback, self-evaluations, and material) (Soh, 1993). In addition, the scales cover both affective and behavioral aspects of language learning. Soh (1993) believed that the importance of the affective and attitudinal aspect of language motivation were recognized well; whereas, the behavioral aspect deserved as much attention in order to make the measures practical for classroom teachers so they can guide students in changing their language-relevant behaviors.

Soh used Harter's (1981) dimensions (challenge, curiosity/interest, mastery, judgment, and criteria) as the conceptual scaffolding for his motivation scales, with slight modification by expanding the criteria dimension into two for social motivation and self-motivation. The final items of this survey cover all six aspects of the original motivation conceptualization and the factor analysis of this final instrument ranges from .67 to .75. As to reliability, the CLMOTS has a Cronbach alpha of .91 for the sample as a whole. The validity of the CLMOTS was determined by comparing student motivation score with background variables, including the academic levels, gender, examination grades, speaking at home, and self-evaluation. All of these variables



showed significant difference for student motivation. The development of CLMOTS was an exploration of a psychology-based and pedagogy-oriented approach which may be more meaningful to language teachers (Soh, 1993). Therefore, Soh's instrument was adopted for the study featured in this paper as a means for measuring student motivation for Chinese language learning.

### 2.3. Objective of the present research

Although the associations between students' motivation of Chinese learning and the classroom learning environment has been investigated in Singapore, this topic does not appear to have yet been studied in America. It should also be noted that the research initiated in Singapore is about Chinese as mother tongue language learning. There does not appear to be research about the associations between classroom learning environment and students' motivation to learn Chinese as a foreign language. Therefore, this research aimed to explore if there were associations between student perceptions of the Chinese language classroom psychosocial environment and their motivation to learn Chinese as a foreign language. The results provided information for how to improve student motivation to learn Chinese and how to construct a good learning atmosphere for Chinese teaching and learning in the American cultural environment.

## CHAPTER 3. METHODOLOGY

### 3.1. Setting and subjects

This study was conducted at four public high schools in the upper Midwest of America, in the three levels available for Chinese language. There were ten Chinese classes at the four schools. The full population of the students enrolled in Chinese language class was 158. The researcher was the teacher of five of the classes. All students enrolled in Chinese classes at the four public high schools in the study were asked to participate, and they were informed that participation was voluntary. The students were in grade 9 to grade 12. Demographic information, including cultural and ethnic background, gender, experience with Chinese learning, and grade level were collected. Typically, students registering for the Chinese language classes would be beginners. The sample size of the participants was 119 students. IRB protocol form, Expedited Review form, and other documents related to IRB protocol are attached.

### 3.2. Procedure

In order to analyze the associations between students' perceptions of the Chinese classroom environment and their motivation to learn Chinese, two surveys were used simultaneously, and all participants completed them anonymously. To measure students' perception of their Chinese classroom environment, the Chinese Language Classroom Environment Inventory (CLCEI) (Chua et al., 2006) (Appendix A) was used. To measure students' motivation to learn Chinese, the Chinese Language Motivation Scale (CLMOTS) (Soh, 1993) (Appendix B) was used.

The CLCEI was administrated to collect data about students' perception of their Chinese classroom environment. The CLCEI is a bilingual instrument with an English and Chinese version. The instrument was validated with a sample of 1460 secondary students from 50 classes

in Singapore. Various statistical procedures have been done to test the validity and reliability of the CLCEI, indicating that each of the scales exhibited high internal consistency reliability, with the Cronbach alpha coefficients ranged from .82 to .91, satisfactory discriminant validity and factorial validity, and strong ability to differentiate student perceptions from different Chinese language classes (Chua et al., 2006). The instrument consisted of six, eight-item scales examining six different dimensions of the Chinese classroom learning environments, including Student Cohesiveness (students know, help, and are supportive of one another), Teacher Support (the teacher helps, befriends, trusts, and is interested in students), Involvement (students have attentive interest, participate in discussions, do additional work, and enjoy the class), Cooperation (students cooperate with one another on learning tasks), Task Orientation (students complete activities planned and stay solving and investigating), and Equity (students are treated equally by the teacher) (Chua et al., 2006). A five-point scale was used for rating the degree of student agreement with each statement, with responses ranging from “Almost never”(5), “Seldom”(4), “Sometimes”(3), “Often”(2), to “Almost always”(1). For this study only the student English version of the CLCEI was administered.

To measure student motivation to learn Chinese, CLMOTS was used. This survey was chosen because it was developed based on the conception of classroom language motivation. In addition, its items not only cover the affective and attitudinal aspect of language motivation (such as item 1, 6, 8, and 10), but also the behavioral aspect (such as item 2, 3, and 7) which is useful for teachers in changing student language motivation-related behaviors (Soh, 1993). The CLMOTS was developed to measure elementary school students’ motivation to learn Chinese at classroom context; it consists of 11 items. The scales show a high degree of internal consistency, with the Cronbach alpha being .91 for the sample as a whole, and a high degree of discriminant

validity (Soh, 1993). The 11 items of the CLMOTS have a four-point scale, which is “Always not true”(4), “Not true”(3), “True”(2), and “Always true”(1) respectively, indicating the degree of applicability of the statements to students.

### 3.3. Data analysis techniques

Quantitative data from the two surveys was analyzed using Statistical Analysis System (SAS) in the form of descriptive and inferential statistics. Simple correlation analysis was carried out to examine the associations between the psychosocial nature of the Chinese classroom learning environment and students’ motivation to learn Chinese. The Pearson Correlation Coefficients ( $r$ ) and the  $p$ -value were used for reporting the results. The multiple regression analysis was carried out to reduce possible Type I error caused by treating the six scales of the CLCEI as six independent scales in the simple correlation analysis. In this analysis, the motivation score was used as the dependent variable and the set of six environment scales as a whole was independent variables. Moreover, in order to compare the difference of perceptions between males and females, a two-sample t-test was used.

## CHAPTER 4. RESULTS

The classroom learning environment instrument was validated with a sample of 119 high school students in four schools in the upper Midwest. The internal consistency reliability of each CLCEI scale was calculated using the Cronbach alpha coefficient. The results show that the Cronbach alpha coefficients for all the six scales of the CLCEI using the individual as the unit of analysis ranged from .81 to .94 for the student-actual form of the CLCEI. The overall reliability of the classroom learning environment instrument is .96.

The result also shows that the Motivation scale had a relatively high internal consistency reliability of .84 in the America context. The mean correlation of a scale with other CLCEI scales is used to indicate the discriminant validity, and the values ranged from .44 to .51.

Table 4.1. Internal consistency (Cronbach alpha coefficient) and discriminant validity (mean correlation of a scale with the others scales) for the CLCEI and motivation instrument

Scale	Sample size	$\alpha$ reliability	Mean correlation
Cohesiveness	114	0.83	0.50
Teacher Support	118	0.91	0.51
Involvement	118	0.89	0.51
Task	119	0.81	0.44
Cooperation	119	0.92	0.48
Equity	118	0.94	0.46
Motivation	118	0.84	

In addition, using an exploratory factor analysis, most of the questions loaded at a high level in their respective variables factors. Table 4.2 shows that after a Varimax rotation, 11 factors were identified. The variable Equity (items A41-A48) loads highly in factor 1, Cooperation (items A33-A40) loads in factor 2, Teacher Support (items A9-A16) loads in factor 3, Involvement (items A17-A24) loads in factor 6, Task (items A25-A32) loads in factor 7, and Cohesiveness (items A1-A8) loads in factor 8.

Table 4.2. Factor loadings for exploratory factor analysis with varimax rotation

Rotated Factor Pattern											
	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Factor8	Factor9	Factor10	Factor11
A1	0.10237	0.44436	0.30829	0.29482	-0.06576	0.11590	0.00546	<b>0.44021</b>	0.13771	0.28250	-0.02462
A2	0.19218	0.18859	-0.04387	-0.11636	-0.12202	0.18410	0.25101	<b>0.59891</b>	-0.24867	-0.02782	0.06405
A3	-0.05249	0.17352	0.14894	0.16395	0.23967	-0.13459	0.04207	<b>0.78113</b>	0.14741	0.04215	-0.05752
A4	0.09511	0.38517	0.15780	0.23067	-0.00026	0.19543	-0.06479	<b>0.42905</b>	0.15824	0.55522	0.06679
A5	0.20768	0.52491	0.17238	0.15719	0.24477	0.01734	0.12559	<b>0.26494</b>	0.34170	0.28788	-0.04074
A6	0.12994	0.21734	0.20790	0.17571	0.06308	0.16039	0.29203	<b>-0.03019</b>	0.66619	0.01063	-0.09005
A7	0.17214	0.34824	0.25485	0.09246	0.01874	0.04921	-0.06061	<b>0.51874</b>	0.39490	-0.00197	0.03911
A8	0.06323	0.45925	0.14263	0.01851	-0.01446	0.03594	-0.15153	<b>0.26929</b>	0.57274	0.12969	0.19500
A9	0.26730	0.05060	<b>0.74333</b>	-0.06580	0.17339	0.19728	-0.01841	0.03195	0.13729	0.21087	0.03462
A10	0.26097	0.10016	<b>0.76202</b>	0.12494	0.00126	0.08714	-0.05726	0.13851	0.12125	-0.12295	0.13644
A11	0.38605	0.08441	<b>0.74600</b>	0.13078	0.05407	0.06296	0.10923	0.04734	0.08835	-0.05371	-0.13991
A12	0.53633	0.20654	<b>0.53799</b>	0.09397	0.19654	-0.01565	0.09840	0.01762	0.23650	0.05886	-0.09972
A13	0.34891	0.30241	<b>0.64234</b>	0.02374	0.09171	0.21346	0.15937	0.14080	-0.03622	0.16954	0.07015
A14	0.36266	0.16291	<b>0.73754</b>	0.19485	0.10343	0.09143	0.14034	0.00054	-0.13994	0.12815	0.05995
A15	0.22123	0.20593	<b>0.59066</b>	0.13825	0.13959	0.14621	-0.07889	0.14781	0.27375	-0.24347	0.09033
A16	0.32040	0.18294	<b>0.45623</b>	0.16432	0.21490	0.16023	0.38875	0.08436	0.01425	0.14971	-0.13449
A17	0.05545	0.29255	0.16600	0.42705	0.18045	<b>0.58663</b>	0.10542	0.15540	0.23376	-0.10937	-0.03646
A18	-0.02382	0.20507	0.13528	0.50031	0.15394	<b>0.67347</b>	0.05671	0.06665	0.07404	0.02801	0.00967
A19	0.15995	0.16298	0.22310	0.01701	-0.03020	<b>0.79801</b>	0.08720	-0.03372	-0.04643	0.04820	0.15187
A20	0.20113	0.36910	0.20393	0.30406	0.13939	<b>0.62715</b>	0.09409	-0.00155	0.18066	0.09358	-0.18234
A21	0.03893	0.31159	0.29041	0.42976	0.11611	<b>0.18793</b>	0.12650	-0.04152	0.17959	0.04368	0.49428
A22	0.15084	0.45606	0.16377	0.65637	-0.05600	<b>0.22434</b>	0.01977	0.13783	0.13457	-0.01102	-0.00575
A23	0.08946	0.41881	0.07685	0.74328	-0.04248	<b>0.09850</b>	-0.06514	0.05527	0.06948	-0.00567	0.03983
A24	0.33137	0.24609	0.15362	0.63027	0.10369	<b>0.21655</b>	0.09992	0.05993	-0.03068	0.16547	0.02426
A25	0.03299	0.13571	-0.06680	0.14038	0.11381	-0.01625	<b>0.78839</b>	0.05180	0.18087	-0.10668	0.15731
A26	0.04477	-0.07249	0.12056	-0.06602	0.00583	0.09231	<b>0.83330</b>	0.06623	-0.02275	0.03701	-0.08919
A27	0.29047	0.01370	0.12694	-0.02090	0.30341	0.12427	<b>0.50246</b>	0.02751	-0.15878	0.00902	0.44168
A28	0.41132	0.15778	-0.01906	-0.03696	0.66305	0.10094	<b>0.03866</b>	0.13396	0.00344	-0.32493	0.06479
A29	0.35913	0.10171	0.07669	-0.14090	0.61694	0.14578	<b>0.28593</b>	0.15048	0.14090	0.04931	0.25584
A30	0.22204	0.14524	0.22549	0.16148	0.67825	-0.00125	<b>0.06377</b>	0.01742	0.00511	0.00565	-0.00339
A31	0.46833	0.08117	0.25487	0.00016	0.64506	0.08528	<b>0.09513</b>	-0.07423	0.04024	0.24301	-0.11118
A32	0.29186	0.23457	0.11419	-0.00569	0.34306	0.19229	<b>0.43726</b>	-0.06093	0.03597	0.16989	-0.33417
A33	0.10257	<b>0.74476</b>	0.10467	0.11403	0.09602	0.16406	0.06965	0.07532	0.09089	-0.03225	-0.28935
A34	0.08365	<b>0.71993</b>	0.06547	0.11658	-0.12158	0.13046	0.02296	0.02918	-0.04136	-0.11551	-0.15363
A35	0.17690	<b>0.78374</b>	0.07707	0.20322	0.01198	0.05267	0.06141	0.19744	0.07135	-0.07423	0.06321

Table 4.2. Factor loadings for exploratory factor analysis with varimax rotation (Continued)

	Rotated Factor Pattern										
	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Factor8	Factor9	Factor10	Factor11
A36	0.03470	<b>0.75428</b>	0.22695	0.15132	0.16965	-0.08004	0.15793	-0.02943	0.08345	0.06365	0.17947
A37	0.16450	<b>0.71688</b>	0.07031	0.12746	0.08128	0.15278	-0.21373	0.11988	0.03270	0.24540	0.30008
A38	0.05024	<b>0.79995</b>	0.21656	0.18044	0.12544	0.06677	-0.00641	0.14011	-0.02323	0.12976	0.08768
A39	0.10820	<b>0.78004</b>	-0.00059	-0.08264	0.17822	0.20965	0.12004	0.04600	0.25280	-0.03478	-0.02198
A40	0.05232	<b>0.82672</b>	0.04290	0.22067	0.11243	0.13180	0.01147	0.09010	0.07129	0.03685	0.04770
A41	<b>0.74980</b>	0.12933	0.29210	-0.17552	0.12994	0.02966	0.04924	-0.12760	0.17125	0.09333	0.00867
A42	<b>0.78246</b>	0.03489	0.30650	0.13706	0.07031	0.00234	0.05643	-0.10929	0.08255	0.19981	0.05685
A43	<b>0.84931</b>	0.07574	0.16032	0.07422	0.15387	0.04401	0.13957	0.02188	0.04084	0.11330	0.03416
A44	<b>0.88502</b>	0.08238	0.17653	0.02087	-0.00088	0.06434	0.06921	0.05203	0.08510	-0.04260	0.03655
A45	<b>0.77394</b>	0.16003	0.17735	0.07338	0.17335	0.02077	-0.01199	0.23437	-0.12467	-0.07959	-0.16367
A46	<b>0.82172</b>	0.11248	0.13033	0.13539	0.26685	0.11359	0.00510	0.06970	0.03391	0.00724	0.08273
A47	<b>0.84060</b>	0.01352	0.19984	0.16327	0.11953	0.06140	0.04943	0.07714	0.01209	-0.02232	0.03611
A48	<b>0.69440</b>	0.19409	0.25218	0.09529	0.15831	0.14101	-0.00113	0.16258	-0.03737	-0.30551	0.00408

#### 4.1. Gender differences in terms of student motivation and perceptions

Table 4.3. Mean, standard deviation, and perceptions' difference between female and male students

CLCEI scale	No. of items	Mean		SD		Differences between genders
		Male	Female	Male	Female	
Cohesiveness	8	16.32	15.82	5.13	Cohesiveness	8
Cooperation	8	18.35	16.94	7.30	Cooperation	8
Teacher support	8	15.41	13.73	4.63	Teacher support	8
Task orientation	8	13.99	12.27	3.72	Task orientation	8
Student involvement	8	20.69	20.67	5.78	Student involvement	8
Equity	8	13.76	12.55	6.05	Equity	8
Motivation	11	22.04	20.75	4.51	Motivation	11

The sample consisted of 119 students, \* $P < 0.05$

To compare the differences in student motivation and perceptions of a Chinese language classroom's psychosocial learning environment between males and females, the two sample t-

test was used. Table 4.3 shows the mean, standard deviation, and differences between sex subgroup for both the CLCEI and Motivation scale.

Table 4.3 shows that the mean motivation for male students is 22.04 ( $SD=4.51$ ) and for female students is 20.75 ( $SD=5.42$ ), and the differences was not statistically significant ( $p =.16$ ).

In addition, for student perception of the classroom learning environment, generally, the male students had higher perception scores than their female counterparts on all the six scales.

However, there was only one statistically significant difference between sex subgroup in terms of the Task Orientation with male students being higher than the female students.

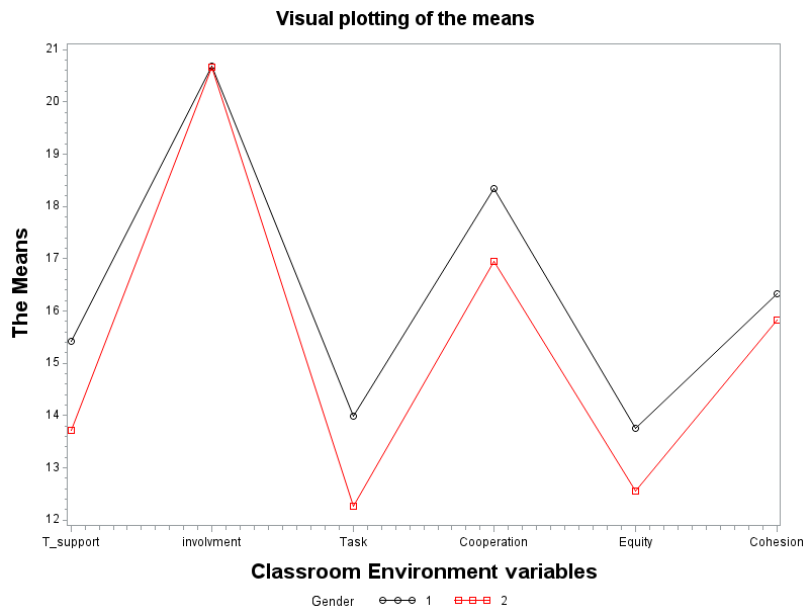


Figure 4.1. Comparison of students’ perceptions of learning environment between male and female student (male student = 1, female student = 2)

Figure 4.1 is a graphical depiction of the difference in perceptions between males and females. It shows that among the variables in CLCEI, male student perceptions were higher than female student perceptions on the scales of Teacher Support, Task Orientation, Cooperation, Equity, and Student Cohesiveness. Both sex subgroups have pretty close perception on the scale of Student Involvement.



#### 4.2. Associations between student's perceptions of Chinese classroom learning environment and their motivation to learn Chinese

The statistical results showed that both the simple correlation and multiple regression analyses indicated that there are statistically significant ( $p < .001$ ) association between student perception and motivation of learning Chinese language.

Results in Table 4.4 show that the simple correlation between each of the environment scales and student motivation were all positive. The Pearson Correlation Coefficients ( $r$ ) for all scales of the CLCEI ranged from .43 (for the Cohesiveness scale) to .64 (for the Task Orientation scale). Additionally, the correlations were statistically significant for all scales at  $p < .001$ . The result indicates that the Task Orientation scale had the greatest value of  $r$  (.64), which means the correlation between student motivation to learn Chinese and the Task Orientation of the Chinese classroom learning environments was the strongest among all the scales of the CLCEI.

Multiple regression analysis was also conducted to reduce the Type I error of the simple correlation and to provide an accurate associations between each scale of CLCEI and motivation when the other scales were mutually controlled. In this analysis, the motivation score was used as the dependent variable, and the six environment scales as a whole were used as the independent variable. The multiple regression analysis showed that there were statistically significant ( $p < .001$ ) associations between the student perceptions of the classroom learning environment and motivation to learn. The multiple correlation ( $R$ ) is .75, indicating that 56% ( $R^2 = 0.56$ ) of the variance in student motivation can be accounted for by the set of six scales of learning environment.

To identify which scales contribute to the variance in the motivation scores, the standardized regression weights ( $\beta$ ) was examined. Table 4.4 shows that the significant regression weights are on the scales of Task Orientation, Involvement, and Equity. Also, all the  $\beta$  value in Table 4.4 is positive except for the scale of Student Cohesiveness. The significant  $\beta$  value for the Task Orientation scale is .36 ( $p < .001$ ), for the Involvement scale is .25 ( $p < .01$ ), and for the Equity scale is .19 ( $p < .05$ ). Based on the three significant  $p$ -values from the multiple regression, the three scales of Task Orientation, Involvement, and the Equity seemed to influence students the most to learn Chinese. Among the three scales, the Task Orientation scale had the strongest relationship with student motivation to learn. Therefore, Task Orientation was the strongest predictor of student motivation when other scales of CLCEI were mutually controlled. This finding was consistent with the result obtained from the simple correlation analysis that the simple correlation coefficient ( $r$ ) for the “Task Orientation” scale was the highest among the six scales of the CLCEI.

Table 4.4. Simple correlation and multiple regression analysis for associations between CLCEI scales and students’ motivation

CLCEI scale	Students’ Motivation Scores	
	Simple Correlation Coefficient ( $r$ )	Standardized Regression Coefficient ( $\beta$ )
Cohesiveness	.43***	-0.02
Cooperation	.46***	0.07
Teacher support	.55***	0.09
Task orientation	.64***	0.36***
Student involvement	.55***	0.25**
Equity	.57***	0.19*
Multiple Correlation (R)	.75	R <sup>2</sup> = 56%

\* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$

#### 4.3. The reason for learning Chinese

The open-ended question, “Why did you choose to take the Chinese class?” was responded to by all the students (100% response rate), in which 117 (98%) students explained

their reasons for learning Chinese. The researcher and the advisor worked together for the qualitative coding.

### Why did you choose to take the Chinese class

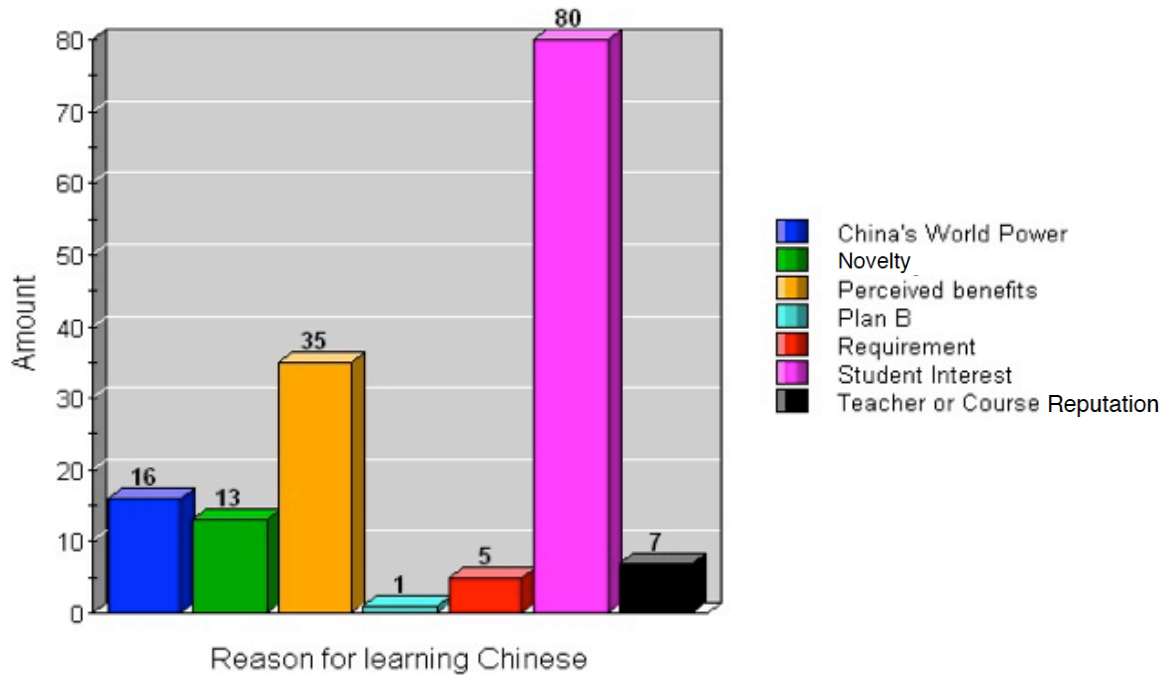


Figure 4.2. Reasons students choose to learn Chinese

The answers were uploaded and coded with the NVivo qualitative software. Seven themes emerged, including China’s World Power (China’s place in the world as a country of influence), Novelty (the class is different, unique, new, not what everyone else is doing), Perceived Benefits (benefiting students such as with college admission, future career goals), Plan B (wanted to take a different class, but this was all that would work), Requirement (meeting a high school or college entrance requirement), Student Interest (fun, interesting, and challenging), and Teacher or Course Reputation (course is perceived to be easy or the teacher is nice).

Figure 4.2 reveals the theme distribution for students choices for learning Chinese: China’s World Power was identified 16 times, (10%); Novelty 13 times, (8%); Perceived

Benefits 35 times, (22%); Plan B 1 time, (0.6%); Requirement 5 times, (3%); Student Interest 80 times, (50%); and Teacher or Course Reputation 7 times, (4%). These results indicated that the primary cause of students taking the course was Student Interest, which means that they wanted to. The second reason was Perceived Benefits, which referred to their future career goals. The next highest reason was about China's World Power. This theme is related to Perceived Benefits because of China's influences in the world. Some students appeared to believe that learning Chinese would bring benefits to their career or lives, even though they are not very clear about their future career goals now. For example, one student respondent said, "Because a large percent of the world speaks it and I think it would be helpful to learn". Another answer said "I choose to take this Chinese class because a large percentage of the world communicates in Chinese. Learning Chinese will be beneficial to me in many ways."

In addition, three schools in this research offered five foreign languages for students to choose, including Spanish, German, Latin, French, and Chinese. Only one school provided two languages, which are Spanish and Chinese. The availability of other languages may impact students' choice of the foreign language learning. However, the above data indicates that most of the students voluntarily chose to learn Chinese.

## CHAPTER 5. CONCLUSIONS

The overarching purpose of this study was to explore the influence of psychosocial classroom learning environment on student motivation for learning Chinese. This may be the first study about the relationships between student perceptions of Chinese classroom environment and motivation to learn in America. It can inform Chinese language teachers as they construct their classroom learning environment and strive to motivate students.

Both the simple correlation and multiple regression analysis results indicated that there were strong relationships between student perceptions of the psychosocial learning environment (Task Orientation, Involvement, and Equity) and motivation for Chinese learning. Therefore, teachers should pay attention to the classroom psychosocial learning environment, especially the dimensions of Task Orientation, Involvement, and Equity, to promote student Chinese learning motivation within America's diverse cultural background.

### 5.1. Task-orientated classroom

Within the psychosocial learning environment scale, Task Orientation greatly influenced student motivation in the Chinese language, which means that students needed to know the importance of completing planned activities. This result is consistent with many previous findings (e.g. Chua et al., 2009a; Opolot-Okurut, 2010; Velayutham & Aldridge, 2013). For example, Chua et al. (2009a) reported that the dimension of the Task Orientation has the strongest relationship with student motivation to learn the Chinese language, and students could be motivated to learn Chinese if task-oriented activities were used in classroom. Opolot-Okurut (2010) also arrived at the similar finding that teachers wishing to improve student motivation for mathematics should allow for more task orientation. The results of the current study further

highlight the importance of task-orientation in Chinese language learning for promoting student motivation.

Task Orientation involves the purposes of gaining skill or knowledge and performing one's best (Castillo, Tomás, Balaguer, Fonseca, Dias, & Duda, 2009). In order to achieve the above purpose, the teachers should create a task-oriented class with encouraging students to keep on task and getting a certain amount of task done in class. In addition, the teacher should clarify the learning target of each task and help students fully understand the expectations they should achieve in every task and activity. This finding mirrors the suggestions from Velayutham and Aldridge (2013) that teachers should help students understand the goals of each activity and what they are required to accomplish in each task.

## 5.2. Classroom involvement

The findings of this study for Chinese classroom environment in America suggest that teachers wishing to improve student motivation to learn Chinese should also consider emphasizing student involvement. This finding was in line with previous studies. For example, Oxford and Shearin (1994) emphasized that teachers should make the language classroom a welcoming and positive place and let the learners actively and consciously participate in the language learning activities. In addition, this finding is consistent with what Chua et al. (2009a) obtained in their research. They found that the Involvement scale was significantly related to student motivation to learn Chinese, even though it was not the most significant scale.

Why should instructors consider learners from the perspective of classroom involvement? Murray (1938) proposed needs-press theory, holding the opinion that the needs determined the individual's behavior; however, the stimulation of the environment (the press) incites a drive. If students perceive that they benefit from fulfilling their classroom involvement through

engagement in classroom learning, then they will be environmentally encouraged to improve learning outcomes. Therefore, teachers should stimulate learners' need for involvement through various activities to environmentally motivate them.

In this research, Involvement refers to the extent to which students have attentive interest, participate in discussions, do additional work, and enjoy the class. This finding implies that teachers should not put students into the role of note-taker and listener; they should actively involve students in the classroom learning activities and make the transition from classroom dominator to the learning facilitator. The theory of student involvement proposed by Astin (1999) explaining the environmental influences on student development underpins this opinion. Astin criticizes the content theory for assigning students a passive role and emphasizes active participation of the student in the learning process. Trees and Jackson (2007) also hold the similar opinion that student participation is important in the classroom, as it intersects with other elements of the learning process. In addition, teachers should find ways to strengthen student participation. Trees and Jackson (2007) identify some strategies to manage the challenges (e.g. students' role of passive recipient and limited involvement) from teaching the large enrollment course and to encourage active participation. These strategies can also be used to promote student participation in the Chinese classroom, which include asking questions, think-pair-share activities, debates and role-plays, in-class writing assignment and small group discussions. Except for these, the strategies such as interaction between teachers and students, team work, doing project, and field trip will also be helpful in grasping student attention, provoking their interests, and improving their motivation to learn.

### 5.3. Equity in the classroom

Equity, another scale in the environment instrument, was also found to significantly influence student motivation of Chinese learning. This means that if the teachers would like their students to be more motivated to learn Chinese language, the students should feel they are being treated equally. This result is different from Chua et al.'s (2009a) findings. They found that it is the Teacher Support instead of the Equity that significantly influences student motivation of Chinese learning, except for the scales of Task Orientation and Involvement. This result is likely due to the different cultural environment between Singapore and America. In America, the epistemic cultures are deeply mindful of equity (Artiles, 2011) and justice is a core value held by most citizens of the United States (Chory-Assad, 2002).

This result is also aligned with many other studies. For example, Lunenburg and Irby (2011) found that specific teaching strategies, including race, class, and gender equity represent kinds of things teachers can do to improve instruction and make a difference for student achievement. In addition, being treated fairly by the teacher was associated with higher levels of student motivation (Chory-Assad, 2002). Berti, Molinari, and Speltini (2010) also concluded that the students' feelings of injustice in class affect their learning motivation.

Teachers can consider equity from many ways, such as race, class, and gender equity (Esmonde, 2009); teachers also can think about equity from the reductions in achievement differences of different background students (Boaler, 2008). Students also cared about being given similar opportunities to become involved in the learning process and that particular students were not favored (Waldrip, Fisher, & Dorman, 2009).

There are many methods teacher can use to treat students equally. For example, Clark (2000) pointed out that the learning environment, such as posters and displays, should welcome



both genders and various races of students. In addition, using gender-neutral language should also be considered. Lunenburg and Irby (2011) also mentioned many ways, such as praise all students equally and frequently for success, give feedback to the public responses of all students equally, pay equal attention or interact with all students frequently, demand the same from all students, interact the same way with all students and monitor and structure their activities equally, and evidence equal acceptance and use of ideas given by all students.

Going one step further, teachers can not only think about treating student equally; they should also create classrooms in which students are learning to act equitably (Boaler, 2008). Boaler used “relational equity” to describe equitable relations, which include students treating each other with respect and considering different viewpoints fairly. He believed that the ways students learn to treat each other and the respect they learn to form for each other will impact on the opportunities they extend to others in their lives in and beyond school. Relational equity is part of the topic of global awareness, which is the movement of current education.

#### 5.4. Gender difference for the student perceptions of the classroom environment

Some research revealed gender differences in student perceptions of classroom learning environment (e.g. Chua, Wong, & Chen, 2011; Koul, Roy, & Lerdpornkulrat, 2012). In this research, the results from gender difference on the motivation and six scales of the student perceptions of the classroom environment show that only Task Orientation was significantly different between the two subgroups.

First, both female and male students had similar amount of motivation and perceived similar amounts of Teacher Support, Involvement, Student Cohesiveness, Cooperation, and Equity in the Chinese language classroom learning environment. This means that both female

and male students feel that they are treated equally in class in the aspects of Teacher Support, Involvement, Student Cohesiveness, Cooperation, and Equity.

There was, however, a significant difference in perceptions of Task Orientation of the Chinese classroom learning environment between males and females, with the male students having higher perception scores than female ones. It implies that compared to the male students, there was a large amount of space to improve the classroom learning environment on the Task Orientation for the female students. Female students may have higher requirements for the task-oriented classroom than their male counterparts in the Chinese language classroom. Teachers should pay more attention on female students for keeping them on task and making them totally understand the learning target and the requirement of each task.

#### 5.5. The difference of Chinese learning motivation between Singapore and American students

The surveys for measuring Singapore student perceptions of Chinese classroom learning environment and motivation of Chinese learning were originally validated with the Singapore student sample. Therefore, it is important to consider how these survey results are used in an American environment. The difference of student Chinese learning motivation between Singapore and America might not be as big of a difference as imagined. Here, Singapore's actual Chinese language learning requirement and condition should be explored.

In Singapore, English is seen as an instrument of global participation in financial and economic markets. That is, Singaporeans believe that English is the global "ticket" to economic success (Alsagoff, 2010). Therefore, all Singaporean children are required to learn English as the first language, which is also the medium of instruction (Bokhorst-Heng & Caleon, 2009). The direct result is that the Chinese language standard has declined (Wong, Gao, Chai, & Chin, 2011a). Another result is that Chinese has been taught as an isolated second language subject,

and the amount of time allocated for learning Chinese in the school is about two and a half hours weekly (Wong, Chai, & Gao, 2011b), which is even shorter than the learning time (more than four hours weekly) of the American students who participated in the current research.

Second, the Singapore students' parents learned English well enough in school to be able to speak that language to their children, and they also chose to do so because they believe that speaking the language of school at home would help their children succeed in the competitive school system and bring economic benefits such as higher-paying jobs (Dixon, 2011). Therefore, English speaking families are on the rise (Wong et al., 2013) and the Chinese using among Singaporean Chinese in home environment is reduced (Wong et al., 2011a; Wong et al., 2011b).

Third, the Chinese learning motivation of Singapore students have changed over time. In Singapore, even though Chinese citizens occupied about 76.8% of the population (Bokhorst-Heng & Caleon, 2009), the English language has its dominating popularity and is the preferred day-to-day language among the younger generation (Wong et al., 2013). Hence, Singaporean students find it a challenge to learn Chinese (Wong et al., 2011b), and the Chinese language teachers are facing greater challenges in engaging and motivating students to learn Chinese (Wong et al., 2013).

From the analysis above, with the influence of economy, society, and family environment, the Singapore students' Chinese learning motivation has declined. On the contrary, as seen in Figure 4.2, the American students in this study were motivated by personal interests or benefits. Therefore, the difference in motivation to learn the Chinese language may not be so different between students in the two countries. In other words, motivation for learning Chinese appears to be converging.

There were associations between student perceptions of Chinese language classroom learning environment and their motivation of learning Chinese. The findings suggest that a task-orientated classroom would promote student motivation for learning Chinese. Except for this, teacher should also consider student involvement and equity. In addition, male students had statistically significant higher perception of Task orientation than the female students. Therefore, teachers should pay attention to female students to make a more task-oriented classroom learning environment for them.

#### 5.6. Limitations of this research study

This study has several useful findings; however, the limitations need to be noted. First, the sample size and region limit its generalizability. Second, the CLCEI and Motivation surveys were accommodated for Singapore students and do not seem to have been used in America prior to this study. Third, the Chinese teacher remained in the room when students answered the surveys, which may have influenced student responses. Finally, more qualitative data may be more helpful to enrich the understanding and to provide additional information of student perceptions of classroom learning environment and learning motivation.

#### 5.7. Recommendations for further research

In terms of further research, the following areas are:

- 1) Further study could use larger and more regionally diverse student populations to make the findings to be generalizable to more Chinese learning students.
- 2) Future studies could consider using focus-group interviews, which would bring more student thoughts about the topic of Chinese learning motivation.
- 3) Future studies could involve teachers' perceptions about classroom learning environment and student motivation.

- 4) The classroom environment instrument and motivation survey can be further validated with different student populations.
- 5) Further research can explore if there are relationships of cause and effect between task orientation, involvement, or equity and student motivation to learn the Chinese language respectively.

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APPENDIX A. CHINESE LANGUAGE CLASSROOM ENVIRONMENT  
INVENTORY

The *Chinese Language Classroom Environment Inventory (CLCEI)* assessment consists of a set of validated survey instruments that address the psychosocial dimensions of high school classrooms. This is the Student-Actual version of the CLCEI.

CLCEI consists of six subscales (described further in the table below). Each subscale contains eight 5-point Likert-type items ranging from “Almost never” to “Almost always”. Students are asked to rate each item based on their perception of the classroom learning environment. Subscale averages range from 5 (Almost never) to 1 (Very often).

Table A.1. CLCEI consists of six subscales

<b>CLCEI Subscale</b>	<b>Description</b>	<b>Sample item</b>
<b>Student cohesiveness</b>	Extent to which students know, help and are supportive of one another	I am friendly to members of this Chinese language class.
<b>Teacher support</b>	Extent to which the teacher helps, befriends, trusts and is interested in students.	The Chinese language teacher goes out of his/her way to help me.
<b>Involvement</b>	Extent to which students have attentive interest, participate in discussions, do additional work and enjoy the class	I give my opinions during Chinese language class discussions.
<b>Task orientation</b>	Extent to which it is important to complete activities planned and to stay solving and investigating.	I know what I am trying to accomplish in this Chinese language class.
<b>Cooperation</b>	Extent to which students cooperate rather than compete with one another on learning tasks.	I cooperate with other students on Chinese language class activities.
<b>Equity</b>	Extent to which students are treated equally by the teacher.	I am treated the same as other students in this Chinese language class as other students.



Directions: This survey contains statements about practices which could take place in this class. You will be asked how often (*Almost never, Seldom, Sometimes, Often, Very often*) each of the following practices **actually** takes place in your Chinese language class. There is **NO** “right” or “wrong” answers. **DO NOT** put your name or student number on the page.

Draw a circle around:

- |   |                             |              |
|---|-----------------------------|--------------|
| 1 | if the practice takes place | Very often   |
| 2 | if the practice takes place | Often        |
| 3 | if the practice takes place | Sometimes    |
| 4 | if the practice takes place | Seldom       |
| 5 | if the practice takes place | Almost never |

Table A.2. Chinese language classroom environment inventory

	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
1. I make friendships among students in this Chinese language class.	5	4	3	2	1
2. I know other students in this Chinese language class.	5	4	3	2	1
3. I am friendly to members of this Chinese language class.	5	4	3	2	1
4. Members of the Chinese language class are my friends.	5	4	3	2	1
5. I work well with other class members.	5	4	3	2	1
6. I help other class members who are having trouble with their Chinese language work.	5	4	3	2	1
7. Students in this Chinese language class like me.	5	4	3	2	1
8. In this Chinese language class, I get help from other students.	5	4	3	2	1

Table A.2. Chinese language classroom environment inventory (Continued)

	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
9. The Chinese language teacher takes a personal interest in me.	5	4	3	2	1
10. The Chinese language teacher goes out of his/her way to help me.	5	4	3	2	1
11. The Chinese language teacher considers my feelings.	5	4	3	2	1
12. The Chinese language teacher helps me when I have trouble with the work.	5	4	3	2	1
13. The Chinese language teacher talks with me.	5	4	3	2	1
14. The Chinese language teacher is interested in my problems.	5	4	3	2	1
15. The Chinese language teacher moves about the class to talk with me.	5	4	3	2	1
16. The Chinese language teacher's questions help me to understand the subject.	5	4	3	2	1
	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
17. I discuss ideas in Chinese language class.	5	4	3	2	1
18. I give my opinions during Chinese language class discussions.	5	4	3	2	1
19. The Chinese language teacher asks me questions.	5	4	3	2	1
20. My ideas and suggestions are used during Chinese language classroom discussions.	5	4	3	2	1
21. I ask the Chinese language teacher questions.	5	4	3	2	1
22. I explain my ideas to other students.	5	4	3	2	1
23. Students discuss with me how to go about solving problems.	5	4	3	2	1
24. I am asked to explain how I solve problems.	5	4	3	2	1
	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
25. Getting a certain amount of Chinese language work done is important to me.	5	4	3	2	1
26. I do as much as I set out to do.	5	4	3	2	1

Table A.2. Chinese language classroom environment inventory (Continued)

	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
27. I know the goals for this Chinese language class.	5	4	3	2	1
28. I am ready to start this Chinese language class on time.	5	4	3	2	1
29. I know what I am trying to accomplish in this Chinese language class.	5	4	3	2	1
30. I pay attention during this Chinese language class.	5	4	3	2	1
31. I try to understand the work in this Chinese language class.	5	4	3	2	1
32. I know how much Chinese language work I have to do.	5	4	3	2	1
	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
33. I cooperate with other students when doing Chinese language assignment work.	5	4	3	2	1
34. I share my books and resources with other students when doing Chinese language assignments.	5	4	3	2	1
35. When I work in groups in this Chinese language class, there is teamwork.	5	4	3	2	1
36. I work with other students on projects in this Chinese language class.	5	4	3	2	1
37. I learn from other students in this Chinese language class.	5	4	3	2	1
38. I work with other students in this Chinese language class.	5	4	3	2	1
39. I cooperate with other students on Chinese language class activities.	5	4	3	2	1
40. Students work with me to achieve Chinese language class goals.	5	4	3	2	1
	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
41. The Chinese language teacher gives as much attention to my questions as to other students' questions.	5	4	3	2	1
42. I get the same amount of help from the Chinese language teacher as do other students.	5	4	3	2	1

Table A.2. Chinese language classroom environment inventory (Continued)

	<b>Almost never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very often</b>
43. I have the same amount of say in this Chinese language class as other students.	5	4	3	2	1
44. I am treated the same as other students in this Chinese language class.	5	4	3	2	1
45. I receive the same encouragement from the Chinese language teacher as other students do.	5	4	3	2	1
46. I get the same opportunity to contribute to Chinese language class discussions as other students.	5	4	3	2	1
47. My Chinese language work receives as much praise as other students' work.	5	4	3	2	1
48. I get the same opportunity to answer questions as other students.	5	4	3	2	1

## APPENDIX B. CHINESE LANGUAGE MOTIVATION SCALE

The Chinese Language Motivation Scale (CLMOTS) consists of 11 items. Each item is presented with a 4-point Likert-type scale ranging from “Always true” to “Always not true”. You will be asked the degree (*Always true, True, Not true, Always not true*) of applicability of each statement in your Chinese language learning process. There is **NO** “right” or “wrong” answers. **DO NOT** put your name or student number on the page.

Draw a circle around:

1	the degree	Always true
2	the degree	True
3	the degree	Not true
4	the degree	Always not true

**Open ended question: Why did you choose to take the Chinese class?**

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In the survey of this research study, you are also asked to provide responses to 4 questions for some demographic information. For the following items, mark your responses directly on the survey.

Directions: Please select one response for each of the following questions. Please place a checkmark in the box that best describes you.

Table B.1. The Chinese language motivation scale

Items	Always not true	Not true	True	Always true
1. Even if my Chinese homework is difficult, I still enjoy doing it.	4	3	2	1
2. When the teacher tells us something about Chinese words, I listen carefully.	4	3	2	1
3. I listen carefully in Chinese class, because I do not want to miss anything the teacher is teaching us.	4	3	2	1
4. Some Chinese words are difficult to write but I keep trying until I can write them correctly.	4	3	2	1
5. If a Chinese word is difficult to read, I will practice so that I can “say” it correctly.	4	3	2	1
6. If I have made mistakes in my Chinese homework, I like to do corrections.	4	3	2	1
7. When my Chinese teacher tells me about my mistakes, I listen carefully.	4	3	2	1
8. I like my Chinese teacher talking to me about my homework.	4	3	2	1
9. I study hard to get good marks for my Chinese homework.	4	3	2	1
10. I like to help my classmates learn Chinese.	4	3	2	1
11. I study for Chinese tests even before the teacher tells us to do so.	4	3	2	1

1. What is your gender?

Female

Male

2. What best describe you?

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Hispanic

3. Including this year, how many years have you studied Chinese in school?

One semester

1 year

2 years

3 years

4 years

Other: \_\_\_

4. What is your grade level?

\_\_\_\_\_

***Thank you very much!***