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GRADUATE COLLEGE

BUSI CULTURE: GETTING AHEAD IN TAIWAN EDUCATION

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

Shih-chung Lin

Norman, Oklahoma

2001

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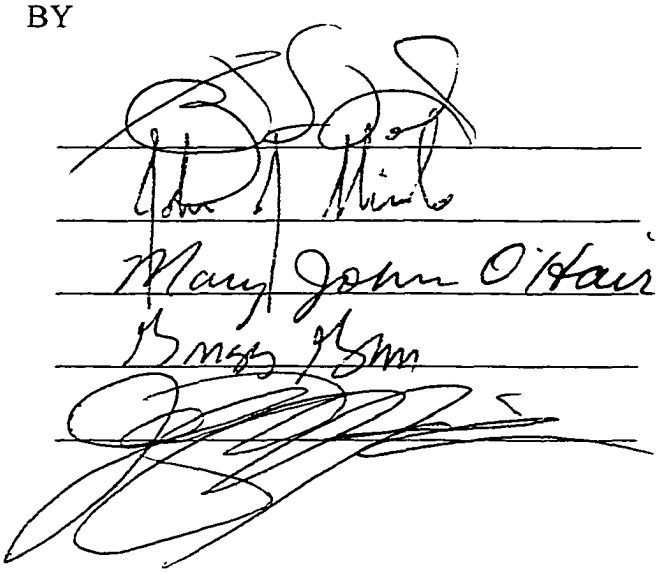
BUSI CULTURE: GETTING AHEAD IN TAIWAN EDUCATION

A Dissertation APPROVED FOR THE

DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

BY



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ACKNOWLEDGMENTS

I am a firm believer in the old adage, "man is great because he has a dream," but as a young boy, I never dared to believe that a doctor of philosophy degree in the field of education would be achievable in my lifetime. Life in Taiwan, 30 to 40 years ago, was tough and difficult. I was a country boy living in a poor countryside with my parents, who were laboring on a farm to earn a humble income to feed their seven children. I am the youngest one in the family and suffered the least under the bitter sunshine or cold weather working on the farm. Neither of my parents attended formal school, not even for one day. They could recognize only a few Chinese characters and were unable to speak or comprehend the Chinese language.

In 1998, when I was packing my suitcases to travel to Oklahoma in the United States, my mother asked me why I needed to study so much and in such a far away place. I told her that it was a dream I have always dreamed about and that I would like to make it come true while I have the opportunity. I also told her that there would be no more leaving her for such a long time and distance after I completed my studies. My mother was comforted by my words, she nodded and smiled, and allowed me to pursue my dream. Unfortunately, as I was about to accomplish my studies in the U.S., my mother could not wait any longer and passed away in the spring of 2000. Now even though I have made my dream come true and kept the promise that I would never go far away again, my mother will not be there to share the joy of my accomplishment. I do not know whether a deceased one can still feel and sense the real world, but I would like to share this honorable moment with my mother and tell her that I have finally made my dream come true.

Of course, this dream would never have come true without all the assistance

from my committee members. I would like to express my sincere appreciation and gratefulness to my advisor, Dr. Grayson B. Noley; Dr. Gregg Garn; Dr. Mary John O'Hair; Dr. Jeffrey Maiden; and my outside area committee member, Dr. John J. Chiodo, for their support and motivation, criticism and encouragement, for their patience and for the assistance they gave me. Without their insightful guidance, this study might not have been accomplished.

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In addition, I am certainly appreciative of my wonderful friends and colleagues in Kaohsiung, Taiwan. Their encouragement and belief in my academic abilities made me believe I could successfully accomplish a doctoral degree in the United States. Because of their hard work, I did not have to worry about the work I left behind, thus I could concentrate on my degree program. There are too many of them to name here, but they all know who they are.

Finally, I recall what my mother always told me, that "we do not need to worry that the rain is too little to accumulate into a pond if it keeps on falling." Now I cannot say the pond is full, but it is ready to water some of the thirsty, young souls who are awaiting their chances to make their dreams come true.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS iv
LIST OF TABLES viii
LIST OF ILLUSTRATIONS x
ABSTRACT xi
CHAPTERS
1. Introduction 1
Current Debate on After-School Programs in the United States 3
Education in Taiwan 5
Problem Statement 18
Purpose Statement 19
Research Questions 19
Significance of the Study 20
Orientation of This Study 20
Assumptions 21
2. Review of Related Literature 23
Different Philosophies of After-School Programs in the East and the West 23
The Inadequacy of After-School Programs in the United States 42
Type of After-School Programs Currently Administered in the United States 43
After-School Programs and Educational Renewal in the United States ... 58
Current Study Pertaining to After-School Programs 65
Summary 74
3. Methodology 76
Description of the Population 77
Instrumentation 79
Variables 82
Procedures 83
Data Analysis 83
Data Cleaning 85
Researcher's Perspectives 86
4. Results and Data Analysis 87
Demographic Information 88
Main Reasons for *Busi* Attendance 92

Parents' Perceptions of the *Busi* Programs That Their Children Attend 93
Parents' Views of Benefits for Their Children 96
Achievement Levels and *Busi* Hours 99
Family Background Characteristics and *Busi* Hours 102
Summary of Results 119
5. Discussion 123
Discussion of Findings Related to Reasons for *Busi* Attendance 123
Discussion of Findings Related to Parents' Perceptions of *Busi* Programs 124
Discussion of Findings Related to the View of *Busi* Benefits for Their Children 126
Discussion of Findings Related to the BCT Scores and *Busi* Hours 128
Discussion of Findings Related to the Family Characteristics and *Busi* Hours 130
Implications for Practice 133
Future Study 137
Conclusion 138
REFERENCES 140
APPENDICES 150
Appendix A Survey of *Busi* Culture in Taiwan Education 150
Appendix B Cover Letter 158
Appendix C Follow-up Postcard 160
Appendix D SPSS Syntax and Output Related to Research Questions 162

LIST OF TABLES

Table Page

1. Net Percentage of Graduates Advancing to Next Higher Level of Education ...12
2. Demographics of Families (N = 409) 90
3. Number, Mean, and Standard Deviation of *Busi* Hours 91
4. Number, Mean, and Standard Deviation of BCT Scores 92
5. Demographics of Educational Aspirations 92
6. Main Reasons for *Busi* Attendance 93
7. Parents' Perceptions of the *Busi* Programs That Their Children Attend 95
8. Parents' Views of *Busi* Benefits for Their Children 98
9. Skewness Before and After Square Root Transformation 99
10. Multiple Regression Analysis of BCT Scores and *Busi* Hours 100
11. Beta and Significance Level of BCT Scores and Non-School-Based *Busi* Hours, Fathers' Educational Levels, and Family Annual Incomes 101
12. Multiple Regression Analysis of Family Background Characteristics and *Busi* Hours 103
13. Correlation Matrix of Family Background Characteristics and *Busi* Hours 103
14. The Mean of the *Busi* Hours and Between Groups of Mothers' Educational Levels 104
15. The Source of Between Group Effects of Mothers' Educational Levels 105
16. The Significant Level of Mean Differences Between the Four Groups of Mothers' Educational Levels 106
17. Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Fathers' Educational Levels 107
18. The Source of Between Group Effects of Fathers' Educational Levels 107
19. The Significant Level of Mean Differences Between the Four Groups of Fathers' Educational Levels 108
20. Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Family Annual Incomes 109
21. The Source of Between Group Effects of Annual Incomes (NT$) 110
22. The Significant Level of Mean Differences Between the Five Groups of Family Annual Incomes 111
23. Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Living Areas 112
24. The Source of Between Group Effects of Living Areas 112

25. The Significant Level of Mean Differences Between the Three Groups of Living Areas 113
26. Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Educational Aspiration 114
27. The Source of Between Group Effects of Educational Aspiration 114
28. The Significant Level of Mean Differences Between the Four Groups of Educational Aspirations 115
29. The *Busi* Benefits That Parents Perceived but Not Included in the Survey Questions 116
30. The Disadvantages that Parents Perceived but Not Included in the Survey Questions 117
31. The Reasons Expressed as to Why Parents Do Not Send Their Children to Attend Non-School Based After-School Programs 119
32. Parents' Views of *Busi* Benefits for Their Children 127

LIST OF FIGURES

Figure page

1. The Current School System in Taiwan 16

ABSTRACT

The purpose of this study is to develop an understanding of the main reasons for *busi* attendance, the parents' perceptions of *busi* programs and views of *busi* benefits for their children, as well as to clarify the effects of and the beneficiaries from after-school programs in Taiwan *busi* culture. The research design adopted quantitative methods with data gathered through a local districtwide survey in Kaohsiung City and Kaohsiung County, Taiwan. Five hundred and twenty-five participants were randomly selected from the 34,000 ninth graders in Kaohsiung District. The return rate was 81.9 percent of the participants but only 409 responses were administered in this survey study owing to the incomplete responses.

The respondents indicate that the most popular reason for enrolling children in after-school programs is to have higher scores on examinations. They also indicate a positive/neutral attitude toward *busi* programs and express that their children benefited from *busi* programs. The findings also show that Basic Competence Test (BCT) scores are significantly affected by *busi* hours--students who have more hours in *busi* programs significantly gain higher BCT scores. In addition, students who have higher educated parents and better family income, plan on going to academic high schools or junior colleges, and live in urban areas have significantly more *busi* hours than students who do not. The findings also show that the educational aspirations are the most powerful factor to channel students' non-school-based *busi* hours not the family annual incomes.

Through the open-ended questions, 33 percent of the respondents who sent their children to after-school programs show that their children attended these programs of their own free will. Of the 52 respondents whose children did not attend any

after-school programs, 25 percent indicate that their children did not want to attend after-school programs. It is also found that lack of financial support is one of the prime reasons for children's not attending *busi* programs. This factor should be taken into consideration when equality is the priority in public schooling in Taiwan.

CHAPTER ONE

Introduction

The rapid economic growth of the Republic of China is acclaimed as an outstanding example among the developing countries and renowned as the "Taiwan Experience" or the "economic miracle" (Hayhoe, 1992). There are many factors contributing to the rapid economic development in Taiwan. Excellence and abundance of educational opportunities are the major ones. There are two extremely important factors that have interfaced with Chinese education and philosophy: (1) China has historically considered education to be of great importance, and (2) the place of the pedagogue in Chinese society traditionally has been extremely important (Smith, 1991).

Chinese parents attach great importance to their children's education as education is viewed as the only route for their children's social advancement. Influenced by this traditional culture, the educational system of Taiwan requires all children to participate in a universal basic education that includes a national curriculum and an entrance examination governing all post-compulsory schooling. As a result, Chinese parents consider it their duty to give their children a first-class education at any cost to prepare for their examinations (Lin & Noley, 2000). This cultural belief about education is a powerful catalyst driving the Chinese after-school industry, known as *busi ban*.

Busi ban--variously translated as "tutoring school," "cram school," or "college-prep school," roughly compares to after-school learning centers in the United States. There were reportedly 5,536 *busi ban* registered with the government in 1998 and the number has since increased (the Government Information Office, 2000).

The annual tuition Taiwanese pay for *busi ban* amounts to $500,000,000 USD per year (Ministry of Education, 2000). *Busi ban* are so pervasive that Taiwanese students attend *busi ban* from 6:00 p.m. to 10:00 p.m. after their regular school hours (7:30 a.m. to 4:30 p.m.). Most parents in Taiwan would like their children to attend as much school as possible despite the warning that too much school may damage the physical development of children.

In contrast with after-school programs in the United States, Americans endorse the expansion of after-school programs and recognize that after-school programs are not only needed for promoting the quality of education in the United States, but also for providing safe and engaging opportunities between the last school bell and the end of the parents' work. In the U.S., parents believe that investment in after-school programs is a powerful deterrent against juvenile crime and victimization. According to the report by the U.S. Department of Education and Justice (2000), after-school programs are conducted to keep children on the right track, enhance children's academic achievement, support children's social development and their relationship with adults and peers, and strengthen schools, families, and communities.

Yet, successful implementation of after-school programs has been a great challenge for many educators, especially for those who are just venturing into this endeavor. It may be helpful for U.S. educators to learn from the lessons and success of after-school programs in other countries where such programs have had a long history and enjoyed much success. Taiwan is one such place.

The problem is that little in-depth research is available on the *busi* issue in Taiwan. It is not known if attending *busi ban* benefits students' academic achievement and who benefits from *busi ban* in the current Taiwanese educational

system. It is also not known why attendance of after-school programs is valued by most Taiwanese parents and students, but it is to the chagrin of some of the public officials who condemn not only the after-school learning centers but also the necessity for their presence. It is the purpose of this study to offer a quantitative survey study of the *busi* culture in Taiwan. Based on the a scrutiny of existing documents and literature and an analysis of the questionnaire that the author conducted with the randomly selected parents in Kaohsiung High School District, this exploratory study focuses on the main reasons for enrolling children in *busi ban*, parents' perceptions of *busi* programs, parents' views of *busi* benefits for their children, and examines the effects and the beneficiaries of *busi* programs in Taiwan. This study ends with a brief discussion of what U.S. after-school programs can learn from Taiwan's *busi ban* experiences.

Current Debate on After-School Programs in the United States

A new national poll in the United States found that Americans overwhelmingly endorse the expansion of after-school programs, with 74 percent of elementary and middle school parents saying they would be willing to raise their taxes to offer such programs to children (U.S. Department of Education & Justice, 2000). The poll also found strong support for after-school programs by non-parents. Ninety-three percent of all respondents said they favor making safe, daily enrichment programs available to all children and agree that the responsibility for paying for these programs should be shared by parents, federal, and state and local governments (U.S. Department of Education & Justice, 2000). The U.S. government seems ready to take actions on the issue, as former president Bill Clinton (The White House at Work, 1999) states: "By raising our investment in quality after-school programs, we are taking a crucial

step towards transforming our public schools so that every child in America has a world-class education for the 21st Century" (p. 1). In the assertion, "No Child Left Behind," President George W. Bush (2001) proposes that community-based organizations will be allowed to receive grants for expanding before and after-school learning opportunities.

After-school programs inevitably become as important as the time children spend in school. They even help parents eliminate their worries about children being alone and unsupervised after school, avoid negative peer influence and help reduce time spent watching television. According to the report by the U.S. Department of Education and Justice (2000), quality after-school programs not only provide adult supervision of children during after-school hours but they also offer students enrichment experiences. Most importantly, they can provide help to students who are not making satisfactory progress during regular school hours. The report (U.S. Department of Education and Justice, 2000) concludes by discussing the following potential of after-school programs:

1. Quality after-school programs keep children on the right track. They prevent crime, juvenile delinquency, violent victimization, and negative influences that lead to risky behaviors, such as drug, alcohol, and/or tobacco use. They also decrease children's aggressive behavior associated with watching television.

2. Quality after-school programs enhance children's academic achievement by increasing students' interest and ability in reading, and improving school attendance. Attendance of after-school programs increases engagement in school, and reduces dropout rates. Students who attend after-school programs turn in more and better quality homework, and have more time on task and higher aspirations for the future.

3. Quality after-school programs support children's social development and their relationships with adults and peers. Research shows that children who participate in after-school programs may behave better in class, handle conflict more effectively, and cooperate more with authority figures and with their peers. Research also identifies that after-school programs improve children's self-confidence through development of caring relationships with adults and peers.

4. Quality after-school programs strengthen schools, families, and communities. Many existing after-school programs arose out of a need and a commitment by schools, parents, and community members to provide safe, enriching activities to children when they are not in school. In addressing this need, new family-school-community partnerships have formed in local communities across the country. These new relationships benefit all involved, especially the children.

It is obvious that both the families and the U.S. government understand the need for quality after-school programs. Parents want their children to have access to affordable, supervised, and constructive activities during the hours after school. They hope that these after-school programs can improve and facilitate their children's academic achievement. As U.S. educators are considering the development of formal after-school programs in their regular school systems, it seems helpful for the U.S. educators to learn of the experiences of after-school programs administered in Taiwan.

Education in Taiwan

The Chinese people have been proud of the educational tradition in their history and culture. Following the recent successes of the "Taiwan Experience," education has played a key role in economic development and political demarcation (Smith,

1991). In order to have a better understanding of the role that education plays, the Chinese word for education (*jiao-yu*) can be used to develop a focus on what education means in traditional China and modern Taiwan. The compound words show how deeply the modern education system is rooted in Chinese cultural activity. According to Smith (1991), the first symbol (*jiao*) can be defined as "to guide, counsel, teach, educate," and the second character (*yu*) can be defined as "to give sustenance; to nourish, nurture, lead, or help grow." Education is both nurturing and the transmission of the knowledge of the Chinese culture to make an individual into a scholar. Thus, being a scholar in the traditional culture of China is evidenced by parents regarding their children's education.

Impacts of the Legacies

According to Wu (1997), Taiwan was part of China, except during the period between 1895 and 1945. During that time Taiwan was a Japanese colony, ceded by the Imperial *Cing* government of China after being defeated in the first Sino-Japanese War (1894-95). Taiwan was returned to Chinese sovereignty at the end of the World War II by the Japanese government. The Chinese Nationalist government retreated to Taiwan with 1.5 million mainlanders after the People's Republic of China established their sovereignty in the mainland in 1949 (Wu, 1997). In the early 1950s, about one in six members of the population of Taiwan was an immigrant. Ruled by the Nationalist government, the educational process in Taiwan is the continuum of the splendid and unique educational product of China's long and glorious 2,000-year history. The process of education has been overwhelmingly impacted by the legacies of a protracted history--Confucianism, family life, the examination system, and the centralization of the government.

Confucianism. In the *Chou* dynasty (500-200 B.C.), education systems had already developed and Confucianism began to deeply impact educational philosophy and pedagogy in China. Confucius, who lived from 551 to 479 B.C., is probably the greatest teacher in the world. The private school he established in the kingdom of *Lu* (now the city of *Qufu* in *Shandong* province) was a famous institution in which 3,000 students had enrolled from the time that it opened (*Zhu*, 1992). Among these students, 70 became so well known that they are part of Chinese history. Confucius, it is thought, was probably the first *busi ban* owner in Chinese history.

Confucianism can be defined as humanism, which concentrates on certain human values and suggests that the highest goal a person can seek is to live a moral life and that all other activities are subordinate to this (Smith, 1991). This morality, according to Confucius, can only be gained by education, cultural awareness and by a sense of ethical guidelines learned through the cultivation of rituals, poetics, and music (Wilson, 1974). It was Confucius's view that moral behavior was governed by relations and respect. Consequently, a son would respect his older brothers, his mother, and his father. Older people would likewise control, guide, and help their children. Citizens would respect their governmental leaders, and these leaders, because they were the elite of the society, would treat the populace with fairness and dignity (Confucius, 1706). Confucius insisted that everyone should have access to education and that there should be no class distinction and discrimination among people. It was Confucius that gave the common people a chance to share knowledge, which until then had been a monopoly of the noble class (Confucius, 1706).

Though the great legacy is not as important today as it was prior to the fall of the *Cing* dynasty, schools in Taiwan still view Confucius' ideas and writings as the

cornerstone of the educational system. Following Confucius's instruction, education in Taiwan considered it a first priority to produce good sons and daughters, sibling relationships, husbands and wives, friends, and individuals who can understand the psychology of their associates and act in such a manner as to reduce hate and unhappiness (Smith, 1991). Influenced by Confucianism, children in Taiwan are constantly told to be diligent, honest, and hard-working, to practice a context of loyalty for the society and to show respect for teachers and parents (Wilson, 1974). Every student is expected to study as hard as possible to achieve the academic expectation of parents and teachers.

Family life. The family unit plays a major role in the life of modern Taiwan's people and interacts directly with the educational processes of Taiwan's society. The educational processes in Taiwan are based on a protracted history. Among these, family and the concept of open education are two of the major elements that have dominated Chinese history for thousands of years. Taiwanese have relied on the family unit as the base and education as the measure for social advancement, good government, social and political harmony, and a release of societal hatred (Fried, 1953).

Though the traditional extended family is no longer in existence on most of the Taiwan landscape, the influence of family still remains a dominant factor in social and economic vitality in modern Taiwan. Nuclear family models are now very common. Even though younger generations can be more independent and may live by themselves, their marriages are still arranged by the families involved. Two cardinal products judged by in-laws are a family's high economic status and educational level. Usually males have to have a little higher educational level than females. In this perspective, one's educational level plays the crucial role in

pursuing spouses and provides the measurement of one's own conditions in a coming marriage.

In modern Taiwan, as in the traditional dynastic China, the parents serve as role models for their children from a very young age, and the youngsters respond in a most positive and pleasing manner. The greatest pleasure in Chinese parents' lives is to see their sons and daughters succeed in school, be admitted to a good university, and have a successful career (Smith, 1991). In order to ensure that children can have the best education, children in Chinese families are given special consideration. Boys and girls, especially when they are in senior high school are seldom asked to perform housework, chores, and work at part-time jobs. On the contrary, they are expected to complete three to five hours of homework each day to assure progress in their academic effort (*Chyu* & Smith, 1991). Parents play a major role in their children's attitudes toward the school setting. Taiwanese parents are more likely to believe that if their children do not do well in school or on an examination, it is probably due to laziness or the fact that their children do not try hard enough. Parents in Taiwan also believe in the relationship between homework and success in school (Stevenson & Stigier, 1992). Parents are always concerned about their children' homework and are willing to help their children complete daily homework. Families that are associated with government jobs view homework as an important variable in their child's success (Smith, 1991). Due to the sacrifice of the family, the expectations of the parents, and the willingness to afford money for the extra hours of studying, students living in this environment are under an invisible pressure that pervades the whole society (Lin & Noley, 2000).

In a Chinese family, filial piety is considered a prime virtue and the honoring of

one's ancestors and family members is held as a personal duty. Having one's children excel in school is believed to be a wonderful way to show one's devotion to the ancestors and to bring pride and glory to the family. As a result, Chinese parents have high, sometimes unrealistic, expectations for children in academic performance. In order to help their children excel, they will use all means at their disposal. This cultural belief about education is a powerful force driving the after-school industry in Taiwan.

Examination system. In 1905 the traditional Imperial Examination system of China came to an end. This system existed for nearly 1,500 years, and had always been thought to be an open, fair, and competitive institution, which contributed to a dedicated, hard-working, and intellectual civil service system (Miyazaki, 1976). The system allowed the most humble family to hold out the hope that their son would be able to garner a position in government or academic life. But a major criticism of the examination system was that it tended to favor children and men of affluent families. Theoretically, the examination system was open to all citizens, but may have favored, for economic reasons, the middle and upper classes. In numerous cases, however, a poor but brilliant youngster would be supported by his community with the hope that this investment would be returned manyfold when the scholar-examinee achieved his success (Miyazaki, 1976). Due to the existence of the examination system, education and scholarship have traditionally been emphasized by Chinese parents.

Centralization. Centralization of all institutions has proved most successful in the homogeneous civilization of China (Wilson, 1974). Influenced by the tradition of ancient China, education in Taiwan is highly centralized. Section 5, Chapter 13

of the Constitution of the Republic of China (1946) makes it clear that education should be placed under the central government and funded from the nation's broad-based tax structure (cited in Smith, 1991). Influenced by centralization, the educational system of Taiwan requires all children to be immerged in a universal basic education that includes a national curriculum and an entrance examination governing all post-compulsory schooling. Consequently, during the elementary and secondary years, all students are in pursuit of the same educational goals and are taught with unified textbooks (Broaded, 1997). Even the teachers of elementary and secondary schools are normal college or university graduates and are supported by central government subsidies.

Current Educational Practices in Taiwan

The rate of graduates admitted to the next level of education. Steady educational expansion has occurred in Taiwan's educational institutionalization. In 1968, compulsory education was formally extended to nine years (six years of elementary and three years of junior high school). Enrollment rates in junior high school have been above 95 percent since the late 1970s, and attendance at senior high schools has risen steadily (Bureau of Statistics, Ministry of Education, 2000). In 1992-93, for example, about two-thirds of the junior high school graduates enrolled in some form of schooling at the postcompulsory senior secondary level (Bureau of Statistics, Ministry of Education, 2000). But in 1999, the rate of enrollment in the postcompulsory secondary level increased to 94.73 percent. Among them 32.56 percent enrolled in senior high schools, 40.31 percent attended senior vocational schools, and 9.51 percent studied in junior colleges (Bureau of Statistics, Ministry of Education, 2000). In 1999, 66.64 percent of graduates from senior high schools and

30.49 percent of graduates from senior vocational schools had the opportunity to enroll in higher education (Bureau of Statistics, Ministry of Education, 2000). The limited slots that students seek for further study in prestigious public senior high schools is the main factor students willingly attend extra classes after school. Table 1 illustrates the rate of graduates admitted to the next level of education in the year 1999.

Table 1

Net Percentage of Graduates Advancing to Next Higher Level of Education

	Average	Boys	Girls
Entrants to Junior High Schools, Fall 1999	99.89	99.88	99.91
Entrants to All Senior Secondary Schools, Fall 1999	94.73	94.69	94.79
Entrance to senior high schools	32.56		
Entrance to senior vocational schools	40.31		
Entrance to Junior Colleges	9.51		
Others (Military Schools, etc.)	12.35		
Entrants to Higher Education	90.70	88.59	92.91
From academic senior high schools	66.64	68.43	64.83
From vocational senior high schools	30.49	27.56	33.18

Note. Source adapted from Bureau of Statistics, Ministry of Education, (2000). *Education Statistical Indicators: Republic of China 2000.*

Ability grouping. Students in Taiwan's junior high schools are distinguished into different class-groups (*banji*) of 35 to 40 students who remain together in the same classroom all day and throughout the school year. They are visited by teachers

of different subjects in succession during the school day (Bureau of Statistics, Ministry of Education, 1999b). This arrangement is clearly different from the usual pattern in the United States, where students are reshuffled among different classrooms each period of the day (Broaded, 1997). By the second year of junior high school, Taiwanese public school students are assigned to class-groups according to assessments by teachers and students' achievement scores. Students identified to have the competence to achieve high scores on the Joint Entrance Examination are clustered into advancement class-groups, while students who have been identified as having middle or lower levels of academic ability are clustered into lower tiers of ordinary or vocational class-groups (Broaded, 1997). Students who are assigned into the advanced class-groups are expected to be more rigorously prepared for the entrance examinations for academic senior high schools, and teachers are expected to move at a faster pace and cover the curriculum more completely and with greater depth in these groups. In the lower-ability class-groups, where students are seen as having little chance of performing successfully on these examinations, teachers tend to adopt a more relaxed attitude about covering the standardized curriculum completely and in depth. The tracking of students makes most of the students seek their own help outside of the school and turn to *busi ban* to find their own help, especially the ambitious students in the middle ability level.

Current examination system. Today, the Imperial Examination no longer exists but its influence is still far reaching. Chinese people continue to equate education with scholarship and scholarship with pride and social and economic privileges. To succeed on the examination brings glory to relatives and colleagues. Although the Imperial Examination *per se* no longer exists, a similar examination system is in place

in Taiwan--the National Unified College Entrance Examination. It is given annually to those who wish to attend college. The examination involves several sub-tests covering subject matters such as math, physics, chemistry, the Chinese language, English, history, and Three Principles of the People (*San Min Jhuyi*). Only those who score high enough are awarded opportunities to attend college. This examination system has served to dictate educational practices in Taiwan. In addition to this college screening examination, there is its parallel, the joint senior high school entrance examination. Like the college entrance examination, this test is extremely important because compulsory education in Taiwan extends only to junior high (ninth grade). Only a selected number of students can attend public senior high school and they are determined, again, by their performance on the senior high school entrance examination.

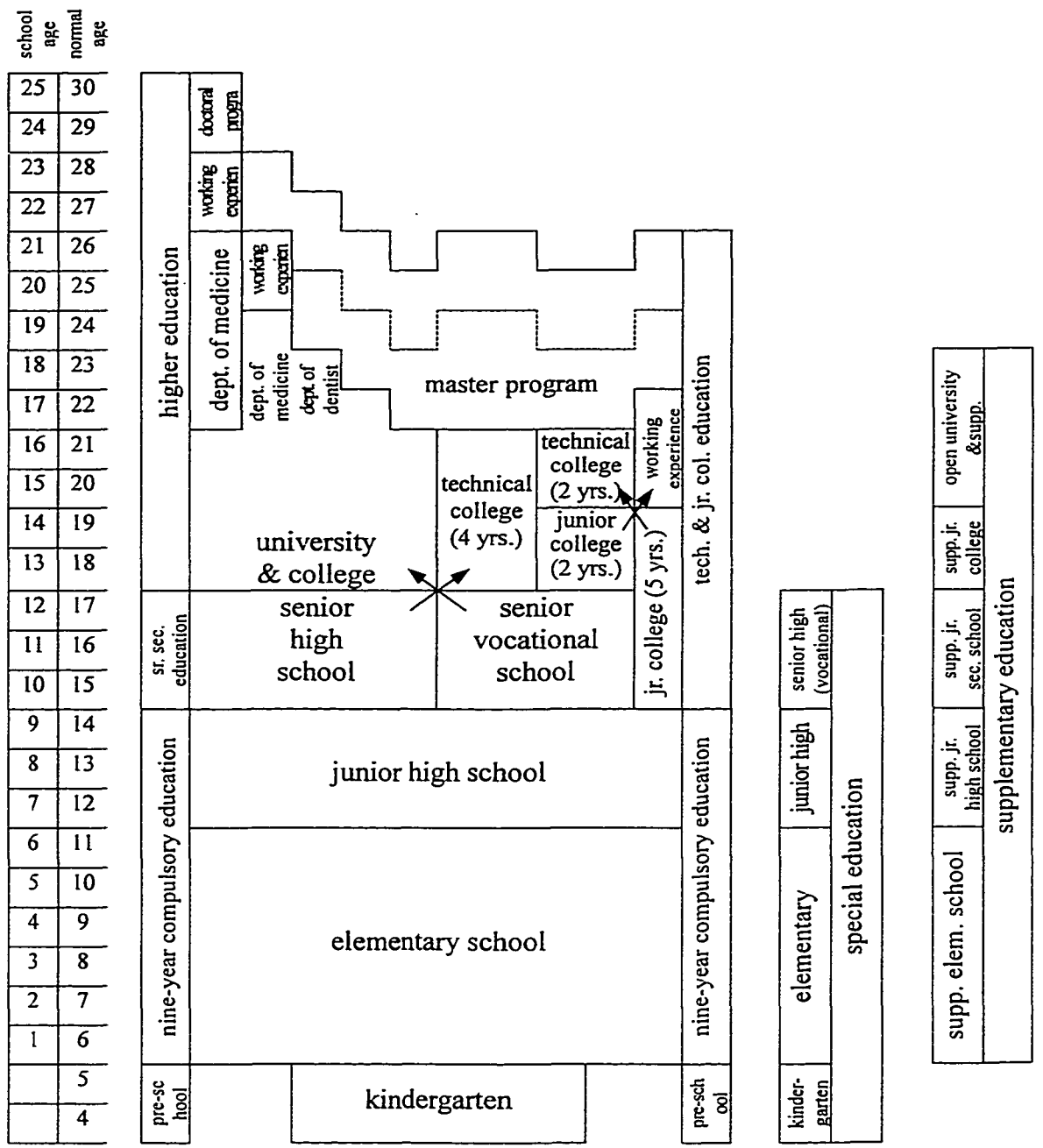
The examination system is thus meritocratic and, despite frequent complaints about the tremendous pressures it places on students, enjoys widespread support from the public because it is believed to be the fairest method for allocating scarce educational opportunities (Chyu & Smith, 1991). In order to excel on these examinations and to obtain the limited slots in prestigious post-compulsory education, students must work hard and be willing to engage in extra study beyond regular school hours. Every year a substantial number of students in Taiwan will not be admitted into college and many of them attempt it the next year. Yet, since they have already graduated from high school, they have no other place to prepare except at out-of-school programs like *busi ban*. They become full-time students in a private institution and all aim at the entrance examination next year. *Busi ban* schooling is flexible, though students always have to stay late at the institution, sometimes until

11:00 p.m. This private institution affords the students another opportunity to prepare for retaking the examination the next year but tuition is expensive. This extra expense adds another burden to parents.

Postcompulsory education. The joint senior high school entrance examination tracks students into three main types of schooling available to the graduates of Taiwan's junior high schools upon graduating from junior high school: academic senior high schools, five-year specialized technical-vocational programs, and vocational high schools. The academic senior high schools, which train young people to sit for the unified college entrance examinations, are the most prestigious and represent the option of first choice for most junior high school graduates. The five-year specialized schools are generally regarded as the second best option, since their graduates are in relatively high demand in the skilled white-and blue-collar levels of the labor market. Least preferred are the three-year vocational schools, in which the academically weaker students tend to enroll. Figure 1 presents the current school system in Taiwan.

Figure 1

The Current School System in Taiwan



Note. Adapted from Bureau of Statistics, Ministry of Education (1999b). Taipei, Taiwan: Ministry of Education.

Laws of after-school education (*busi jiaoyu fa*). The purpose of supplementary education (*busi jiaoyu*) is to complement successful living skills for Taiwanese citizens (*guomin shenghuo jiaoyu*), raise education level, instruct practical skills, promote productivity, develop healthy citizens, and advance social progress (*busi jiaoyu fa*, Section 1, 1997). There are three categories of *busi jiaoyu*:

1. People who are over the age of 15 and do not attend nine years of compulsory education (*guomin jiaoyu*) are given supplementary education (*guomin busi jiaoyu*).

2. Those who have completed the compulsory education can obtain continuing education (*jinsiou busi jiaoyu*).

3. Those who wish to improve their knowledge and ability can attend short-term after-school education (*busi jiaoyu*). Figure 1 presents the current supplementary educational system in Taiwan.

Supplementary education has been implemented since the government of the Republic of China retracted to Taiwan in 1949. The main purpose of supplementary education is to help people who did not complete compulsory education and those who only had Japanese education when Japan colonized Taiwan. Now more than 98 percent of the population complete compulsory education in Taiwan and fewer people need to attend make-up education (Bureau of Statistics, Ministry of Education, 1999b). During the era of "explosion of knowledge and information" in the 21st century, life-long learning is now advocated by most of the educators. In 1988, in order to facilitate life-long learning and meet the practical needs of the people in Taiwan, policies of supplementary education (*busi jiaoyu*) are revised as supplementary and continuing education (*busi & jinsiou jiaoyu*). Now people who

attempt to study further in two- and three-year postsecondary vocational schools or technical colleges can enroll in the continuing colleges (see Figure 1).

Supplementary and continuing education is established to raise the education level of people who have already served in the working community. Students who voluntarily enroll in continuing education are willing to take education as their own responsibility. Both of the supplementary and continuing educational systems respond to the particular problems of the inadequate opportunity of higher education and provide opportunities for people who have full-time jobs.

Short-term after-school education has commercial benefit and is attracting more and more students to *busi* programs in Taiwan. *Busi ban* blankets Taiwan and makes money from most of the families who have school aged children and is the target issue discussed in this study. Approximately 5,500 *busi ban* in Taiwan serve some 1.9 million students or 40 percent of the school-aged population from first to twelfth grades and are increasing every year by 10 percent (Bureau of Statistics, Ministry of Education, 1999a). Why are *busi* programs so pervasive? It appears there are hidden phenomena needing further exploration and will be the major purpose of this dissertation study.

Problem Statement

The Chinese have traditionally attached great importance to education, especially their children's education. In order to pursue higher academic achievement, students are accustomed to enrolling in at least a few classes in *busi ban*. *Busi ban* hours are extra time studying after school that some argue is not good for the physical development of children. The Taiwanese Ministry of Education even view *busi ban* as distorting the authentic learning processes and as a threat to the

established school system. Although the effects of U.S. after-school programs have been demonstrated in many studies (Dolley, 1992; Lin & Noley, 2000; Vandell & Ramanan, 1991; Posner & Vandell, 1994), the problem in the educational system of Taiwan is that it is not known (1) if attending *busi ban* benefits students in academic achievement, (2) who else benefits from *busi ban,* and (3*)* why most Taiwanese parents and students value attendance of after-school programs, as public officials condemn not only the after-school learning centers but also the necessity for their presence.

Purpose Statement

The purpose of this study is intended to develop an understanding of the main reasons that parents send their children to *busi* programs, the extent to which parents view *busi ban* as facilitating their children's learning in school, and the parents' perceptions of the after-school programs that their children attend. This study will also clarify the conditions under which *busi* education does or does not have particular effects and identify the beneficiaries of *busi* program attendance.

Research Questions

In this study, data were collected from a survey conducted in the Kaohsiung Senior High School District in Taiwan, with families who have junior high school students in the ninth grade (the end of compulsory schooling). The research questions are as follows:

1. What are the main reasons that parents send their children to *busi* programs?
2. What are the parents' perceptions of the after-school programs that their children attend?
3. What are the parents' views of *busi* benefits affecting their children due to

their attendance at after-school programs?

4. How student Basic Competence Test (BCT) scores are related to school-based *busi* hours, non-school-based *busi* hours, fathers' educational levels, and family incomes?
5. To what extent do family background characteristics, place of residency (living areas), and educational aspirations relate to the need for the hours of *busi* attendance?

Significance of the Study

The significance of this study is the determination of the value and worth of the after-school education culture in Taiwan public school society. The current public school policy debate should be informed of the results of this study and if the utility of the after-school programs will be affirmed or not. *Busi ban* represents a massive private education system that is internally driven, and the inequality that may surface when private funds are used to purchase extra education. As it should be, rising inequality should be of serious concern to educational practitioners in Taiwan. Students may be more heterogeneous in one class because of their attending different after-school learning centers. It can be argued that *busi ban* complement specific aspects of public education in Taiwan. *Busi ban* is free to track children by ability, offer smaller classes and focus solely on test preparation, which the public schools cannot or may not want. In addition, conventional schools may lose their monopoly as providers of schooling. *Busi ban* can be a clear example of a nonschool institution that provides opportunities for learning.

Orientation of This Study

This study has been organized into five chapters. The first chapter is an

introduction of the background of the problem, current debate on after-school programs in the United States, the current educational system in Taiwan, the purposes, the research questions, and the significance and orientation of this study. Chapter 2 is a review of literature pertinent to after-school programs and the related quantitative studies administered in the United States. The findings of a qualitative designed pilot study are also included in this chapter. Chapter 3 describes the methods and procedures utilized in this study. Data were gathered through a survey of families in Kaohsiung Senior High School District in Taiwan with children studying in the last year of junior high school (ninth grade). Chapter 4 analyzes the data collected through the survey, which clarified the main reasons for *busi*, the parents' perceptions of *busi* programs, views of *busi* benefits for their children, the effects and the beneficiaries of after-school programs. A computer program, Statistical Package for the Social Studies (SPSS) was utilized to analyze data collected. Multiple regression analyses, and one-way ANOVAs were conducted to test the data collected. Chapter 5 discusses the findings of this study. The results related to the research questions were discussed. Implications and recommendations pertaining to after-school programs were addressed. This chapter also included the limitations of the study and issues for a future study.

Assumptions

The following assumptions apply to this study:

1. After-school programs for school-aged children will continue to be a primary concern of parents, schools, communities, educators, and private agencies.
2. A need exists for after-school programs to meet the individual needs of parents and students outside of public schooling.

3. Until this study, no current database identified existing after-school programs with regard to main reasons for *busi*, parents' perceptions of *busi* programs, view of *busi* benefits for their children, effects, and the beneficiaries of after-school programs in Taiwan.
4. Data were collected independently and the questionnaires were responded to honestly by the participants randomly selected from the database.
5. The results are reported in an unbiased manner.

CHAPTER TWO

Review of Related Literature

There are many different definitions of after-school programs. In this study, Good's definition (1945) of after-school programs is utilized: those programs carrying no academic credit, sponsored and organized by public schools or private educational institutions for the purpose of supplemental and academic oriented education. In the United States, educators and policymakers have begun to show interest in programs designed for use in non-school hours, especially those designed for after school (Beachum-Bilby, Seymour, & Krajewski, 1998). Although after-school programs assume different roles in different countries, they all have three primary purposes. Fashola (1998) depicts the three purposes:

> First, attendance in after-school programs can provide children with supervision during a time when many might be exposed to and engage in more anti-social and destructive behaviors. Second, after-school programs can provide enrichment experiences that broaden children's perspectives and improve their socialization. Third, and a more recent emphasis, after-school programs can perhaps help to improve the academic achievement of students who are not achieving well during regular school. (p. 8)

Different Philosophies of After-School Programs in the East and the West

After-school programs exist in educational systems in most countries. Although many of the after-school programs in existence share the same primary purposes of providing children with supervision, improving students' socialization, and helping increase academic achievement, different countries may have varying degrees of emphasis on and different philosophies of after-school programs. When

cultural differences exist among countries, various educational systems are implemented in schooling and the needs of after-school programs are discrepant.

Busi Ban in Taiwan

Busi ban's pervasiveness and the rationale for attendance. In studying *busi ban* (after-school learning centers) in Taiwan, one should examine and understand its pervasiveness and the causes associated with it. *Busi* programs are ubiquitous in Taiwan. They are mostly privately owned and all are supported solely by students' tuition. Almost all school age children in Taiwan attend *busi ban*. Most students attend at least two to four hours of *busi ban* per week when school is in session. The hours of attendance increase significantly during school vacation. In a land of only 13,824 square miles, much smaller than even a medium-sized state in the U.S., there were reportedly 5,536 *busi* centers registered with the government in 1998 (a much larger number operated without licenses) and this number has since increased (The Republic of China Yearbook 2000, 2000). In a nation with an entire population of only 22 million, about two million (1,891,096 in 1998) students register in *busi ban* annually, most are students in grades five through nine (Bureau of Statistics, Ministry of Education, 1999a). In other words, close to ten percent of Taiwan's entire population attend *busi ban*. The annual tuition Taiwanese pay for *busi ban* amounts to $500,000,000 USD (Bureau of Statistics, Ministry of Education, 1999a). Why are *busi* programs so pervasive? It appears that there are six major reasons that underlie the pervasiveness of *busi ban*.

First, the Chinese have traditionally attached great importance to education, especially their children's education, and the place of the pedagogue has been extremely important in Chinese society (Smith, 1991). Historically, the only route

for social advancement for ordinary citizens is education. For thousands of years, and until the beginning of the 20th century, the imperial government held an annual examination known as the Imperial Examination to honor scholars and select officials. Educated citizens (those who received tutoring from private pedagogues) competed on the examination by demonstrating their scholarship in humanities, history, science, etc. Those who scored highest were ranked and given official titles accordingly (Miyazaki, 1976).

Second, the current examination system--the National Unified College and Senior High School Entrance Examination--may explain the pervasiveness of *busi ban* in Taiwan society. These examinations are given annually to those students who wish to go to college or prestigious senior high schools. The slots for colleges and prestigious high schools are limited, only those who score high enough are awarded opportunities to attend them. Compulsory education ends at ninth grade in Taiwan. Students have to compete for the privilege of attending senior high schools through the screening examination. This examination system has in turn dictated the educational practices of Taiwan. In order to excel on these examinations and to obtain the limited slots, students have to work hard and be willing to engage in extra study beyond regular school hours. Thus, this is the second, and perhaps most important reason for the pervasiveness of *busi ban*.

The third reason for *busi ban*'s pervasiveness is the school's stratum-education practice, one that is the result, directly or indirectly, of the education system. Because of the screening examination system and the unusual competitiveness of education in Taiwan, the mission of public schools has become *ipso facto* to help their students beat students from other schools on screening examinations. In Taiwan,

"junior high schools are informally ranked in the public consciousness according to the proportion of their graduates who gain admission to prestigious academic senior high schools" (Boarded, 1997, p. 38). The same is also true of senior high schools, which are ranked by the proportion of their graduates admitted into college, especially the number accepted into prestigious universities.

In order to raise the number of students gaining admission into senior high schools or colleges, many schools divide the students of the same grade into classes according to their academic performance, so that they can focus on those who are most likely to excel on the senior high or college entrance examination. Those students placed in the advanced classes have the best access to the school's resources and are taught by the best teachers. They are also often asked to stay for *busi* after the regular school hours and to attend summer and winter *busi ban* when school is out. Such *busi* programs for advanced students are not funded by the school budget; instead, they are supported by extra tuition paid by parents.

While advanced students are well taken care of by the school, those assigned to middle or lower classes have to resort to outside help, mostly *busi* programs outside of the school. They are, therefore, not only short-changed by the school in the regular classroom, but they are further left behind by the school by not being included in the school's *busi* programs. If students do not attend the school-based after-school programs, the consequences are obvious--they will academically lag behind their classmates. Finding *busi ban* for their children has become a ritual for parents of school children in Taiwan. It is not uncommon to see parents scramble to find a *busi ban* for their children at the beginning of a semester or at the start of summer and winter vacations. One parent's comment (Lin & Noley, 2000) reveals the

psychology of these parents: "Since every one attends after-school programs, how can my child stay at home and do no schoolwork?" Another quote in Lin and Noley's study (2000) shows that a teacher's reflection further highlights the "choice" parents in Taiwan have to make: "It [attending *busi*] is a trend or even a fashion, and it is necessary to go to *busi ban* if a student does not want to lose in this competitive education game" (p. 9).

The fourth reason for the flourishing *busi* programs is the fact that the typical class size in Taiwan's elementary and secondary schools is too large to allow teachers to give adequate individual attention to their students. Admittedly, educators and the government have been working to address the class-size problem and the average number of students per class has somewhat decreased. According to the Bureau of Statistics, Ministry of Education (2000), the average class size decreased from 43.78 in 1986 to 35.89 in 1999. It is still too large when compared with class sizes in the United States. Students in Taiwan are frustrated because they cannot receive the individual attention they believe they should have, and they feel sympathy for their overworked teachers. This particular problem has made many parents and students turn to *busi ban* to obtain the individual help they need.

The fifth reason for attending *busi ban* is that some students do not feel they are receiving quality teaching at school, and even question the quality of their teachers. Although teachers in Taiwan's elementary and secondary schools are all normal college or university graduates, not all are good teachers. More importantly, many teachers are not able to help their students achieve high scores on entrance exams. Being able to improve students' test scores is a very important, if not the most important, criterion students and parents in Taiwan use to evaluate teachers.

The sixth and often overlooked cause for the huge enrollment in *busi* programs is many parents' need for after-school adult supervision of their children. The transformation of Taiwan's economy from farming to industry, and its rapid economic growth, have led to a very high employment rate in Taiwan and to a nucleus family structure. Today, most families in Taiwan consist of two working parents without grandparents living with them. Many of these parents work non-traditional hours and need after-school adult supervision for their children.

The purposes and forms of *busi* programs in Taiwan. As previously explained, the main reason for the popularity of *busi* programs in Taiwan is to provide students with an opportunity to get ahead in education. In that sense, *busi* programs are very unique and different from most after-school programs in the U.S., where make-up education appears to be the major goal. Yet, while getting ahead appears to be the primary purpose of *busi* programs in Taiwan, it certainly is not the only one. In fact, multi-purpose and multi-form best depict *busi* programs in Taiwan.

Based on Lin and Noley's research and observation (2000), the purposes of *busi* programs are three-fold: get-ahead (or enrichment) education, make-up education, and after-school adult supervision. Most *busi* programs serve all three purposes but some focus on just one or two. In order to accomplish their multiple goals, *busi* programs assume various forms. The most common are the commercial programs that operate independent of schools. They are often located in buildings owned or rented by *busi ban* entrepreneurs. There are also those programs offered by schools, where the teachers keep their students after school for *busi*. Even though such *busi* takes place at the school, it is not considered part of the school curriculum or program. As pointed out earlier, parents have to pay the teachers for such *busi* services.

Finally, there are individual tutoring *busi*, which often takes place at the home of the student or the tutor. Many public school teachers even conduct their own private classes at home. Such practices are illegal and unethical and have been condemned by the public and most educators in Taiwan. Yet since such *busi* takes place at the teacher's home and often the parties involved keep it a secret, it remains a rather widespread practice.

Furthermore, even within the same type of *busi ban*, there are variations in practice and structure. For example, some commercial *busi ban* offer classes for all levels and ages of students, ranging from pre-school to high school. Some are open only to a more limited group of students, for example, pre-school or middle school students. Due to the different goals, the hours of *busi* programs also vary greatly. Some operate in the late afternoons, or evenings, and others on weekends, during school vacations, or even on holidays. To regulate *busi ban* and to prevent them from keeping students too long, the Ministry of Education has established *busi* rules known as *Busi Jiaoyu Fa* (After-School Education Law). Yet in real practice, many *busi* programs have violated the rules because of the pressure from parents who want their children to get ahead, and because of the competitiveness of the business.

After-School Programs in the United States

Historical perspective. The purposes of after-school programs are closely associated with social reform and community well being in the States. The origins of organized after-school activities can be traced to the development of settlement houses and playgrounds at the end of the 19th century. Their main purpose was to meet the needs of inner-city youth living in the slums in the late 1800's (Baker, 1997). Youth living in slums are often susceptible to drugs and crime. Thus, after-school

programs are established to help either overcome specific risks, or protect children from the negative consequences of growing up under these circumstances (Posner & Vandell, 1994; Witt & Crompton, 1996).

Due to the greater restrictions on child labor by the Child Labor Act of 1911, communities were faced with increases in juvenile crime and gang activity. Addams' Hull-House (1910), which provided a place where immigrants could be more effectively assimilated into American society, was one of the after-school programs created to rectify these conditions. Addams argued that children living in the slums could be reformed into more socially acceptable and productive citizens through supervised, safe, clean play areas. The young boys who attended the after-school programs offered by the settlement houses were encouraged to participate in tournaments and dramatics, which were positive and healthy recreational activities for school age children. Children who attended Hull-House were organized into groups that gave the children opportunities they would not have had in crowded schools (Addams, 1910).

After-school programs have been multi-faceted since their existence. Some researchers have countered that many of the early recreation programs offered in the inner-city were a means of engendering contentment, loyalty, and solidarity, rather than raising expectations (Baker, 1997). The first out-of-home after-school care programs for school-aged children were offered by private charities and nurseries around the beginning of the 20th century (Seppanen et al., 1993). Gradually, private schools began offering arts and crafts and other recreational activities. These origins of after-school programs were called "play school." They provided recreational activities for the increasing student population who moved from rural to urban areas

of the country. In the midst of the Great Depression, the federal government began funding after-school programs as part of the effort to create jobs for both women and men. The government's support of after-school programs dramatically increased during World War II, as many women entered the workforce to support the war effort. The emphases of the after-school programs in this period were to provide day care for unemployed women and some men, and for women to take jobs in support of the war effort (Schwendiman & Fager, 1999).

In the 1970s, demographics in the United States began to shift. The 1993 National Study of Before- and After-School Programs by Seppanen and her colleagues highlighted four demographic shifts in the United States that affected, and continue to influence, the number of students needing after-school care: (1) growth of the number of young children, (2) a sharp increase in the employment of mothers with young children, (3) an increase in the proportion of single-parent families, and (4) a decrease in the number of extended family members.

In response to these shifts, the federal government increased its support for after-school programs. A 1994 report on after-school programs showed that many departments of the government support a variety of programs with after-school, or potential after-school, components (Carnegie Council on Adolescent Development, 1994). The Department of Agriculture, for example, developed the 4-H program to assist youth in acquiring knowledge, developing life skills, and becoming self-directed, productive, contributing members of society. Another federal department, the Department of Defense, established many Youth Centers around the world to provide services to youngsters aged six- to 18-years. Both the 4-H programs and the Youth Centers have a major impact on the lives of certain

populations of students and are welcomed by most parents in the United States (Schwendiman & Fager, 1999).

Today, millions of children stay at after school home without family members to supervise them. As the final daily school bell rings, working parents begin to worry about whether their children are safe, and if they are susceptible to drugs and crime. In response to this concern, many communities have created after-school programs to keep children safe, out of trouble, and engaged in activities that help them learn (Pederson et al., 1998). Besides providing supervision, after-school and extended school-day programs are now seen as a means of improving academic achievement, providing opportunities for academic enrichment, and providing social, cultural, and recreational activities (Halpern, 1992).

In hopes of improving the lives of children and the communities they live in, during non-school hours, including after-school and summer school, Congress recently allocated $40 million USD to create 21st century after-school community learning centers across the country. In his 1998 State of the Union address, former President Clinton proposed a substantial federal funding increase for community-based after-school programs. In particular, extended-day and after-school programs were proposed as a means of accelerating the achievement of students placed at-risk for academic failure due to poverty, lack of parental support, reduced opportunities to learn, and other socioeconomic and academic factors (McGillis, 1996). In the proposal brought forth by President Bush (2001), "No Child Left Behind," the Bush administration will allow community-based organizations to receive grants for expanding before- and after-school learning opportunities.

Purposes of after-school programs. Lipsitz (1986) indicates that the purposes of after-school programs in the United States "range from the provision of a supervised place to programs designed to enhance participants' learning, self-reliance, and the ability to be a purposeful, productive member of society" (p. 36). The quoted after-school programs in this literature review can be categorized into seven domains: (1) to have immunity from drugs and crime; (2) to have constructive use of time; (3) to encourage tournaments and dramatics; (4) to offer recreational activities; (5) to provide day care; (6) to improve academic achievement; and (7) to provide the opportunities for academic enrichment and social, cultural, and recreational activities.

Juku in Japan

After-school learning centers similar to *busi ban* can be found elsewhere in Asia. Such centers are known as *hagwan* in South Korea and *juku* in Japan. China and India have long traditions of private tutoring to prepare students for examinations. However, Japanese *juku* are by far the most commercially developed, forming the basis for an "education industry" that goes beyond conventional concepts of private enterprise involvement in education (Johnson & Johnson, 1996).

The business of *juku* in Japan has boomed into a vast commercial industry with annual revenues of $14 billion USD (Russell, 1997). According to a recent government survey, nearly 70 percent of Japanese students have experienced going to after-school programs, known as *juku* or *yobiko*, by the time they leave middle school. *Yobiko* is another type of after-school learning center, which primarily provides programs for students to retake the next year's national entrance examinations. *Juku* and *yobiko* are numerous, and indispensable to the Japanese educational system, but still at any given time, only 35 percent of all students are actually enrolled in one. Many parents

enroll their children in *juku* as early as first or second grade. These children usually attend *juku* after school throughout their elementary and secondary years (Pettersen, 1993).

The role that *juku* play in the Japanese educational system. The origin of the term *juku* is from the Chinese character that means the smallest scale of school operated by a teacher from his home (Russell, 1997). Modern Japanese *juku* present a much more perplexing array of choices, ranging from neighborhood *judo* or piano lessons, to those operated by national companies trading on the Tokyo Stock Exchange.

According to Rubinger, as cited in Russell (1997), *juku* have three common characteristics--administration, curriculum, and constituency--which profoundly shape the character of education in *juku*. *Juku* are administered outside the constraints of compulsory education and the ideology of the Ministry of Education, enabling them to operate flexibly. *Juku* can teach unorthodox subject matter, such as essay writing for tests or a foreign language not offered in public schools. Working outside the school system enables *juku* to customize to students' needs. Participation in *juku* is voluntary and fee-based.

Different models of *juku*. It is difficult to determine and distinguish the different models of *juku* in existence in Japan. A survey of various sources (Russell, 1997) resulted in the following list of *juku* or *juku*-like institutions: (1) cultural and hobby-type lessons (piano, swimming, calligraphy, and *judo*), (2) home tutoring, (3) educational correspondence services, (4) schools for academic enrichment, remedial content, and all-around curriculum, (5) schools to teach test-taking skills, and (6) high-pressure *juku* for test preparation. Japanese parents would not recognize cultural lessons or the educational correspondence service as *juku*, although the Ministry of Education counts them as one type of *juku*. High-pressure *juku* for

test preparation called *yobiko,* as mentioned above, is a special program for full-time crammers who have failed to enter their first-choice university and prepare at *yobiko* for the next year's national entrance test.

The Reasons Japanese Families Use *Juku* to Help Their Children. According to a survey quoted in Russell (1997), the most popular reasons for enrolling children in *juku* are: to raise children's motivation to study, not test preparation *per se*; to learn test-taking techniques; and to learn how to study by themselves. As for the academic concern, *juku* complement school lessons by filling in the gaps for slow learners, pushing quick students, and providing an alternate classroom atmosphere (Russell, 1997).

Juku in Japan are usually described as cramming and memorization, and not good for children's physical development, but families persist in using *juku* to help their children pursue better academic performance and higher scores on the meticulous and competitive national examination. In Japan, many middle school parents complain that it is not possible to succeed in the national examination without the experts' assistance in *juku*. Therefore, *juku* play a major role in insuring the success of Japanese students on the national screening examination. In addition, Japan's schools focus on only average students. Talented students who could learn more and students who need supplementary help or support may only find *juku* outside the public school system (Dolly, 1992).

When upper elementary students were asked in the ministry survey, what was "good" about attending *juku*, 47 percent of the participants responded, "I understood my schoolwork better" (Cited in Russell, 1997). The response was followed closely by, "I learned things beyond what we were studying in school" (Cited in Russell, 1997). *Juku* also offer unorthodox teaching methods and material.

Approximately one-third of elementary-school *juku* users are enrolled in a *kumon* arithmetic franchise, which follows a self-paced worksheet curriculum that emphasizes skill mastery through repetition. This method complements Japanese classroom teaching, which is largely devoted to discussing concepts and group problem-solving (Stevenson & Stigler, 1992).

Close friendships may develop in *juku*, especially in the small, neighborhood classes run by retired teachers and housewives (Russell, 1997). In the ministry survey, 40 percent of elementary-age users said they liked going to *juku* because they made friends in the neighborhood. Girls and boys find *juku* to be socially exciting with the trading of notes, flirting, and the opportunity to meet students from other schools.

The Problems Caused by *Juku.* Like *busi ban* in Taiwan, *juku* have many benefits for students who attend, but they also bring forth the problems in Japanese schooling. Many middle school parents complain that the level of competition to enter elite academic high schools is so intense that it is not possible to succeed without supplemental help (Russell, 1997). Since *juku* is a costly item for many Japanese parents, the idea of educational equity in Japan may be seriously impacted. Theoretically, Japan provides systems of education open to all citizens. However, in Japan there is a growing tendency for the wealthy to pay for extra schooling in private *juku* that poor parents are unable to provide (Russell, 1997). Japanese compulsory schooling ends at the ninth grade. Where a student lives and how much the student's parents can afford to spend for private *juku* and tutoring often mean the difference in whether or not the student may go to a top university. The university entered very often determines a student's future employment and economic status.

Testing well in the joint examination becomes the most important objective for parents and students, and *juku* can help increase students' chances for success (Dolly, 1992). In addition to the inequity results from *juku*, the other impacts caused by it are similar to those caused by *busi ban* in Taiwan. *Juku* is extremely examination oriented, has a narrow curriculum, and is a time consuming process in learning procedures. The two countries should take the initiative to help eliminate these problems.

Day Care in Sweden

In Sweden, Section 12 of the Social Services Act defines the responsibilities of municipal authorities towards children and young persons as: "The social welfare committee should endeavor to ensure that children and young persons grow up in good and secure conditions, act in close cooperation with families to promote the comprehensive personal development and the favorable physical and social development of children and young persons. . ." (Child Care in Sweden, 1994). Childcare services in Sweden are distinguished by a high standard of quality and by the fundamental principle that they exist for all children. Children who have physical, mental, or other disabilities can be allotted special back-up resources.

Ideology and practical child care. During the inception years, childcare services were under strong central control, exerted through state grants as well as the norms and guidelines issued by the supervisory authority, the National Board of Health and Welfare (Child Care in Sweden, 1994). According to the article, central norms and guidelines existed to guarantee a minimum standard of quality (e.g., in regard to premises, staff training, the number of children per group and the content of activities). As a result, childcare services were fairly uniform everywhere in the

country. However, with the political developments of recent years, decentralization was established by the abolition of state controls. Formerly, virtually all child care services were municipal, but today they can also be provided with municipal funding support, by cooperatives, foundations, limited companies, and other bodies. This development has been spurred by the political principle of allowing people greater liberty to choose their own child care arrangements.

Childcare comprises educational activities and care, either full- or part-time, for children aged six to 12 years, to a varying extent, as an adjunct to school. The arrangements of childcare in Sweden, including day care centers, part-time groups, open pre-school, family day care, and care service for schoolchildren, mainly provide the requirement according to parents' need.

Day care centers. Day care centers are available for children up to six years of age whose parents are gainfully employed or enrolled students. They are also available for children who require special support. Both educational activities and practical care are provided. Children attend day care centers either full- or part-time. Opening hours are more variable than they used to be. Day care centers in rural areas are open, on average, between 8 and 12.5 hours per day. Parents pay a monthly charge for day care, usually related to the length of time the child spends there, parental earnings, and to the number of children in the family (Child Care in Sweden, 1994).

Part-time groups. Part-time groups exist for children between the ages of four and six who do not require all-day care. They provide three hours of daily activity for enrolled children. This service is intended for families with one parent who is not gainfully employed or a student, or for children in family day care. Part-time pre-schools are closed during summer and for other school holidays. Attendance at

a part-time pre-school is free of charge for six-year-old children (Child Care in Sweden, 1994).

Open pre-school. For stay at-home parents, or child minders and their children, there is a drop-in form of activity known as the open pre-school. An open pre-school can be open from one to five days a week, and for a few hours to all day. Parents or child minders with their pre-school children come and go as they please. The main purpose of the open pre-school is to provide parents and child minders with a meeting point to give them the opportunity to gather with pre-school teachers and to develop educational activities for the children (Child Care in Sweden, 1994).

Family day care. Family day care is a child minder for children up to 12 years old, usually in the minder's own home, while the parents are at work or studying. Children in need of special support are also looked after in this way. Child minders can have groups ranging from a few children to about ten of various ages, their own children included, often at different times during the day (Child Care in Sweden, 1994).

Care service for school children. As cited in the article "Child Care in Sweden" (1994), leisure time centers are staffed by recreation instructors and child care attendants. They can be open both before and after school and during school holidays. Like day care centers, they provide a combination of educational activities and practical care. For older children who can no longer attend leisure time centers, there is some other form of leisure activity, such as the leisure club. This is an afternoon activity for children ages nine to 12, providing them with opportunities for various leisure pursuits with other children and with adult help available. Parents pay a charge for the service, though not as much as for a leisure time center.

Comparison and Contrast

On account of different educational systems, perceptions, and purposes as well as different traditional cultures, after-school programs have various focuses, purposes, and forms in different countries. In Taiwan and Japan, after-school programs are mostly privately owned and focus upon examination preparation, while after-school programs are more publicly supported and include more recreational activities for students to develop their social experiences. The following are the comparisons of the different perspectives and philosophies of four after-school programs among two Asian countries, one in North America, and the other in Europe.

Mission. The most important purposes of after-school programs in the United States and in Sweden are supervision and practical care. Parents in America and Sweden believe children need safe and engaging opportunities between the last school bell and the end of the parents' work done. In Japan, a survey found that the most popular reason for enrolling children in *juku* was to raise children's motivation to study (Russell, 1997). There has been no similar survey implemented in Taiwan, but the most popular reason for attending after-school programs is to have higher scores on school tests or entrance examinations (Lin & Noley, 2000). In Taiwan and Japan, parents would like their children to study more in after-school centers.

Attendance ages. For preparing for the national entrance examinations in Taiwan and Japan, students from grades seven to nine attend after-school programs the most. In both countries, compulsory education ends at the ninth grade and students are tracked into post-compulsory high schools according to the scores they made on the entrance examinations. In the United States, children enrolled in after-school programs are mostly in prekindergarten through grade three. Ninety

percent of the before-school enrollments and 83 percent of the after-school enrollments are in this age range (Elementary and Secondary Education, 1996). Emphasizing the practical care, after-school programs in Sweden provide care for prekindergarten through sixth grade students. Older children can attend leisure activities such as the leisure club.

After-school hours. In America, most after-school program hours are from 3:00 p.m. to 6:00 p.m. to provide day care for children whose parents are employed as well as to keep children from the high-peak juvenile crime hours of 2:00 p.m. to 8:00 p.m. After-school hours in Sweden are flexible and serve the parents in different forms--full- or part-time, a drop-in form, and before- or after-school. In Taiwan and Japan, after-school hours from 6:00 p.m. to 10:00 p.m. are viewed as evening schools which provide help to students pursuing various purposes for better academic success.

Auspices and funding. About two-thirds of before- and after-school programs in America and almost all of the day cares in Sweden are nonprofit organizations. Parents in the two countries must pay the parental fees, though some fees are received from government funding. In Taiwan and Japan, after-school programs are highly commercialized and have been developed into a multi-billion-dollar industry. The programs are all tuition supported. Some educators worry that after-school programs may result in inequality in the access to educational opportunities.

After-school programs are good resources for multiple purposes in modern education. No matter where the after-school programs exist, they should be treated as a part of regular schooling. From east and west countries alike, there are lessons both can learn from each other to eliminate the negative impacts and reinforce the positive influences of after-school programs. Then after-school programs could

bring extra benefits for students in both parts of the world.

The Inadequacy of After-School Programs in the United States

In the United States, many children do not receive adequate supervision during the after-school hours (Schwartz, 1996). When the dismissal bell rings, many children go home to empty houses and many others hang out on the streets until their parents return home. Children left unsupervised after school often fall prey to deviant behaviors that are harmful to them, to their school, and to their communities (Galambos & Maggs, 1991). Parents worry about whether their children are safe, or whether they are susceptible to drugs and crime. In response to this pressing concern, many communities have created after-school programs to keep children and youth out of trouble and encouraged activities that help them learn.

In order to help students have better use of non-school hours and to reinforce students' school curriculum and foster strengths that are not available in school, after-school programs are essential to counteract the effect. Posner and Vandell (1994) argue that after-school programs can contribute to a youth's opportunities and ability to succeed academically. It is also found that students who attend after-school programs are more likely not to be involved in delinquent acts during after-school hours (Schwartz, 1996). In the United States, children enrolled in after-school programs are overwhelmingly in prekindergarten through grade three, and two thirds of the programs are operated by nonprofit organizations according to the National Study of Before- and After-Schools (Seppanen, 1993). However, parents in the U.S. complain there is a shortage of quality after-school programs and are eager for more opportunities for their children to attend these programs. To respond to the need, former President Clinton proposed substantially increasing

federal funding for community based after-school programs. He claims:

> We must make sure that every child has a safe and enriching place to go after school so that children can say no to drugs and alcohol and crime, and yes to reading, soccer, computers and a brighter future for themselves. (U.S. Department of Education & Justice, 2000, p. 5)

Types of After-School Programs Currently Administered in the United States

Before addressing the necessity, effects, perceptions, and benefits of after-school programs that take place in the after-school hours, it is necessary for us to have a scrutiny of existing after-school programs to understand better the various models and different emphases of after-school programs. The following is a review of after-school programs currently implemented in the United States.

After-school programs assume various forms in order to accomplish their multiple goals. No matter what arrangements the after-school programs adopt, they can be categorized as school-based and community-based after-school programs. Presently, most of the programs are publicly supported, i.e., supported by the public school budget, or supplemental funds from federal programs, state programs, or philanthropy. Private funds such as student tuition or corporate supported after-school programs are also found in profit-making or non-profit community-based after-school programs in the United States.

Community Based After-School Programs

Community based after-school programs are either profit making or non-profit. In the United States, the first out-of-home, after-school care programs for school-aged children were offered by private charities and nurseries around the beginning of the 20th century (Seppanen et al., 1993). Since then day care programs began their

long history of serving the children of working parents in churches or privately owned buildings in communities. Some day care programs in the U.S. emphasize recreational and cultural activities. They seldom relate to academic instruction provided during the regular school day, although some provide homework assistance (Fashola, 1998). Day care programs operate between the hours of 3:00 p.m. and 6:00 p.m., when the parents are at work and typically emphasize safety, a positive climate, and enjoyable cultural and recreational activities. Such programs primarily involve children from preschool to third grade. Licensing for the site and workers are required for the day care program to serve school-aged children.

The other community based after-school programs are more likely to involve school-aged children (ages 5-18) and highlight academic as well as non-academic activities. These programs are usually away from regular school sites so transportation is needed. The programs are mostly community need orientation and provide a wider variety of recreational and cultural activities. This type of after-school arrangement includes Boys and Girls Clubs, the YMCA, Big Brothers & Big Sisters, some 4-H programs, church programs, and municipal parks and recreation programs.

Some after-school programs may offer specialized activities to provide instruction in such areas as ballet, tap-dancing, music, karate, and chess. Attendance of the programs is purely out of interest, not to the pursuit of higher academic achievement or success. These programs are mainly designed to help children make creative use of their free time and be away from delinquent acts and temptation. Classes of these after-school programs often provide progress information to the children and to the instructors, for example, badges or promotions to higher ranks in

the Boy Scouts and Girl Scouts, recitals in musical classes, and tournaments in karate or chess classes (Fashola, 1998). Children who enroll in the class usually have the opportunity to develop skills, talents, and to cultivate good hobbies, and then they can show what they have learned to their parents. As to the academic success, attendance, or other school-related outcomes may or may not be primary goals of these after-school programs.

Community based after-school programs are often developed within the community to meet local needs, although some are branches of national programs. They are more likely than other programs to emphasize recreational, social, or cultural activities. Eleven programs that were created for use primarily in after-school settings that have a community focus are cited as follows:

(1) In 1991, the New York City Department of Youth and Community Development created the New York City Beacons program in ten schools (Canada, 1996). The main goal of the program is to reduce crime and violence among youth and their families. By providing after-school programs for the whole family, ultimately school and community linkages can be reinforced, and by improving parental participation in the programs, better and more supportive neighborhoods for children, youth, and families can be established.

(2) LA's BEST (Brooks & Herman, 1991) is an after-school education and enrichment program created in 1988 for students in Los Angeles. The goals of the program are to create a safe environment for students living in the city, to provide students with enhanced educational enrichment, and recreational activities, and to teach socio-emotional skills.

(3) The Child First Authority is a Baltimore community-based after-school

program that seeks to improve the quality of life in low socioeconomic status communities. The main goal of this program is to serve public school students and their families and improve the quality of life in Baltimore.

(4) Big Brothers & Big Sisters of America, Inc. was created to provide young children from single-parent families with adult supervision. The goal of this program is to provide young children with role models in their everyday lives. These role models will provide them with positive experiences, teach them to make healthy decisions, and help them strive for the best in life.

(5) The Boy Scouts of America created in 1910 is one of the oldest youth organizations in the world. The purpose of the Boy Scouts of America, is to provide an educational program for boys and young adults to build character, to train in the responsibilities of participating citizenship, and to develop personal fitness (Boy Scouts of America, 2000). The program was created to enrich the lives of young males and teach them how to become model citizens by providing them with educational, mentoring, social, cultural, and recreational opportunities and activities on a regular basis.

(6) A sister organization to the Boy Scouts is the Girl Scouts of the United States of America. The Girl Scouts is the world's pre-eminent organization dedicated solely to girls. The goal of this organization is to provide girls with enrichment, educational, recreational, and cultural opportunities with committed adults that will help them grow strong in body, mind, and spirit.

(7) Campfire Girls and Boys is a not-for-profit, youth development organization. The purpose of Campfire is to provide young people an opportunity to maximize their potential and function effectively as caring, self-directed individuals responsible to

themselves and others (Camp Fire, 2000). This organization began in 1912 with an attempt to teach youth about the dangers of forest fires and how to prevent them. Camp Fire provides fun, coeducational programs for the youth from birth to age 21. Campfire helps boys and girls learn and play side by side in comfortable, informal settings. The programs have the option of adding an environmental component to their after-school programs.

(8) 4-H programs were begun in 1912. The 4-H program is one of the largest youth organizations in the United States and serves youth through a variety of methods including organized clubs, school-enrichment groups, special interest groups, individual study programs, camps, school-aged child care programs and instructional television programs. 4-H program orientation responds to the need of youth to study nature for better agricultural education. The 4-H's stand for Head (training youth to think, plan, and reason), Heart (training youth to be true, kind, and sympathetic), Hands (training youth to be useful, helpful, and skillful), and Health (training youth to develop health and vitality). The program is generally funded by the United States Department of Agriculture through local land-grant universities and sometimes through city agencies (National 4-H Council, 2000).

(9) Boys & Girls Clubs of America combine a national network of more than 2,000 neighborhood-based facilities and annually serve some 2.8 million young people, primarily from disadvantaged circumstances. The mission of the movement is inspire and enable all young people, especially those from disadvantaged circumstances, to realize their full potential as productive, responsible and caring citizens. The clubs, known as "The Positive Place for Kids," provide guidance-oriented character development programs on a daily basis for children 6-18

years old. Boys & Girls Clubs' programs emphasize educational achievement, career exploration, drug and alcohol prevention and avoidance, health and fitness, gang and violence prevention, cultural enrichment, leadership development, and community service (Boys and Girls Clubs of America, 2000).

(10) The Police Athletic League began in 1992 as an effort to reduce violence and delinquency among inner-city youth. The program contends to improve relations between inner-city youth and the police, and to provide youth with safe havens in the community by providing community service officers to act as tutors, mentors, teachers, and role models in Police Athletic League centers.

(11) Murfreesboro Extended School Program in Murfreesboro is one of the most widely known community-based after-school programs in Tennessee. This program began in 1986 at one elementary school (Jones, 1995). The program has a clear academic focus, but also includes cultural and recreational elements.

School-Based After-School Programs

School-based after-school programs are held during the same after-school hours, but are different from day care and after-school programs. School-based after-school programs are directly aligned with what happens during the school day. Day care and after-school programs may or may not take place on school grounds. The school-based after-school program typically located inside the school building and provides a combination of academic, recreational, and cultural programs. Regular school-day teachers and staff are usually paid to stay at the school during the after-school hours.

School-based after-school programs have an academic focus, and the goals, outcomes, and methods of academic instruction are directly related to and connected

to what takes place during regular school days. Teachers teach study skills and advanced or supplementary courses, conduct small-group or tutorial remedial classes, and supervise homework clubs. Additionally, paraprofessional or community volunteers may provide cultural and recreational programs. Teachers may also supervise and train volunteers to provide academic or nonacademic services. After-school programs can be schoolwide or districtwide, but because they are seldom mandatory, they need to have enough inducements to attract children to attend (Fashola, 1998).

Many school-based after-school programs are modeled on national programs. They draw on the resources and technical assistance of national programs. Other programs are local or even one-site operations; they may also follow national models, develop their own program independently, or work with local schools to help gear up the educational services of both school and after-school programs. School-based after-school programs are usually academically advanced and offer supplementary programs to help students succeed in academic performance or catch up to their peers.

Advanced school-based after-school programs. Advanced school-based after-school programs focus on getting ahead or enrichment purposes. One specific program goal is to increase learning opportunities to help students to attain higher academic achievement. The following are the programs implemented currently in the United States.

(1) The Junior Great Books Curriculum of Interpretive Reading, Writing and Discussion program strives to promote cognitive processing in reading comprehension and literacy for children in grades 2-12 by emphasizing three kinds of thinking: factual, interpretive, and evaluative (Nichols, 1993). By using a method of

shared inquiry and interpretive questioning, children are encouraged to realize that there is more than one answer to questions asked about the text they have read (Nichols, 1993).

(2) Project Success Enrichment was originally developed to enrich the language arts of gifted and talented students in elementary schools during the regular school day by providing them with learning activities that include higher order thinking skills, cooperative learning, interactive discussions, and shared decision making. This program has been used among children of varying socioeconomic, racial, and academic achievement levels since its original development (Project Success Enrichment, 1995).

(3) Study Skills Across the Curriculum (SSAC, 1991) is a program designed for students in grades 5-8 to improve their academic performance by teaching study skills. Particularly, the program seeks to improve performance in content areas and to better prepare the students for active, independent, and successful learning in high school.

(4) Increasing Maximal Performance by Activating Critical Thinking is a language arts and mathematics program that trains teachers to use critical thinking, problem solving, and higher order thinking in mathematics and language arts with children in grades 3-12 (Winocur, 1977).

(5) Voyager Expanded Learning was the first national initiative to pioneer a comprehensive learning system, using extended learning time in America's public schools as a way to help students who have fallen behind or at risk. Voyager has a variety of academically enriching themes designed to help elementary school children in grades K-6 become active learners in mathematics, reading, science, arts, and social studies (Voyager Expanded Learning, 2000).

(6) Hands On Science Outreach is an extended school-day and after-school program developed to encourage all children, including minority, low-income, and at-risk students in grades pre-K to 6, to have fun learning science and to learn by example and experience that anyone can engage in scientific inquiry. The program aims to improve problem solving skills and confidence in participating in science activities (Goodman & Rylander, 1993).

(7) Fifth Dimension is a cognitively based extended school-day program, developed at the Laboratory of Comparative Human Cognition at the University of California at San Diego. The program emphasizes social interaction, communication, and problem solving in approaching different tasks.

(8) Another extended school-day program that attempts to improve students' academic achievement is Explore Incorporated. Explore Incorporated has main themes incorporated in a curriculum written by academics in consultation with professionals in various academic fields. Explore Incorporated creates modular curriculum materials that are connected to national, state, and district standards. The goal is to teach children to think critically, with expected outcomes being improved test scores.

(9) Mindsurf is an academic K-6 after-school enrichment program created out of a partnership between National Geographic and Sylvan Learning. The main goal of the program is to provide children with enriching academic achievement opportunities during the after-school hours. The program also creates safe and fun learning opportunities for the children.

(10) Foundations Incorporated is an after-school program for children in grades K-12. Founded in 1992, the program brings together children, families, schools, and

communities by providing children with academic enrichment programs during the non-school hours on school grounds.

Supplementary school-based after-school programs. Supplementary after-school programs focus on make-up courses, conduct small-group or tutorial classes, and supervise homework clubs. The goal of these programs is to help students catch up with peers and maintain schooling without dropping out because of lagging behind in classes. The following are some of the programs used most by parents in the United States.

(1) Books and Beyond (Topolovac, 1982) is a voluntary reading program placing an emphasis on helping and motivating students in grades K-8 to read more recreationally and watch less television. The primary purpose of Books and Beyond is to enhance reading skills and to improve students' attitudes towards books and reading.

(2) Extended-Day Tutoring Program in the Memphis City Schools is an after-school program developed by the Center for Research in Educational Policy at the University of Memphis in 1995 (Ross, Smith, Casey, & Slavin, 1996). The goal of the program aims at improving reading performances of students in grades 2-4. Students are group-tutored and a language arts curriculum is utilized during the after-school hours.

(3) The Coca-Cola Valued Youth Program (1991) is a cross-age tutoring program. The program is initially conducted to increase the self-esteem and school success of at-risk middle and high school students. Students who enroll in the program are placed in positions of responsibility as tutors of younger elementary school students. The goal of the program is to decrease the dropout rates of at-risk students by

improving their self-concepts and academic skills.

(4) The goal of Exemplary Center for Reading Instruction (Reid, 1989) is to improve elementary school students' reading ability. This program teaches students reading-related skills such as word recognition, study skills, spelling, penmanship, proofing, and writing skills, and helps student improve in decoding, comprehension, and vocabulary.

(5) The Howard Street Tutoring Program (Morris, Shaw, & Perney, 1990) is a supplementary tutoring program designed for students in grades two and three who are identified at reading below grade level. This is a volunteer program, and a reading specialist is assigned to the program as a coordinator to help train the volunteers to be able to tutor the students who attend the program.

(6) Book Buddies is a tutoring program conducted for first grade students who have been identified as having reading problems by their classroom teachers. Enrolled students attend one-to-one tutoring sessions twice per week. They learn to read by rereading familiar storybooks, engaging in word study and writing and reading new stories.

(7) Help One Student to Succeed (Wilbur, 1995) is designed to help schools create tutoring programs for at-risk students by using a mentoring approach. The program provides one-to-one after-school tutorial services to Title 1 students who are performing below the 30th percentile in elementary through high school.

(8) Reading Recovery with AmeriCorps is adopted from the original Reading Recovery tutoring program. The original program (Pinnell, Lyons, Bryk, & Seltzer, 1994) was designed for use only by certified reading tutors who are already credential teachers or reading specialists. The AmeriCorps version of the program trains and

pays community volunteers who are paid by AmeriCorps to deliver tutoring services to the students.

(9) The Intergenerational Reading Program uses an intergenerational model to improve the reading skills of first grade students and to help students experiencing difficulties when they are reading books. This program trains, and sometimes pays senior citizens and foster grandparents as tutors. First grade students who are identified by their teachers as being at risk for reading problems can attend the program and receive one-to-one tutoring at least three times per week to improve their reading ability.

(10) Reading Together/VISTA is also a reading program created for low-income kindergartners and pre-first grade children (Neuman, 1997). Young children enrolled in the program are exposed to concepts of literacy and reading. The program uses prop boxes to improve children's languages and skills. The prop boxes consist of a variety of articles put together to stimulate the use of new vocabulary and language among the children. Some of the contents include crayons, paper, pencils, interesting objects, and books in the prop boxes.

(11) The Early Identification Program is used to improve students' reading performance in kindergarten. Students in this program are provided with one-to-one tutoring sessions. These sessions focus on perceptual motor and fine-motor skills, categorization concepts, and reading readiness skills.

(12) READ*WRITE*NOW is a comprehensive effort to encourage children to enjoy reading in hopes of improving reading among at-risk youth before age nine (Riley, 1996). The goal of this program is mainly to help children to increase the amount of reading, and also to encourage parents, volunteers, and teachers to

participate in this process.

Strengths and Weaknesses

Noting the literature quoted, there are many advantages of school-based after-school programs. The advantages include credibility, a continuity of care, and easy access to good resources. In addition, school-based programs are located in schools and that eliminates the need for children to travel to get to them, and parents do not have to go to two locations to participate in their children's education. The disadvantages of school-based after-school programs include higher personnel costs, unexpected program cuts if the after-school program budget is tied to that of the school, and a perception by children that the program is merely an extension of the school day (Latchkey Guidelines, 1987).

The community-based after-school programs, either profit making or non-profit, also have to be qualified to conduct after-school programs for the students and parents. Some of the programs are independent business, while others may have a service contract with the local school district. A potential difficulty for community-based programs is the availability of a suitable site that is an easy commute from school and home. Ideally, the well-equipped site must have both educational and recreational resources, sufficient rest rooms, and a kitchen (Schwartz, 1996). Some community-based after-school programs may rent school space at the program site since schools have the best facilities. Thus, they can have some of the same advantages as a school-based program.

After-school programs, no matter what type, all emphasize the following primary goals: (1) recreational and cultural activities, (2) non-academic activities in such areas as ballet, tap-dancing, and chess, and (3) a mixture of academic,

recreational, and cultural programs. The report by the U.S. Departments of Education and Justice (2000) indicates that after-school programs provide a wide array of benefits to children, their families, schools, and the whole community. First, after-school programs keep children safe and out of trouble. After-school hours are the time when juvenile crime hits its peak, but quality after-school programs can protect children by providing qualified adult supervision. Second, after-school programs also can help to provide get-ahead or make-up education to children who attend them. Furthermore, some of the programs may include community members in the program as teachers for some of the classes and activities. These individuals may be connected to churches, private and public corporations, law enforcement agencies, parent groups (e.g., PTAs), businesses, members of the armed forces, and other groups. In some cases, they make the after-school program a base of community activity, and over time the program and the school may begin to have a broad impact on the community.

The development of curricula in some after-school programs may relate to district, state, and national goals. These programs usually provide students with complete, well-tested approaches, well-designed curricula, resources, trainers, and so on, to decrease the need for every school to reinvent a new program. Some of these after-school programs have been widely used, and have shown some effectiveness in public schooling. However, many have not been used with at-risk students and for achievement purposes to help students pass even the most minimal standards (Fashola, 1998). Some students who attend after-school programs may not be motivated well enough to work hard on their schoolwork or have the commitment to sacrifice their free time playing with peers or watching television at home. It is always a problem

to have sufficient inducements for children to attend after-school programs if the programs only rely on recreational activities to attract student attendance. Such is the case, then after-school programs will only be places to keep students in the supervision of adults and without much improvement for the students' academic performance.

Specific outcomes of after-school programs for students are difficult to ascertain. The report of Urban After-School Programs (1998) indicates the following reasons: First, not only few evaluations have been conducted, but also those that exist are based on middle-income white youth and thus may not be pertinent to low-income non-white populations. Second, most evaluations can not avoid selection bias because families that volunteer for after-school programs may be different from those who do not need the help of after-school programs. Third, a lack of control also plagues most evaluations because of the difficulty in finding a comparable non-participating group of youth to track. Finally, correlating a youth's program participation with improvements in academic achievement is hampered by a lack of coordination between the academic programs of the school and the after-school program. In addition, since not all students attending a single after-school program attend the same school, the program cannot develop its curriculum to reinforce or supplement that of a specific school.

Though the flawed studies may determine the viability of the programs, most of the programs described in the review of the Center for Research on the Education of Students Placed at Risk have shown to be effective in an after-school setting or effective as an in-school program and easily replicable for use after school. Despite the paucity of rigorous evaluations of after-school programs, it can be sure that

after-school programs contribute to public school education in many aspects and facilitate students' learning in flexible ways.

According to the U.S. Department of Education and Justice (2000), well-planned and well-staffed programs provide safe havens where children can learn, take part in supervised recreation, and build strong, positive relationships with responsible, caring adults and peers. After-school programs have helped reduce the juvenile crime rate. Adolescents are less likely to engage in risky behaviors, such as tobacco use, when they have after-school programs to go to. The attendance of after-school programs decreases the amount of time that children spend on watching television. Studies (Salomon, 1993) show that children typically learn far less from television than they do from a comparable amount of time spent reading. Finally, injuries and victimization decline in communities previously plagued by crime. After-school programs, no matter in what form and on what purpose, surely are the hope of American education, as former President Bill Clinton (The White House at Work, 1999) states: "We must have more high-quality child care so that all children are ready to learn on the first day of kindergarten" (p. 1).

After-School Programs and Educational Renewal in the United States

Reform education, or educational renewal, is developed to facilitate student learning and achieve the following goals: First, pursuit of flexibility, adaptability, and creativity of schooling to make the teaching into an effective democratic learning community (Glickman, 1993). Second, educational renewal highlights the relationship among students, parents, teachers, and all the staff in the learning community. They reduce the school size and the student-teacher ratio to help teachers know their students well and be able to motivate them. Third,

personalization is the goal of educational renewal. Although the course of study may be unified and universal, teaching and learning are personalized. Education deals with the souls and the personalities of the students, not for the mass production as factories produce their products (Boyer, 1993). Heterogeneity is treated as a plus, not a problem. Fourth, teachers in the democratic schools have the responsibility equally to educate all students--rich, poor, black, white, male, female. Democratic schools provide specialized education for poor and homeless children as needed and the education for parents that they need in helping their children in the process of schooling (O'Hair, Mchaughlin, & Reitzug, 2000). Fifth, one of the goals in the educational renewal is in the pursuit of authentic teaching--teaching for disciplined understanding and supporting diverse learners at the same time. Authentic teaching is to teach all students to be guided by values and beliefs and connecting the lessons of the classroom to the realities of life.

Finally, education renewal pursues authentic learning, performance, and assessment. Authentic learning emphasizes genuine understanding and begins with the disciplines, not with whimsical activities. Apprenticeship is one way to achieve the goal of authentic learning. By immersing students in an area of study, students can come to an in-depth understanding of the context of their learning. Authentic learning needs authentic performance and assessment. Darling-Hammond (1997) indicates, "Authentic performance is critical to the development of competence. Thus meaningful performances in real-world contexts need to become both the stuff of the curriculum and the focus of assessment event" (p. 115). Authentic assessment is the process of the demonstration of student learning through products like mathematical models, literary critiques, scientific experiments, dance performances,

not the standard test scores (Darling-Hammond, 1997). In Newmann and Wehlage's study (1995), student learning in a restructuring school was directly influenced by authentic pedagogy. Authentic pedagogy was defined as "teaching that required students to think, to develop in depth understanding, and to apply academic learning to important, realistic problems" (Newmann et al., 1995, p. 3). It was found in this study that authentic pedagogy provided students of all social backgrounds the access to the opportunities to achieve successfully and equitably.

What After-School Programs Can Do to Help the Success of Educational Renewal

Providing most Americans with an empowering and equitable education has always been a struggle, and it remains one today. Efforts to develop thoughtful democratic education have repeatedly failed by underinvestments in teacher knowledge, school capacity, commitment, funding, and allocated resources. It is true that schools in the U.S. are developed as specialized organizations run by carefully prescribed procedures engineered to yield standard products. If the U.S. educators looked closely at the education system implemented in Japan and Taiwan, they would realize that Taiwanese and Japanese schooling systems are more like the effects of the factory model as American schools. Thus, the flexibility, the closer relationship, the personalization, equity, and authentic teaching and learning are yet to come to be the goals of educational renewal era and are realized not easy to administered in the current educational systems. However, after-school programs that first existed to help parents at work by taking care of the children have developed and expended well to serve the demands of democratic schooling. The operation of after-school programs in Taiwan and in Japan has even boomed into a vast commercial industry to meet the students needs. Thus, after-school programs can fill the little

gap caused by the pursuit of mass educational production in traditional schooling.

Better use of school utilities and human resources. Lee and Loeb (2000) indicate that school size influences students achievement both directly and indirectly, through its effect on teachers' attitudes. The outcomes of Lee and Loeb's study (2000) present that small schools (enrolling fewer than 400 students) are favored compared with medium-size or larger schools. In small schools, Lee and Loeb (2000) describe that teachers have a more positive attitude about their responsibility for students' learning and students learn more. Because after-school programs only serve smaller numbers of children than the school as a whole, they can earn the profits for students as small schools do and make effective use of resources that are less easily available during the school day. For example, a limited number of computers can serve the needs of after-school computer clubs because there are smaller student-to-computer ratios. Volunteers willing to work with children on academic, cultural, or sports activities, especially older students, are usually more available after school than during school hours (Fashola, 1998). Teachers also take care of fewer students in after-school programs than regular class and can have a positive attitude and closer relationships with students.

Flexibility, adaptability, and creativity. The arrangement of after-school programs is flexible. They can be arranged at the time before or after school, on the weekend, or during school vacation. Students and parents can choose the appropriate time without abiding by the regular school hours. In some after-school programs, curricula focus on a single component or the need of the students or the community. Some of the curricula implemented in after-school programs tie to district, state, and national goals. These programs provide students with complete,

well-tested approaches, resources, and trainers to reduce the need for every school to reinvent a new program so adaptability is possible and specific programs can be widely used across the whole country. Goal setting for the after-school programs is made through collaborative decision-making. The decision-making members include leaders, staff, parents, community members, teachers, and school administrators.

Overall, after-school programs strive to be fun, challenging, and comforting. They are freer than schools to use innovative curricula and activities to promote children's learning. They can be flexible in tailoring children's time to their needs, have a better student-staff ratio, and benefit from multi-age grouping. Funding for after-school programs are very wildly supported. Many federal and local government agencies offer funding for after-school programs. It may also be possible to combine special purpose funds from several agencies to create a full-service program. Some foundations also fund programs. Local businesses and organizations may also support after-school programs by contributing sports equipment or even a site (Carnegie Council on Adolescent Development, 1994).

Seeking Equity. It is true that all children in the United States do, in theory and on paper, have access to education, but as O'Hair et al. (2000) point out, inequality of opportunities still abounds. It is an educator's responsibility to respect multiple cultures, and to handle the needs of the poor and homeless. Posner and Vandell (1994) investigated the benefits of after-school programs for low-income children. They found that after-school programs are one way to alleviate some of the negative effects of urban poverty on children. Noting the after-school programs cited above, most of the programs are designed for minority, low-income, and at-risk students. The

tutoring after-school programs, for example, provide remedial tutoring programs created for students who are reading below grade level. Once the students are identified by teachers as having reading problems, they attend one-to-one after-school tutoring sessions, where they learn to read by rereading familiar storybooks, engaging in word study and/or writing and reading new stories. Usually the programs help students by providing a chance to catch up with their peers in the regular school day class.

Personalization. The program Help One Student to Succeed (Wilbur, 1995) is a model that helps schools create tutoring programs for at-risk students using a mentoring approach. The program provides one-to-one, usually after-school tutoring services to Title 1 students in elementary through high school who are performing below the 30th percentile. This program is a good example of the possibility for personalized education and for the care of individual students. No matter how small the student-teacher ratio a school has, one-to-one tutoring is almost impossible for a homeroom teacher in our regular classrooms. After-school programs have the flexibility to provide student-need-oriented education and help the individual student to learn at his or her own pace.

Other benefits that after-school programs provide the educational renewal process. Quality after-school programs can have far-reaching benefits in educational renewal reform. Though not always immediately evident, the benefits for students include teaching for diversity, being governed by teachers and parents, having the right of choice, increased learning, improved health, increased exposure to career choices, and enhanced social and psychological development (U.S. Department of Education & Justice, 2000). After-school programs can reinforce educational

renewal as follows:

(1) Teach for diversity. Due to the variety of after-school activities, after-school programs can teach students in ways that help different kinds of learners find productive paths to knowledge as they also learn to live constructively together.

(2) To be governed by teachers and parents. Due to the flexibility and small size of the after-school programs, governance can engage every teacher, student, and parent. Organization of after-school programs is not complicated and is usually of small size. It is easy for every one who is involved in the process to share in the decision-making and administration of the program.

(3) The right of the program choice, participation, and autonomy. Students may enroll in after-school programs, or parents may enroll them purely out of interest, not by state mandate requirement. U.S. *status quo* after-school programs are rarely mandatory, but they need to have enough inducements for children to attend.

(4) Increased learning. After-school programs can play a large role in improving student achievement. Whether through targeted academic activities, or through indirect activities that positively motivate them, students' chances of improving their school performance increase when they are actively engaged in a structured after-school program.

(5) Healthier students. After-school programs can foster healthier habits for students who would otherwise be at home alone. Most of the after-school programs provide practical care for the children. This is the best time for the children to learn about healthy food and eating habits.

(6) Career outcomes. After-school programs are a perfect venue for student career exploration. Students in the same after-school programs can share the

information among peers and teachers may have more opportunities and time to talk with students in-depth about their individual future.

(7) Positive influences on social and psychological development. In addition to direct academic and school-related benefits, after-school programs can be advantageous to students in many other ways. After-school programs can be a time for students to volunteer in their communities, learn leadership skills, and make connections with adult mentors (National Education Commission on Time and Learning (1994).

Current Study Pertaining to After-School Programs

Quantitative Research Studies in the U.S.

Five quantitative designed studies and the researcher's previous qualitative study of Taiwan *busi* culture were reviewed in this section. The studies selected were owing to their close relation to the issues of after-school programs studied in this study. Vandell and Ramanan (1991) evaluate the association and the effects between types of after-school care. Posner and Vandell's study (1994) examines the effects of different types of activities offered during after-school programs. Rosenthal and Vandell (1996) design a questionnaire to investigate after-school environment and parents' perceptions, which was used in this survey study to identify parents' perceptions of after-school programs in Taiwan. Pettit, Laird, Dodge, and Bares (1997) study the extent to which types of after-school care in grades one, three, and five predict behavioral adjustment and academic performance in grade six. This study was selected to compare whether there was the same result that *busi* hours predicted students' academic achievement scores. Finally, Vandell and Corasaniti (1988) investigated how after-school programs affected students' social, academic,

and emotional development, which relates to parents' views of *busi* benefits for their children in Taiwan. The following are the reviews of these researches pertaining to the present study:

Choices in after-school care and child development. The first study conducted by Vandell and Ramanan (1991) was to examine the associations between types of after-school care (latchkey, mother care, and other-adult care) and children's social, emotional, and cognitive development in a predominantly low-income, minority, urban sample. The question was whether latchkey care for these children was associated with increased behavior problems, lower self-concepts, or poorer academic performance. The subjects of the study were 390 children whose mothers were part of the National Longitudinal Study of Youth. These children were all in third, fourth, or fifth grade classes at the time of the 1986 survey.

Vandell and Ramanan collected data by conducting mother questionnaires, home observations, and child assessments. Chi-square analyses were used for the categorical variables, and one-way analyses of variance (ANOVAs) for the remainder to address concerned possible demographic and family environment differences associated with the three types of after-school care. The second set of analyses investigated whether there were differences in children's social-emotional and cognitive functioning associated with types of after-school care. For these analyses, one-way ANOVAs were conducted with types of after-school care being the independent variable.

The results showed that children in the care of single mothers after school in comparison with children in other types of adult supervised after-school care had lower Peabody Picture Vocabulary Test scores and higher ratings for antisocial

behaviors, anxiety, and peer conflicts. Latchkey care was also associated with more behavior problems. However, these problems disappeared when family income and emotional support were controlled, suggesting that type of after-school care *per se* is less important than the quality of children's experiences with their families.

Are there beneficial effects of after-school programs? In this study, Posner and Vandell (1994) used a quantitative research methodology to examine the effects of four different types of after-school care arrangements (formal after-school programs, mother care, informal adult supervision, and self-care) on 216 children (M age 9.1 years) from low-income families. Among these students, 60% were qualified for free and reduced lunches and 50% were from single-parent families and none of the parents had completed college.

In this study, three after-school programs were studied. One was sited at school but primarily staffed by childcare providers, not classroom teachers. There was usually a balance of academic, recreational, remedial, and cultural activities included in this after-school program. The second had more of an academic focus and was staffed by teachers from the children's school-day programs. It focused on academic remedy and enrichment activities. The third program involved mainly recreational and cultural activities with some homework assistance.

The purpose of the study was to determine whether formal after-school programs were associated with low-income children's social and academic functioning. Multiple assessments were conducted to provide information about (a) the family environments that might serve as selection factors for after-school care, (b) children's specific activities and experiences during the after-school hours, and (c) children's performance.

In analyzing factors affecting the selection of different after-school arrangements, chi-square analyses tested associations between types of after-school care and categorical variables. One-way ANOVAs were used to examine the associations between types of after-school care and continuous variables. The second set of analyses examined whether differences in children's performance were related to after-school arrangements. Separate multivariate analyses of covariance were performed on the type of care as the independent variable with maternal education, family income, and race treated as covariates for the following clusters of dependent variables: report card grades, teacher ratings, and behavior problems as reported by parents.

This study documents extensive positive effects for low-income children who attended formal after-school programs. The findings show that children in formal programs spent more time in academic activities and enrichment lessons and less time watching TV and playing outside unsupervised than other children. Children in formal programs also spent more time engaging in peer activities, interacting with adults and spent less time with siblings than did other children. Time spent with adults after school was positively correlated with conduct grades and negatively correlated with antisocial behaviors. Time spent with siblings after school was negatively related to children's emotional adjustment. The findings in this study are consistent with the current contention that formal programs located in children's communities have great potential as a protective factor for children living in high-risk environments.

Quality of care at school-aged child-care programs. Rosenthal and Vandell (1996) investigate children's experiences at 30 U.S. school-aged child-care programs

to explore relationships between alterable features of School Aged Child Care programs and children's observed and reported experiences as well as parents' perspectives. Data were derived from two main sources. Regulatory features such as total enrollment, child-staff ratio, and staff education were assessed via director report. Observers recorded positive and negative staff-child interactions and rated the flexibility and age appropriateness. This survey involved 30 programs and 265 students in Madison, Wisconsin. The participants included a total of 180 children and 152 parents.

Each after-school site selected was observed twice. Children's interview reports on their experiences in the program were received ahead of time, and parent interviews were provided two weeks after the program observations. Results showed that classes with a higher staff per child had less negative staff-child interaction and less negative child behavior. The lower the percentage of older children, the less negative behavior was found. More positive/neutral interactions with the staff were observed when there was a greater flexibility of activities provided by after-school center.

Children who were interviewed were asked to rate the programs based on overall climate, emotional support, and autonomy/privacy. A negative correlation was found between overall climate and total enrollment number: the more students enrolled, the lower the scores for climate. In addition, children in the larger programs rated them lower on perceived emotional support and autonomy, although these programs did offer a great number of different activities. Finally, low staff-to-child ratios were also associated with negative parental ratings of the programs.

Patterns of after-school care in middle childhood. Pettie, Laird, Dodge, and Bares (1997) conducted this study to identify patterns of care in middle childhood to examine (a) variations in these after-school care patterns as a function of family SES and child sex, (b) relations between these after-school care patterns and children's subsequent, social, behavioral, and academic adjustment as assessed in grade six, and whether these relations were moderated by SES or child sex, and (c) the extent to which these predictive relations continued to be significant after controlling for SES, child sex, and kindergarten adjustment. After-school care patterns refer to (a) the extent of usual weekly involvement in different after-school care arrangements, (b) combinations of arrangements occurring with some regularity, and (c) overall number of after-school arrangements used.

This study was completed as part of the ongoing Child Development Project, a multisite longitudinal study of children's social adaptation. The sample consisted of 585 families at the first assessment prior to kindergarten. Follow-up assessments of the children were conducted in kindergarten and every grade thereafter through grade six; follow-up family assessments were conducted in the summer following kindergarten and in all subsequent summers. Attrition averaged approximately 3.3 percent per year.

In the study, Pettit et al., (1997) have documented linkages between children's after-school experiences in the elementary-school years and children's social, behavioral, and academic adjustment in sixth grade. Their findings showed that high amount of self-care predicted poorer adjustment even after controlling for socioeconomic status and prior adjustment. Poor adjustment outcomes for self-care were most apparent for children already displaying problem behavior in kindergarten,

and for children not participating in adult-supervised extracurricular activities. The impact of several types of care was moderated by SES and child sex. These findings highlight the social context of the after-school care experience, with prior adjustment, family background, and patterning of care all serving as important factors in the care-outcome linkage.

Effects of after-school programs on third grade achievement. Vandell and Corasaniti (1988) conducted a study to investigate how after-school care affected third grade students' social, academic, and emotional development. The purposes of the research were declared by Vandell and Corasaniti as:

1. To compare the responses of third-grade latchkey children to those who were in adult care during after-school hours.

2. To look at the diversity of after-school arrangements (day care centers, community sponsored sites, or at home with mother) and their effects on the social, emotional, and academic well being of the students.

3. To study how different types of after-school care were related to family structure (single, married, or divorced).

The subjects were 150 Caucasian third grade students in a suburb of Dallas. Most of the parents involved in the study were high-school graduates and some had college experience. A descriptive analysis of the study showed that fathers with the highest educational levels tended to arrange for their children to stay with sitters after school, instead of enrolling their children in after-school centers or returning home alone or to siblings. Instruments applied to this study included academic grades, conduct grades, standardized test scores, friendships with class peers, teacher ratings, peer relations, emotional well-being, adult and child relations, parental ratings, and

self-ratings.

Results of the study indicated that the type of after-school programs had an effect on the student's friendships with peers in the class. Children who attended after-school programs and those who went to a sitter after school were more likely to receive negative ratings from their peers than were students who returned home to their mothers or were latchkey children.

The type of after-school programs also affected academic achievement. Students who enrolled in after-school programs had significantly lower ITBS scores and mathematics scores on the TABS and the CAT than those students in all other children arrangements. As to the standardized test score, there were not significant differences between children in latchkey care and those who returned home to their mothers.

Vandell and Corasaniti (1998) also found that type of placements also related to students' socio-emotional well-being. Students who went to a sitter tended to have better senses of self-perception than did latchkey or children who attended after-school programs. According to the descriptive data, many of the students were stigmatized because they went to after-school programs. Besides this, students who went to after-school programs were found to be already exhibiting behavioral problems. In this study, most of the programs were geared to children in first- and second-grade students, thus the target subjects of the third-grade students were found to be bored.

Brief Description of the Pilot Study

A pilot study was conducted in the spring of 2000 involving 11 participants. Following the naturalistic paradigm, this phenomenological study was based on an

analysis of existing government documents, media articles/reports and information garnered from interviews with *busi ban* students, parents, teachers and administrators. According to Lincoln and Guba's naturalistic method (1985), "there are multiple constructed realities that can be studied only holistically" (p.37). A phenomenological study is primarily an attempt to understand certain human experiences from all or a variety of possibilities (Glense, 1998). In Riemen (1998) it is stated that "phenomenology serves as the rationale behind efforts to understand individuals by entering into their field of perception in order to see life as these individuals see it" (p. 275).

Data from different sources including interviews with various participants are holistic and best for discovering multiple realities. These data help provide a complete and complex picture of *busi ban* in Taiwan because many different perspectives and experiences may be considered. Specifically, the data in this study were derived from government reports and documents, statistics from Bureau of Statistics of the Ministry of Education in Taiwan, newspaper articles and scrapbooks and, most important of all, from in-depth interviews with a selected sample of eleven students, parents, and teachers.

The purpose of the interviews was to determine the major reasons why students attend *busi ban*, perceptions of and experiences in *busi ban*, and the benefits and drawbacks of attending *busi ban*. A general protocol constructed especially for these interviews was used. While the interview focused on the issues in the protocol, other information deemed relevant and important was also recorded. Each of the interviewees had two one-hour interview sessions, and was asked to allow the researcher to call back if deemed necessary. Each interview was taped and later

transcribed. Notes also were taken during the interview.

The findings in this study strongly indicate that the traditional culture, screening examination, ability grouping, class size, quality of teaching, and parent employment all facilitate the trend of attending after-school learning centers. *Busi ban* improves student academic achievement by spending more time on academic activities, provides the supervision for students whose parents are at work and the provision of remedial help to students having difficult in school, and accelerate student socialization. The purpose of the *busi* programs are categorized into the following three functions: get-ahead (or enrichment) education, make-up education, and after-school adult supervision.

Summary

To summarize the works quoted above, before- and after-school, *juku*, or *busi ban* are all evaluated to have been a great help to the students. After-school programs involve families in learning process and students' time on task, develop new interests and skills, lead to greater self-confidence in studying, and provide opportunities to practice and learn. All the factors facilitate academic achievement. In Taiwan and in Japan, most after-school programs are provided by private institutions, while in the U.S. the government supports the programs. The main purpose of after schools are aimed to help students to pass the test in the country where ruthless examination systems exist, or provide supervision of children, or the provision of remedial help. In the United States, after-school programs are the most pressing need for children 10-14 years of age (Witt & Baker, 1997), and those programs in existence are evidenced to mesh with public schools successfully. It is recognized and hoped that, in urban and low-income areas, after-school programs are

essential to counteract the effects of a number of factors contributing to a student's lack of opportunities and ability to succeed academically. In Japan, the government is threatened by the overriding of after schools (Cummings & Altbach, 1997), and in Taiwan officials condemn not only the schools but also the necessity for their presence. The crucial differences are that students in the U.S., especially those at risk or from low-income families, are encouraged to enroll in after-school programs while students in the eastern countries are blamed for taking too many classes in after-school programs. Both former President Clinton and the incumbent President Bush advocate that after-school programs are worth the investment and both believe that after-school programs can improve the public school system and that "no child should be left behind" (Bush, 2001).

CHAPTER THREE

Methodology

A quantitative research design was selected for this study. The main purpose of employing a quantitative research design was to identify the main reasons for after-school programs attendance, parents' perceptions of after-school programs that their children attended and parents' views of *busi* benefits accounting to their children due to their attendance at after-school programs. Descriptive statistics were computed from both the demographic questions and the Likert-type questionnaire. The secondary focus of the study was to investigate the influential relationships between the BCT (Basic Competence Test) scores and non-school-based *busi* hours, school-based *busi* hours, fathers' educational levels, and family annual incomes. The influential relationships between non-school-based *busi* hours and family background characteristics, place of residency (living areas), and educational aspirations were also tested. A correlation coefficient was implemented to measure the extent to which variables are related in some way (Langenbach, Vaughn, & Aagaard, 1994) or not at all. This study addresses the following questions and hypotheses:

1. What are the main reasons that parents send their children to *busi* programs?
2. What are the parents' perceptions of the after-school programs that their children attend?
3. What are the parents' views of *busi* benefits affecting their children due to their attendance at after-school programs?
4. How are student Basic Competence Test (BCT) scores related to school-based *busi* hours, non-school-based *busi* hours, fathers' educational levels,

and family incomes?

Null hypothesis (1):

There was no correlation between BCT scores and school-based *busi* hours, non-school-based *busi* hours, fathers' educational levels, and family incomes.

Null hypothesis (2):

There was no correlation between BCT scores and school-based *busi* hours, BCT scores and non-school-based *busi* hours, BCT scores and fathers' educational levels, and BCT scores and family incomes.

5. To what extent do family background characteristics, place of residency (living areas), and educational aspirations relate to the need for the hours of *busi* attendance?

Null hypothesis (1):

There was no correlation between non-school-based *busi* hours and parental educational levels, family annual incomes, educational aspirations, place of residency (living areas), gender, and number of siblings.

Null hypothesis (2):

There was no statistically significant difference in the mean of non-school-based *busi* hours between the groups of parental educational levels, family annual incomes, educational aspirations, and living areas.

Description of the Population

Five hundred and twenty-five families, in which one of the members was in their

third-year of junior high school (ninth grade) on the transition from junior to senior high school in Kaohsiung City and Kaohsiung County, were selected randomly from the student list. The random selection was conducted by giving 34,002 ninth graders (20,300 in Kaohsiung City and 13,702 in Kaohsiung County) a number from 00001 to 34,002 in the computer database (Bureau of Education, Kaohsiung City Government, 2001). A simple random sampling was implemented in this study due to the large population. A random sample intends to assure that each and every member of the population has an equal and independent chance of being selected (Fraenkel & Wallen, 1996). The computer program was set to choose one subject out of every 65 students (slightly more than 1.5% of the population) from the database beginning with an arbitrarily selected number on the table of random numbers until 525 subjects were selected. Thus, every student in the database had an equal chance to be selected without personal bias or preference.

The areas from which the sample was selected included urban, suburban, and rural districts with a total population of about 2.7 million in Kaohsiung City and County (The Government Information Office, 2000). Kaohsiung City (population 1.5 million) located in southern Taiwan is the second largest city in Taiwan. Kaohsiung County (population 1.2 million) is adjacent to and east of Kaoshiung City. This area was selected because it was included in the same senior high school entrance examination district in Kaohsiung Senior High School District. Students in this area were ranked in the same poll according to their scores earned on the entrance examination (Basic Competence Test in the year of 2001) and tracked to the post-compulsory senior high schools or junior colleges in this district.

There are 765 academic *busi ban* in Kaohsiung City and 191 academic *busi ban*

in Kaohsiung County (Bureau of Statistics, Ministry of Education, 1999a). The number of after-school learning centers in this area is about 17 percent of all of those in Taiwan area (Bureau of Statistics, Ministry of Education, 1999a). These *busi ban* supervise and prepare the students who attend the programs for increased academic success and preparation for the joint senior high school entrance examination now referred to as Basic Competence Test (BCT).

Instrumentation

Available Assessment Instrument

Currently existing questionnaire. One assessment instrument for measuring the benefits of attending after-school programs from the perceptions of the parents and students was identified in the related literature. In 1994, the Ministry of Education in Japan had implemented a survey to determine parents' and children's view of the benefits of attending after-school programs. The questionnaire (12 items) implemented by Japanese Ministry of Education was extended to 15 odd-numbered items in this study. These 15 odd-numbered items of the questionnaire were utilized to identify parents' views of *busi* benefits for their children. The other portion (15 even-numbered items) of the 30 items was designed to collect the parents' perceptions of *busi* programs that their children attend. These 15 even-numbered items of the questionnaire were created by Rosenthal and Vandell (1996) to measure parents' overall perceptions of the climate of their children's after-school programs. Items on the survey were listed on Appendix A.

Basic Competence Test. The results of the Junior High Basic Competence Test (BCT) was used as standard achievement scores to measure students' academic achievement. The BCT was designed and developed by National Taiwan Normal

University according to the standard test procedures (National Taiwan Normal University, 2000). Both the reliability and content validity were established by the committee of "Junior High School Basic Competence Test" (National Taiwan Normal University, 2000). Because this was the first use of the test, concurrent validity needed to be established after the first examinees have been assigned to and have studied in post compulsory education. The questions on the BCT are multiple choice including such content areas as Chinese, English, mathematics, natural science, and social studies, all based on the new curriculum standards issued and implemented in 1997 by the Ministry of Education in Taiwan (National Taiwan Normal University, 2000). The highest possible score for each subject is 60 with total possible scores of 300. The purpose of the BCT is to measure student performance in basic competencies as well as their potential for future development (National Taiwan Normal University, 2000).

Translation of the Questionnaire

The families selected for this study resided in the southern part of Taiwan and many of them could not read or speak English. The questionnaire was constructed in Chinese as it would have been useless to do otherwise. Thus, the translation of the questionnaire from English into Chinese was necessary (Appendix A). The questionnaire was translated into Chinese by the researcher and two Chinese professors in the field of after-school education who were fluent in both English and Chinese. Both professors were invited to review the translated Chinese version. They reviewed the two versions for language accuracy, simplicity, and validity of translation.

Content of the Questionnaire

The questionnaire was developed to obtain answers specific to attendance at after-school programs. The questionnaire consisted of three major parts (Appendix A). The first part was designed to obtain both parental and student demographic information including place of residency, parents' educational levels, income levels, and the tuition amount spent on after-school programs. The demographic information collected about students included gender, number of siblings, hours in attendance at after-school programs, type of after-school program attended (non-school based or school based), BCT academic achievement scores, reasons for attending after-school programs, and students' educational aspirations.

The second part of the questionnaire was designed to obtain parents' perceptions and views of *busi* benefits for their children. The questionnaire consisted of 30 statements for assessing the perceptions (15 even-numbered items) and the *busi* benefits (15 odd- numbered items) perceived by the parents of their children's attendance of after-school programs. These items were mixed together to achieve better reliability (Fraenkel & Wallen, 1996). Responses were recorded on a five-point Likert-type scale (i.e., 1 = strongly disagree; 2 = somewhat disagree; 3 = neutral; 4 = somewhat agree; and 5 = strongly agree).

The third part of the questionnaire including open-ended questions was developed to extract more details about the parents' perceptions of *busi* and views of *busi* benefits for their children. For example, what are other advantages or disadvantages of after-school attendance that are not listed in the questionnaire, who decided that the child needs to attend after-school programs, and why some children did not attend any after-school programs?

Variables

Background Variables

Participants' family background characteristics and the children's demographics were designed by a self-report measure. The background variables were described as follows:

Parental educational levels. Parental educational level was reported on a scale from 1 = junior high or less, 2 = senior high, 3 = college, and 4 = graduate schools.

Place of residency (living areas). Living areas were collected by 1 = urban, 2 = suburban, and 3 = rural.

Annual family income (NT$). Annual family income was scaled into five levels as 1 = 300,000 or less, 2 = 310,000-420,000, 3 = 430,000-600,000, 4 = 610,000-840,000, and 5 = 850,000 or above (1 US$ = 34 NT$).

Educational Aspiration Outcome Variable

Educational aspiration was indicated by a self-report measure. Participants selected the following responses to indicate their children's educational aspirations: 1 = academic high schools, 2 = junior colleges, 3 = vocational high schools, and 4 = other.

Academic Outcome Variable

Academic achievement was measured via Basic Competence Test designated by the National Taiwan Normal University. Participants reported the scores they obtained from the test.

Busi Hours Outcome Variable

Busi hours were distinguished as non-school-based *busi* hours and school-based *busi* hours. These data were indicated by a self-report measure. Participants

reported the school based and non-school based *busi* hours they attended separately.

Procedures

A cover letter (Appendix B), and a questionnaire were the instruments delivered to 525 randomly selected participants, who were given approximately three weeks to complete and return the instrument (postage prepaid). Reminder postcards (Appendix C) were sent one week later, and a subsequent mailing was sent three weeks later to remind them of the importance of their participation in this study. Reminder calls were also utilized to encourage the participants to respond.

Data Analysis

Two different research designs were used in this study. In the first stage, the researcher utilized a descriptive research design to analyze the data collected from the responses to the questionnaire. Descriptive statistics were gathered from the demographic questionnaire and the Likert-type questionnaire (see Appendix A). Measures of central tendency were calculated for continuous scores. The categorical data, including dichotomies, were explained and summarized by creating frequency distributions. The result was expected to be relevant to the research questions regarding main *busi* attendance reasons, parents' perceptions of *busi*, and views of *busi* benefits for their children. Frequencies and percent related to family demographics, the main reasons for attending *busi* programs, and the children's educational aspirations were compiled.

The 30 survey items in Part II were grouped into two parts. The first part included 15 even-numbered items investigate parents' perceptions of *busi* programs and the second part consisted of 15 odd-numbered items assess parents' views of *busi* benefits. Mean scores, standard deviations, frequencies, and rank order of parental

responses were calculated for each item in Part II to indicate tendency. The mean score for each item was then used to determine the direction of parents' perceptions of *busi* programs that their children attended and *busi* benefits for their children (i.e., positive or negative).

The second research design used in the quantitative portion of the study was a multiple regression analysis and one-way ANOVAs analysis. This design was implemented to test the two null hypotheses. Two multiple regression analyses including R, R-squared, F-changed, B, Beta, and t-test and five one-way ANOVAs including mean, number, percentage, sum of squares, degree of freedom, mean square, and eta square were conducted to answer the two research questions.

The first multiple regression analysis entering Basic Competence Test (BCT) scores as the dependent variable, and school-based and non-school-based *busi* hours as the independent variables, was administered to investigate how students' achievement scores were affected by *busi* hours. In this study all the independent variables were entered simultaneously.

Furthermore, the other multiple regression analysis was administered to examine who benefits from after-school programs. Students' non-school-based *busi* hours were entered as a dependent variable; and family annual incomes, educational aspirations, fathers' educational levels, mothers' educational levels, place of residency (living areas), number of siblings, and composite sex were entered simultaneously as independent variables. The independent variables, which were found to interact significantly with the dependent variable (non-school-based *busi* hours) were further analyzed by a one-way ANOVA analysis.

A One-way ANOVA analysis was used to investigate the significant differences

between the groups such as different family annual income levels, parental educational levels, place of residency (living areas), composite sex, and educational aspirations. The results helped to explain who benefited from *busi* hours and who did not.

Finally, information from Part III of the questionnaire, which consisted of four open-ended questions, was described using a content analysis method. Significant statements were listed with each statement being treated as having equal worth. They were compared with each other so as to develop a list of nonrepetitive, non-overlapping statements. These statements were then grouped according to similarity of view or perceptions regarding after-school program attendance. The *busi* benefits for their children that parents perceived but were not included in the survey questions were listed in a table to present a clear explanation. The disadvantages that parents perceived were listed in a table in order from the most frequent to the least. The question, "Who decided that the child needed to attend after-school programs?," was employed to identify the students' motivation in terms of *busi* attendance. The final question was used to discover the most popular reason to the least popular reason, for not attending after-school programs. An overall interpretation of the meaning and the essence of the responses was incorporated into the research questions where appropriate.

Data Cleaning

Data cleaning and evaluation of assumption were performed to assess the variables with respect to practical limitations of the techniques before the main analyses were computed. Univariate outliers that had z-score greater than 2.5 and less than -2.5 were removed to achieve better frequency distribution. A square root

transformation, a log transformation, or an inverse transformation was performed if any variable was still skewed. Multivariate outliers that had studentized residuals greater than 3.0 and less than -3.0 and caused problems would also be removed when multiple regression was conducted. A Levene's test was also conducted to test the null hypothesis that the error variance of the dependent variable is equal across groups.

Researcher's Perspectives

The researcher has both taught and served both in public schools and *busi* centers for years. It has been a continuing concern that widespread *busi* attendance is robbing many students' of their free time and pursuit of other non-academic life activities. It is the researcher's belief that for many students, *busi* attendance may only be only a waste of time. *Busi ban* attendance should not be viewed as normal schooling, and not every student needs to be there to have higher academic achievement. There exists a fine line between *busi ban* and public schools. *Busi ban* and public schools, in a variety of specific ways, coexist in a relationship of symbiosis and complicity (Russell, 1997). From this point of view, both institutions are guided by the same goal: to help students succeed in a public education system governed by examination. If the competitiveness for the entrance into the next higher schooling level is not eliminated, *busi ban* will continue to be a vast commercial industry.

CHAPTER FOUR

Results and Data Analysis

The primary purpose of this study was to determine the perceptions of *busi* programs held by Taiwanese parents and their view of the *busi* benefits received form their children's attendance at after-school programs. A second purpose of the study was to investigate the effects and beneficiaries of attendance at after-school programs. A computer program, Statistical Package for the Social Studies (SPSS), was utilized to analyze data collected from 409 questionnaires in order to address the following questions and hypotheses:

1. What are the main reasons that parents send their children to *busi* programs?
2. What are the parents' perceptions of the after-school programs that their children attend?
3. What are the parents' views of *busi* benefits affecting their children due to their attendance at after-school programs?
4. How are student Basic Competence Test (BCT) scores related to school-based *busi* hours, non-school-based *busi* hours, fathers' educational levels, and family incomes?

   Null hypothesis (1):

   There was no correlation between BCT scores and school-based *busi* hours, non-school-based *busi* hours, fathers' educational levels, and family incomes.

   Null hypothesis (2):

   There was no correlation between BCT scores and school-based *busi* hours, BCT scores and non-school-based *busi* hours, BCT scores and

fathers' educational levels, and BCT scores and family incomes.

5. To what extent do family background characteristics, place of residency (living areas), and educational aspirations relate to the need for the hours of *busi* attendance?

   Null hypothesis (1):

   There was no correlation between non-school-based *busi* hours and parental educational levels, family annual incomes, educational aspirations, place of residency (living areas), gender, and number of siblings.

   Null hypothesis (2):

   There was no statistically significant difference in the mean of non-school-based *busi* hours between the groups of parental educational levels, family annual incomes, educational aspirations, and living areas.

Demographic Information

A total of 430 questionnaires were collected from the 525 randomly selected participants. The return rate was 81.9 percent. However, data analysis was conducted on a sample of 409 questionnaires. Twenty-one questionnaires were excluded because they were returned without the Basic Competence Test (BCT) scores and the hours of attendance at after-school programs.

Table 2 illustrates the demographics data of the 409 families, including place of residency, levels of parents' education, levels of annual incomes, monthly expense for *busi*, and composite sex. Of 409 participants, 286 (69.9%) lived in urban areas, 34 (8.3%) resided in suburban areas, and 86 (20.8%) lived in rural areas. The gender of

the children according to the respondents was composed of 217 (53.1%) females and 188 (46.0) males. Regarding levels of parents' education, 20.8 percent of the fathers and 28.1 percent of the mothers were junior high school or less graduates, 42.5 percent of fathers and 47.7 of the mothers were senior high school graduates, 29.3 percent of the fathers and 20.8 of the mothers had college degrees, and 6.8 percent of the fathers and 3.7 percent of the mothers had graduate degrees.

As Table 2 indicates, 28.9 percent of the participants had family annual incomes NT$300,000 or less than NT$300,000 (US$9091), 17.8 percent of the families had annual incomes between NT$310,000-420,000 (US$9394-12,727), 15.6 percent of the families had annual incomes between NT$430,000-600,000 (US$13,030-18,182), 16.4 percent of the families had annual incomes between NT$610,000-840,000 (US$18,485-25,455), and 19.3 percent of the families had annual incomes between NT$850,000 or more than NT$850,000 (US$25,758). The monthly expense for *busi* is also presented in Table 2. The respondents showed that 42.5 percent of the families had monthly expense for *busi* NT$3,000 or less than NT$3,000 (US$91), 16.6 percent of the families had monthly expense for *busi* between NT$3,100-4,000 (US$94-121), 8.8 percent of the families had monthly expense for *busi* between NT$4,100-5,000 (US$124-152), 11.2 percent of the families had monthly expense for *busi* between NT$5,100-6,000 (US$156-182), and 15.9 percent of the families had monthly expense for *busi* between NT$6,100 or more than NT$6,100 (US$185).

Table 2

Demographics of Families (N = 409)

Respondent Characteristics	Number	Percentage
Living Areas		
Urban	286	69.9
Suburban	34	8.3
Rural	86	20.8
No responses	3	0.7
Fathers' Educational Levels		
Junior high or less	85	20.8
Senior high	174	42.5
College	120	29.3
Graduate school	28	6.8
No responses	2	0.5
Mothers' Educational Levels		
Junior high or less	115	28.1
Senior high	194	47.4
College	85	20.8
Grade School	15	3.7
No responses	0	0
Annual incomes (NT$)		
300,000 or less (US$9091)	117	28.6
310,000-420,000 (US$9394-12,727)	73	17.8
430,000-600,000 (US$13,030-18,182)	64	15.6
610,000-840,000 (US$18,485-25,455)	67	16.4
850,000 or above (US$25,758)	79	19.3
No responses	9	2.2
Monthly Expense for *Busi* (NT$)		
3,000 or less (US$91)	174	42.5
3,100-4,000 (US$94-121)	68	16.6
4,100-5,000 (US$124-152)	36	8.8
5,100-6,000 (US$156-182)	46	11.2
6,100 or above (US$185)	65	15.9
No responses	19	4.6
Composite Sex		
Male	188	46.0
Female	217	53.1
No responses	3	0.7

The results show that 357 participants (87.5%) sent their children to after-school programs. The average *busi* hour is 9.35 (SD = 6.58). Fifty-one participants (12.5%) did not attend any after-school programs. Of the 409 participants, 26.4 percent did not attend non-school-based after-school programs while 73.6 percent attended 1-30 *busi* hours per week (mean = 6.84). As to school-based after-school programs, 45.5 percent of the students did not take any school-based after-school programs while 54.5 percent of them attended 1-21 *busi* hours per week (mean = 5.82). Table 3 shows the number, mean, and standard deviation of *busi* hours.

Table 3

Number, Mean, and Standard Deviation of *Busi* Hours

Variables	Number	Mean	S.D.
Hours of non-school-based *busi*	300	6.84	5.09
Hours of school-based *busi*	222	5.82	3.96
Total hours of *busi*	357	9.35	6.58

Note. S.D. refers to Standard Deviation.

Of the 407 respondents, the mean BCT (Basic Competence Test) scores are 178.95 and the standard deviation is 57.57. Table 4 shows the number, mean, and standard deviation of BCT scores.

Table 4

Number, Mean, and Standard Deviation of BCT Scores

Variable	Number	Mean	S.D.
Basic Competence Test	407	178.95	57.57

Note. S.D. refers to Standard Deviation.

The educational aspirations of the students are shown in Table 5. Of the 409 participants, 64.8 percent intended to enroll their children in academic senior high schools, 20.3 percent would like their children to study in vocational high schools and 10.3 percent preferred their children going to junior colleges.

Table 5

Demographics of Educational Aspirations

Educational Aspiration	Number	Percent
Academic high school	265	64.8
Junior college	42	10.3
Vocational high school	83	20.3
Other	19	4.6

Main Reasons for *Busi* Attendance

Table 6 illustrates the main reasons that the participants sent their children to after-school programs. Two hundred participants (48.9%) agreed that the purpose of after-school attendance was for better scores on examinations, 91 participants (22.2%)

indicated that supplementing public schooling was their priority, 10.5 percent of the parents thought it improved their children's motivation to learn, 9.3 percent believed after-school programs helped their children to learn to study themselves, and only 3.4 percent agreed that after school programs facilitated test-taking techniques.

Table 6

Main Reasons for *Busi* Attendance

Reasons for *Busi*	Number	Percent
Better scores on exam	200	48.9
To learn test-taking techniques	14	3.4
Supplement public schooling	91	22.2
To improve motivation to learn	43	10.5
To learn to study themselves	38	9.3
No responses	23	5.6

Parents' Perceptions of the *Busi* Programs That Their Children Attend

Parents' perceptions of the after-school programs that their children attended were estimated by the fifteen even-numbered items (Item No. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30) in Part II of the questionnaire. The five-point scale (i.e., 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree) implemented in this study recorded the 357 responses from the participants who sent their children to *busi* programs. High scores on the five-scale indicate a more positive perception of *busi* programs except Item 4, which was recoded as (1 = 5, 2 =4, 3 = 3, 4 = 2, and 5 = 1) when the omnibus mean of parents' perceptions was estimated. Frequencies, percentages, mean, and standard deviations (S.D.) of the 357 responses

were computed. The mean (3.23) of parents' perceptions illustrates that the parents were inconclusive overall regarding the nature of after-school programs.

Among the 15 even-numbered items (Table 7), more participants agreed on "The *busi* program meets my child's personal needs" (Item 2), "My child complains about not getting enough time to himself/herself" (Item 4), "I am satisfied with the quality of the *busi* programs my child has been attending this year" (Item 6),"The teachers in *busi ban* are fair in disciplining my child and in enforcing rules" (Item 10), "The relationship between the *busi* teachers and my child is generally positive" (Item 12), "*Busi ban* has been a good environment for my child to build friendships" (Item 14), "The teachers in *busi ban* are more like friends than teachers" (Item 18), "I trust the teachers in *busi ban*" (Item 20), "I can talk to the teachers in *busi ban* about my child's problem if I need to" (Item 22), "The teachers in *busi ban* really listen to me when I have something important to say" (Item 24), "The teachers in *busi ban* go out of their way to help my child" (Item 26), and "The teachers in *busi ban* care about my child" (Item 28). More parents stayed neutral on Item 16 "I would like my child to continue to attend *busi* programs" (43.4%). The study also indicates that parents disagreed on Item 8 "My child usually likes going to *busi ban*" (45.7%), and Item 30 "*Busi ban* is a great place for my child to be" (44.0%).

Of the 15 items, the most agreed upon survey question by parents was Item 4 "My child complains about not getting enough time to himself/herself " (70%) and the second most agreed upon survey question by parents was Item 22 "I can talk to the teachers in *busi ban* about my child's problem if I need to" (63.6%). On the contrary, the least agreed upon survey question by the parents was Item 8 " My child usually likes going to *busi ban*" (45.7%) and Item 30 "*Busi ban* is a great place for my child to be," which shows clearly that parents realized that their children did not like to attend too many *busi* hours and would complain about not having their own time.

Table 7

Parents' Perceptions of the *Busi* Programs That Their Children Attend

Items	Parental Perceptions (%) Dis.	Neu.	Agree	Mean	S.D.
2. The *busi* program meets my child's personal needs.	21.0	33.6	45.4	3.27	.92
4. My child complains about not getting enough time to him/herself.	15.7	14.3	70.0	3.73	1.05
6. I am satisfied with the quality of the *busi* program my child has been attending this year.	21.6	35.3	43.1	3.23	.99
8. My child usually likes going to *busi ban.*	45.7	28.9	25.4	2.70	1.12
10. The teachers in *busi ban* are fair in disciplining my child and in enforcing rules.	18.2	31.7	50.1	3.36	.98
12. The relationship between the *busi* teachers and my child is generally positive.	15.4	28.3	56.3	3.49	.95
14. *Busi ban* has been a good environment for my child to build friendships.	27.4	29.7	42.9	3.20	1.06
16. I would like my child to continue to attend *busi* programs in their further study.	16.2	43.4	40.4	3.31	1.00
18. The teachers in *busi ban* are more like friends than teachers.	25.2	31.7	43.1	3.21	1.03
20. I trust the teachers in *busi ban.*	14.6	31.1	54.3	3.46	.96
22. I can talk to the teachers in *busi ban* about my child's problem if I need to.	14.3	22.1	63.6	3.60	.96
24. The teachers in *busi ban* really listen to me when I have something important to say.	10.9	31.9	57.2	3.53	.90
26. The teachers in *busi ban* go out of their way to help my child.	10.9	28.0	61.1	3.60	.88
28. The teachers in *busi ban* care about my child.	11.2	31.9	56.9	3.56	.90
30. *Busi ban* is a great place for my child to be.	44.0	34.2	21.8	2.66	1.08

Note. Dis. refers to Disagree. Neu. refers to Neutral. S.D. refers to Standard Deviation.

Parents' Views of *Busi* Benefits for Their Children

Parents' views of *busi* benefits for their children were estimated by the other fifteen odd-numbered items (Item No. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29) in Part II of the questionnaire. The five-point scale (i.e., 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree) administered in this study recorded the 357 responses from the subjects who sent their children to *busi* programs. High scores on the five-scale indicate parents' perceived more *busi* benefits for their children except Items 23, 27, and 29, which were recoded as (1 = 5, 2 =4, 3 = 3, 4 = 2, and 5 = 1) when the omnibus mean of *busi* benefits was computed. Frequencies, percentages, mean, and standard deviations (S.D.) of the responses were computed.

Among the 15 odd-numbered items (Table 8), more parents agreed with "*Busi ban* helps my child understand his/her lessons better" (Item 1), "My child has learned to study by himself/herself in *busi ban*" (Item 5), "My child is taught with enthusiasm in *busi ban*" (Item 7), "*Busi* enables my child to go beyond school lessons" (Item 9), "*Busi ban* teaches test taking skills enhancing my child's performance" (Item 11), "My child had less time for TV and playing" (Item 13), "Attendance at *busi ban* is necessary for my child" (Item 15), "My child learns to study without parental guidance" (Item 17), "*Busi ban* helps my child have more confidence in studying for school" (Item 21), and "My child made more friends in *busi ban*" (Item 25). The study also shows that parents were mostly perceived neutral on "*Busi ban* have helped my child achieve high grades at school and high scores on the joint examination" (Item 19). More parents disagreed with "*Busi ban* helped my child develop better study habits" (Item 3), "There are no particular benefits to the *busi* programs" (Item 23), "Attending *busi ban* programs affects my child's physical development (Item 27),

and "Attending *busi ban* affects my child's eyesight" (Item 29).

Of the 15 items, the most agreed upon survey question was Item 13 "My child has less time for TV and playing" (67.8%), the second most agreed upon survey question was Item 11 "*Busi ban* teaches test taking skills enhancing my child's performance" (66.4%), and the third most agreed upon survey question was Item 1 "My child understands his/her lesson better now due to *busi ban*" (61.1%). On the contrary, the least agreed upon survey question was Item 23 "There are no particular benefits to the *busi* programs" (49.0%), the second least agreed upon survey question was Item 27 "Attending *busi ban* programs affects my child's physical development" (40.3%), and the third least agreed upon survey question was Item 29 "Attending *busi ban* affects my child's eyesight" (39.8%). These results show clearly that more parents believe *busi* attendance did not have a negative effect on their children but brought benefits such as less time for watching TV, improved performance on examinations, and a better understanding of his/her lessons.

Table 8

Parents' Views of *Busi* Benefits for Their Children

Items	Parents' Views of Benefits %				
	Dis.	Neu.	Agree	Mean	S.D.
1. My child understands his/her lesson better now due to *busi ban.*	18.5	20.4	61.1	3.46	1.01
3. *Busi ban* helped my child develop better study habits.	38.1	35.6	26.3	2.83	1.06
5. My child has learned to study by himself/herself in *busi ban.*	34.2	30.0	35.8	3.02	1.07
7. My child is taught with enthusiasm in *busi ban.*	17.6	33.6	48.8	3.36	0.96
9. *Busi* enables my child to go beyond school lessons.	23.0	35.6	41.4	3.23	1.02
11. *Busi ban* teaches test taking skills enhancing my child's performance.	14.3	19.3	66.4	3.58	.91
13. My child has less time for TV and playing.	16.2	16.0	67.8	3.67	1.06
15. Attendance at *busi ban* is necessary for my child.	27.2	35.3	37.5	3.05	1.07
17. My child learns to study without parental guidance.	16.8	29.7	53.5	3.40	.95
19. *Busi ban* have helped my child achieve high grades at school and high scores on the joint examination.	24.4	40.9	34.7	3.13	.96
21. *Busi ban* helps my child have more confidence in studying for school.	15.2	28.4	56.4	3.48	.92
23. There are no particular benefits to the *busi* programs.	49.0	38.4	12.6	2.54	.93
25. My child made more friends in *busi ban.*	14.0	26.1	59.9	3.56	.93
27. Attending *busi ban* programs affects my child's physical development.	40.3	35.6	24.1	2.80	1.03
29. Attending *busi ban* affects my child's eyesight.	39.8	34.2	26.0	2.86	1.07

Note. Dis. refers to Disagree. Neu. refers to Neutral. S.D. refers to Standard Deviation.

Achievement Levels and *Busi* Hours

A multiple regression analysis entering BCT (Basic Competence Test) scores as the dependent variable, and non-school-based *busi* hours, school-based *busi* hours, fathers' educational levels, and family annual incomes as the independent variables was conducted to test the null hypothesis that there is no correlation between BCT scores and school-based *busi* hours, non-school-based *busi* hours, parental educational levels (represented by fathers' educational levels), and family incomes. In this analysis all independent variables were entered simultaneously.

The univariate outliers (z-score greater than 2.5 and less than -2.5) in all the continuous variables were removed before the multiple regression was conducted. Two independent variables, non-school-based *busi* hours and school-based *busi* hours, were still too skewed after the univariate outliers were removed, and square root transformation was done to reduce the skewness. After adjusting the skewness by square root transformation, skewnesses of the two independent variables were improved to the closest distribution and the kurtosis stayed in the acceptable range (non-school-based hours -.388 and school-based *busi* hours -.591). Table 9 shows the differences before and after the transformation was done.

Table 9

Skewness Before and After Square Root Transformation

Variable:	Before	After
Hours of non school-based *busi*	.956	.356
Hours of school-based *busi*	1.085	.756

Additionally, residual plots were examined for violation of assumptions. The residual plots show the linear positive relationship, loose homoscedasticity, and the errors distribute across the regression line normally. Multivariate outliers were also checked by the standard residual (-3.480 to 2.347). One multivariate outlier (case number 261) was removed from the data set. After the multivariate outlier was removed, the result shows that there is no difference in the significant level, but it increased the statistical power. An alpha level of .05 was used as the probability to accept or reject the null hypothesis.

Results of the analysis indicate that the overall model accounted for 27.2 percent (R-squared) of the variance in the dependent variable, which is significant at $p < .0001$ level. The null hypothesis is rejected. The result of the analysis is presented in Table 10.

Table 10

Multiple Regression Analysis of BCT Scores and *Busi* Hours

R	R Square	F Change	df	Sig. F Change
.521	.272	36.248	4/389	.000

A further hypothesis, there is no correlation ($\beta = 0$) between BCT scores and school-based *busi* hours, BCT scores and non-school-based *busi* hours, BCT scores and fathers' educational levels, and BCT scores and family incomes was given to test the individual correlation coefficient. Findings show that family annual incomes account for 7.7 percent of the variance in the dependent variable (β-squared) at significant $p < .0001$ level, non-school-based *busi* hours account for 7.1 percent of the

variance in the dependent variable (β-squared) at significant $p < .0001$ level, and fathers' educational levels account for 3.6 percent of the variance in the dependent variable (β-squared) at significant $p < .0001$ level. However the variable, school-based *busi* hours, was found to have no significant correlation with the dependent variable, BCT scores, at insignificant $p < .137$ level. The null hypothesis that there is no correlation between BCT scores and school-based *busi* hours is tenable. In addition, part and partial correlation of the three significant variables was checked and showed no suppressor was in existence among the variables. Table 11 presents the individual beta values and significant level of the variables.

Table 11

Beta and Significance Level of BCT Scores and Non-School-Based *Busi* Hours, Fathers' Educational Levels, and Family Annual Incomes

Variable	Beta	Std. Error	t	Sig.
Family annual incomes	.277	.031	5.835	.000
Non-school-based *busi* hours	.267	.087	6.101	.000
Fathers' educational levels	.191	.055	4.003	.000
School-based *busi* hours	.066	.095	1.489	.137

Note. Std. Error refers to standardized error.

The overall result shows that students who have higher family annual incomes, more non-school-based *busi* hours, and whose fathers have higher educational levels tend to have greater BCT scores. The result also indicates that school-based *busi* hours do not significantly predict BCT scores.

Family Background Characteristics and *Busi* Hours

Response results demonstrate that *busi* facilitates academic achievement. The question that needed to be further discussed is who could benefit from attending after-school programs, especially the non-school based *busi*. Students' *busi* hours were indicated by a self-report measure reported by the parents. This result illustrates that 108 (26.4%) of the total 409 participants did not attend any non-school-based *busi* while the other 300 (73.6%) participants attended 1-30 *busi* hours per week.

The dependent variable, non-school-based *busi* hours, was cleaned (z-score greater than 2.5 and less than -2.5) and square root transformation was performed to adjust skewness (.956) to the closest distribution at (.356) before the main analyses were conducted. Two multivariate outliers, case numbers 271 and 273, were found with studentized residuals at 3.11 and 3.062. Both of the multivariate outliers were kept for the main analyses because both of the multivariate outliers did not cause any problem.

A multiple regression analysis was implemented to test the null hypothesis that family background characteristics, educational aspirations, and place of residency (living areas) do not affect the need of non-school-based *busi* hour attendance. Student non-school based *busi* hours were entered as a dependent variable; and mothers' educational levels, fathers' educational levels, family annual incomes, educational aspiration, living areas, number of siblings, and composite sex were entered simultaneously as independent variables.

Results of the analysis indicate that the overall model accounts for 12.2 percent (R-squared) of the variance in the dependent variable, which is significant at

$p < .0001$ level. This suggests the family background characteristics, educational aspirations, and place of residency affect student non-school-based *busi* hours. The result of the analysis is presented in Table 12.

Table 12

Multiple Regression Analysis of Family Background Characteristics and *Busi* Hours

R	R Square	F Change	df	Sig. F Change
.350	.122	7.639	7/384	.000

The result of the Pearson correlation matrix also shows that four independent variables (annual incomes, educational aspirations, mothers' educational levels, and living areas) are found to be significantly correlated with the dependent variable, non-school-based *busi* hours. One independent variable (father's educational levels) is marginally at .058 significant level. Table 13 presents the Pearson correlation significant matrix.

Table 13

Correlation Matrix of Family Background Characteristics and *Busi* Hours

		Annual Income	Edu. Aspiration	Father Edu. Levels	Mother Edu. Levels	Living Areas	No. of Siblings	Composite Sex
Hrs. of Non S-Based *Busi*	Coefficient	.131	-.300	.079	.108	-.185	-.018	-.051
	Sig.	.005	.000	.058	.016	.000	.359	.159

Note. Edu. refers to Education

It was hypothesized that there will be no difference in the mean of non-school-based *busi* hours between the groups of parental educational levels, family annual incomes, educational aspirations, and place of residency (living areas). Five one-way ANOVAs were performed to test each of the five independent variables (mothers' educational levels, fathers' educational levels, family annual incomes, educational aspirations, living areas).

Mothers' Education Levels and *Busi* Hours

The ANOVA was used to test the null hypothesis that there will be no difference in the mean of non-school-based *busi* hours between the groups of mothers' educational levels. Levene's test for equality of error variance at .684, greater than the .05 significant level shows that the error variance of the dependent variable is equal across groups, which suggests that the variance of differences for across groups of mothers' educational levels is equal. Table 14 indicates the distribution of the four between groups of mothers' educational levels and the different mean of non-school-based *busi* hours, graduate school (2.7791) > high school (2.3796) > college (2.1787) > junior high or less (1.9606).

Table 14

The Mean of the *Busi* Hours and Between Groups of Mothers' Education Levels

Mothers' Edu. Levels	Mean	Number	Percentage
Junior high or less	1.9606	115	28%
Senior high	2.3796	194	48%
College	2.1787	84	20%
Graduate school	2.7791	15	4%

Note. Edu. refers to education.

Table 15 below shows the omnibus F (3, 404) = 5.794, p < .001, and partial eta square .041. This significant value indicates that the "Between Groups" variation can significantly explain the variation in *busi* hours. In other words, student *busi* hours are significantly affected by the levels of mothers' education.

Table 15

The Source of Between Group Effects of Mothers' Educational Levels

Source	SS	df	MS	F	Sig.	η^2
Mother's Education	17.419	3	5.806	5.794	.001	.041
Error	404.876	404	1.002			
Total	2460.000	408				

Note. SS refers to Sum of Squares. df refers to degree of freedom. MS refers to Mean Square. η^2 refers to Eta Square.

The multiple comparisons show that students with mothers with junior high or less educational levels have significantly fewer *busi* hours than mothers with senior high, or graduate educational level but not mothers with the college level. Students with mothers at a college educational level reflect no significant mean difference from those students whose mothers are at junior high school or less, senior high school, or graduate school level. But for the overall result, students whose mothers have a higher education level tend to attend more *busi* hours in general. Table 16 indicates the significant level of mean differences between the four groups.

Table 16

The Significant Level of Mean Differences Between the Four Groups of Mothers' Educational Levels

	Junior High or Less	Senior High	College	Grad School
Junior high or less	x	.002	.427	.015
Senior high		x	.416	.444
College			x	.141
Graduate school				x

Fathers' Educational Levels and *Busi* Hours

To test the null hypothesis that there will be no difference in the mean of non-school-based *busi* hours between the groups of fathers' educational levels, the ANOVA was conducted. Levene's test for homogeneity shows the significance .923, suggesting the hypothesis of homogeneity is tenable. Table 17 presents the distribution of the four between groups and the different mean scores, graduate school (2.5048) > high school (2.3883) > college (2.1651) > junior high or less (1.9391).

Table 17

Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Fathers' Educational Levels

Fathers' Edu. Level	Mean	Number	Percentage
Junior high or less	1.9391	85	21%
Senior high	2.3883	174	43%
College	2.1651	129	29%
Graduate school	2.5048	28	7%

Note. Edu. refers to education.

The result of the ANOVA analysis indicates the omnibus F (3, 402) = 4.665 at $p < .003$, and partial eta square .034, which suggests that significant mean differences are in existence among the "Between Groups" of the fathers' educational levels. Table 18 presents the sources of between group effects.

Table 18

The Source of Between Group Effects of Fathers' Educational Levels

Source	SS	df	MS	F	Sig.	η^2
Fathers' education	14.150	3	4.717	4.665	.003	.034
Error	406.449	402	1.011			
Total	2452.000	406				

Note. SS refers to Sum of Squares. df refers to degree of freedom. MS refers to Mean Square. η^2 refers to Eta Square.

The multiple comparisons show that the children of fathers whose educational levels are junior high school or less have significantly lower *busi* hours than fathers who have at least a senior high school, or graduate educational level but not at the college level. Students whose fathers are college graduates do not significantly differ in the number of *busi* hours from those students whose fathers have only a junior high school or less, senior high school, or graduate school education. Overall, students whose fathers have higher educational levels tend to attend more *busi* hours in general. The result is in accord with the effects of the mother's educational levels. This finding confirms that parental educational levels together affect student *busi* hours. Table 19 shows the significant level of mean differences between the four groups.

Table 19

The Significant Level of Mean Differences Between the Four Groups of Fathers' Educational Levels

	Junior high or less	Senior high	College	Grad school
Junior high or less	x	.004	.388	.048
Senior high		x	.243	.941
College			x	.374
Grad school				x

Note. Grad refers to graduate

Family Annual Incomes and *Busi* Hours

The ANOVA was used to test the null hypothesis that there will be no difference in the mean of the non-school-based *busi* hours between the groups of the family annual incomes. Levene's test for homogeneity .687 shows the insignificant level greater than .05, indicating that the null hypothesis is not rejected. The variance of differences for all pairs is equal and the hypothesis of homogeneity is tenable. Table 20 presents the distribution of the four between groups and the different mean scores, NT$610,000-840,000 (2.4424) > NT$850,000 or above (2.3912) > NT$310,000-420,000 (2.3369) > NT$430,000-600,000 (2.2303) > NT$300,000 or less (2.0017).

Table 20

Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Family Annual Incomes

Family Annual Incomes (NT$)	Mean	Number	Percentage
300,000 or less	2.0017	117	29%
310,000-420,000	2.3369	73	18%
430,000-600,000	2.2303	64	16%
610,000-840,000	2.4424	67	17%
850,000 or above	2.3912	78	20%

The univariate test indicates the omnibus F (4, 394) = 2.909, p < .022, and partial eta square .029. This significant level reflects that the "Between Groups" variation can explain a significant portion of the variation in *busi* hours. The null hypothesis is rejected. Table 21 presents the source of between group effects of family annual incomes.

Table 21

The Source of Between Group Effects of Annual Incomes NT$

Source	SS	df	MS	F	Sig.	η^2
Annual incomes NT$	11.827	4	2.957	2.909	.022	.029
Error	400.514	394	1.017			
Total	2432.000	399				

Note. SS refers to Sum of Squares. df refers to degree of freedom. MS refers to Mean Square. η^2 refers to Eta Square.

The multiple comparisons show that students in the families that have annual incomes above 610,000 have significantly higher *busi* hours than students in the families that have annual incomes at 300,000 or less. Students in the families that have annual incomes 310,000 to 600,000 have no significant mean differences from the other groups. Overall, students whose families have a higher annual income tend to attend more *busi* hours. Table 22 indicates the mean differences between the five categories of family annual incomes.

Table 22

The Significant Level of Mean Differences Between the Five Groups of Family Annual Incomes (NT$)

	300,000 or less	310,000-420,000	430,000-600,000	610,000-840,000	850,000 or above
300,000 or less	x	.169	.589	.035	.063
310,000-420,000		x	.972	.972	.997
430,000-600,000			x	.750	.879
610,000-840,000				x	.998
850,000 or above					x

Living Areas and *Busi* Hours

An ANOVA analysis was conducted to test the null hypothesis that there will be no difference in the mean of non-school-based *busi* hours between the groups of a student place of residency. Levene's test for homogeneity shows the significance .532 greater than .05, which suggests that the homogeneity of the between groups of the place of residency (living areas) is tenable. Table 23 presents the distribution of the three between groups and the different mean scores, urban (2.3571) > suburban (2.0457) > rural (1.9332).

Table 23

Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Living Areas

Living Areas	Mean	Number	Percentage
Urban	2.3571	285	70%
Suburban	2.0457	34	9%
Rural	1.9332	86	21%

Table 24 below shows the omnibus F (2, 402) = 6.578, p < .002, and partial eta square .032. This significant value indicates that the "Between Groups" variation explains a significant portion of the variation in *busi* hours. The null hypothesis is rejected.

Table 24

The Source of Between Group Effects of Living Areas

Source	SS	df	MS	F	Sig.	η^2
Educational aspiration	13.284	2	6.642	6.578	.002	.032
Error	405.945	402	1.010			
Total	2453.000	405				

Note. SS refers to Sum of Squares. df refers to degree of freedom. MS refers to Mean Square. η^2 refers to Eta Square.

The multiple comparisons show that students who live in an urban area tend to have more *busi* hours than students who live in rural areas. No significant mean difference is found between the students living in suburban areas and in the rural or the urban areas. Table 25 presents the significant level of mean differences between the three groups of living areas.

Table 25

The Significant Level of Mean Differences Between the Three Groups of Living Areas

	Urban	Suburban	Rural
Urban	x	.202	.002
Suburban		x	.845
Rural			x

Educational Aspiration and *Busi* Hours

The ANOVA was used to test the null hypothesis that there will be no difference in the mean of non-school-based *busi* hours between the groups of educational aspirations. Levene's test shows the significance .120, greater than .05, indicating that the homogeneity of the between groups of educational aspiration is tenable. Table 26 presents the distribution of the four between groups and the different mean scores, academic high school (2.4469) > junior college (2.1762) > vocational high school (1.7345) > other plan (1.6030).

Table 26

Statistics of the Mean and the Frequency of the *Busi* Hours and Between Groups of Educational Aspiration

Educational Aspiration	Mean	Number	Percentage
Academic high school	2.4469	264	65%
Junior college	2.1762	42	10%
Vocational high school	1.7345	83	20%
Other	1.6030	19	5%

Table 27 below indicates the omnibus F (3, 404) = 14.237, $p < .0001$, and partial eta square = .096, which suggests that the "Between Groups" variation accounts for a significant portion of the variation in *busi* hours. The null hypothesis is rejected.

Table 27

The Source of Between Group Effects of Educational Aspiration

Source	SS	df	MS	F	Sig.	η^2
Educational aspiration	40.377	3	13.459	14.237	.000	.096
Error	381.917	404	.945			
Total	2460.000	408				

Note. SS refers to Sum of Squares. df refers to degree of freedom. MS refers to Mean Square. η^2 refers to Eta Square.

The multiple comparisons show that students who tend to plan on going further in school like academic high schools or junior colleges have significantly higher *busi* hours than students with lower educational aspirations such as students who plan on going to vocational high schools or other schooling. Table 28 presents the significant level of mean differences between the four groups of educational aspirations.

Table 28

The Significant Level of Mean Differences Between the Four Groups of Educational Aspirations

	Academic High	Junior College	Vocational High	Other
Academic high school	x	.337	.000	.001
Junior college		x	.077	.143
Vocational high school			x	.951
Other				x

Analysis of the Data Collected Through the Open-Ended Questions

The last part of the questionnaire consisted of open-ended questions, and collected the viewpoints about the *busi* benefits or disadvantages not listed in the questionnaire and who decided that the child needed to attend *busi* programs from the parents who sent their children to after-school programs. The parents who did not send their children to *busi* programs were asked to list the main reason why their children did not attend any after-school programs.

Open-Ended Question 1

What are the other *busi* benefits you see in your child's attending after-school programs that you would like to share with us? The *busi* benefits that parents brought forth in this survey were sorted as follows (Table 29).

Table 29

The *Busi* Benefits That Parents Perceived but Not Included in the Survey Questions

1. To have trained adult supervision.
2. To increase students' time on task.
3. After-school programs are more personalized.
4. To help my child save time from synthesizing the lessons.
5. To help my child lose some weight.
6. My child is able to study with more students in the same level in *busi ban*.
7. My child can immerge in different teaching styles and methods.
8. It is the fashion that my child has to follow.
9. After-school programs motivate my child to study harder.
10. After-school programs give my child the second chance to get through the same curriculum.
11. My child can have more opportunities to discuss lessons with the teachers because of the smaller class size in *busi ban*.
12. *Busi ban* helps my child to be more active in studying.

Note. The responses are from parents (N = 357) whose children attend after-school programs.

Open-Ended Question 2

What are the other disadvantages you see in your child's attending after-school programs that you would like to share with us? Table 30 presents the disadvantages of after-school attendance that parents provided in this survey.

Table 30

The Disadvantages That Parents Perceived but Not Included in the Survey Questions

Disadvantages	Parental Responses
1. Attending after-school programs is a waste of time.	21%
2. My child is too tired after long hours studying in *busi ban.*	7%
3. *Busi* destroys my child's creative thinking.	5%
4. My child ignores public schooling as they have studied ahead in *busi ban.*	4%
5. My child depends on *busi ban* too much and cannot learn on their own.	4%
6. Attending after-school programs is a waste of money.	3%
7. After-school programs are too test oriented.	3%
8. Attending after-school programs gives my child excuses to stay outside.	3%
9. My child may make bad friends in *busi ban.*	3%
10. My child cannot have his/her own interests as they have extra classes to go.	1%
11. The environment of *busi ban* is not good for studying.	1%
12. No responses.	45%

Note. The responses are from parents (N = 357) whose children attend after-school programs.

Open-Ended Question 3

Who decided that the child needed to attend after-school programs? The question was designated to understand how much students' own will was represented in the *busi* program attendance. Thirty-three percent of the 357 respondents indicated that their children decided to attend after-school programs on their own, 22 percent of the participants showed that the whole family made the decision, 14 percent responded that the decision was made by the father and 14 percent by the mother.

Open-Ended Question 4

If your child didn't attend any after-school programs, what is the main reason that can explain why you did not send your child to an after-school program? The responses from the 52 parents whose children did not attend any after-school programs were sorted in Table 31.

Table 31

The Reasons Expressed as to Why Parents Do Not Send Their Children to Attend Non-School Based After-School Programs

Reasons	Parental Responses
1. My child doesn't want to attend after-school programs.	25%
2. Lack of financial support.	18%
3. It is not necessary to attend after-school programs.	16%
4. My child can study on his/her own.	14%
5. My child does not have spare time for after-school programs.	6%
6. No responses.	21%

Note. The responses are from parents (N = 52) whose children did not attend any after-school programs.

Summary of Results

The purpose of the Survey of *Busi* Culture in Taiwan Education is to identify parent perceptions of *busi* programs, views of *busi* benefits for their children, the effects, and the beneficiaries of after-school programs in Taiwan's educational system. Findings are summarized as follows:

The mean of student *busi* hours is 9.35 including non-school- and school-based after-school programs. The mean of BCT (Basic Competence Test) scores is 178.95. The main reason for attending after-school programs is for better scores on examinations. This was approved by 48.9 percent of the participants. Among the participants, 64.8 percent expected their children to enroll in academic senior high

schools in which students are prepared to compete for entrance into higher education institutes by taking another nation wide examination.

Parents' perceptions of after-school attendance were measured by the five-point scale (i.e., 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree). Among the 15 even-numbered items, more parents showed their agreement on Item 2, 4, 6, 10, 12, 18, 20, 22, 24, 26, and 28. More parents disagreed on Item 8 and Item 30; and stayed neutral on Item 16. Of the overall responses, the mean score of parents' perceptions is 3.203, suggesting the inconclusive expression overall regarding the nature of *busi* programs.

Parents' views of *busi* benefits accounting to their children were also measured by the five-point scale. The mean of parents' views of the benefits is 3.30. More parents agreed on 10 items (Items 1, 5, 7, 9, 11, 13, 15, 17, 21, and 25). Among the 10 items, parents agreed the most on "My child has less time for TV and playing" (Item 13) and "*Busi* teaches test taking skills enhancing my child's performance" (Item 11). More parents disagreed on Items 3, 23, 27, and 29 and stayed neutral on Item 19. Of the 357 participants, 24.1 percent agreed that *busi* affected their children's physical development and 26.0 percent agreed attending *busi ban* affected their child's eyesight.

In order to investigate the effects of after-school programs, students' BCT scores were employed as a dependent variable and non-school-based *busi* hours, school-based *busi* hours, fathers' educational levels, and family annual incomes were employed as independent variables. A multiple regression was conducted to examine the null hypothesis that there will be no correlation ($\beta = 0$) between student

BCT scores and these independent variables. Findings show that the accounted variance in the dependent variable as follows: family annual incomes, 7.7 percent; non-school-based *busi* hours, 7.1 percent; and, fathers' educational levels, 3.6 percent (β-squared), which are all at significant $p < .0001$ level. However the variable, school-based *busi* hours, is found to have no significant correlation with student BCT scores, which is at an insignificant $p < .137$ level.

To examine the beneficiaries of non-school-based *busi* hours, another multiple regression analysis was conducted to determine what factors affected students' need of non-school-based *busi* hour attendance. Results show that parental educational levels, family annual incomes, place of residency (living areas), and educational aspirations significantly account for a significant portion of the students' *busi* hours (R-squared .122 at $p < .0001$). Five one-way ANOVA tests were administered to analyze the five factors that affected students' *busi* hours. Results show that students whose parents have a higher educational level tend to have more non-school-based *busi* hours. Urban students have a significantly higher mean of non-school-based *busi* hours than students who live in rural areas. Family income is also another factor that affects students' non-school-based *busi* hours. The result indicates that the higher family income predicted the more non-school-based *busi* hours. The last factor that affects students' *busi* hours is the students' educational aspirations. Students who want to enroll in academic high schools or junior colleges have significantly more non-school-based *busi* hours than students who have lower educational aspirations. Students' gender and numbers of siblings do not show any significant difference in the mean of non-school-based *busi* hours in this study. No

ANOVA analysis was implemented on these two variables.

Finally, results of the four open-ended questions were found to be consistent with the parents' responses on the other parts of the questions. In this final part, parents expressed their viewpoints of *busi* benefits for their children (12 items) in Table 29 and *busi* disadvantages for their children (11 items) in Table 30. The result also indicates that 33 percent of the children attended after-school programs of their own free will. As to the students who did not attend any after-school programs, the parents listed five factors for not attending those programs (Table 31).

CHAPTER FIVE

Discussion

This survey study is an exploration of the *busi* culture of Taiwan. It is based on both the scrutiny of existing literature and documents, as well as an analysis of the questionnaire conducted by the author with randomly selected parents in Taiwan's Kaohsiung High School District. According to the survey data, 87.5 percent of the respondents sent their children to after-school programs. *Busi* is deemed to be so essential in Taiwan that, in 1998, there were 5,536 *busi ban* registered with the Bureau of Education in county and city governments (the Government Information Office, 2000). Indeed, *busi ban* is so pervasive that it was found that students in the ninth grade actually attended *busi* programs of an average 9.35 hours weekly. *Busi* has become a part of the educational culture for children in Taiwan, being depended upon to enhance their scholarly skills and the instruction received in public schools. The implications of the findings in this qualitative survey study are discussed in this chapter.

Discussion of Findings Related to Reasons for *Busi* Attendance

In differing educational systems, after-school programs have various focuses and purposes. Survey data obtained in this study indicate that of the 409 respondents, almost half (48.9 %) expressed that the main purpose for sending their children to after-school programs is to obtain higher scores on examinations. This is not in accordance with the most popular reasons for enrolling children in *juku* (after-school centers in Japan). A newspaper survey in Tokyo found the most popular reasons for *juku* attendance was to raise children's motivation to study (75%), rather than for test preparation *per se*, for test-taking techniques, or to learn to study by themselves

Russell, 1997). By contrast, an examination of the main purposes of after-school programs in the United States and in Sweden finds that supervision and practical care take priority over academic achievement (Posner & Vandell, 1994; Halpern, 1992; Pederson et al., 1998; Child Care in Sweden, 1994). These after-school programs tend not to be academically oriented, but rather are intended to provide shelter so that children might have a safe, adult supervised place to go after school hours (Halpern, 1992).

A closer look at these differing educational policies shows that schooling in Asian countries is much more competitive than in the United States. Compulsory education ends at ninth grade in Taiwan and Japan. Students in Taiwan and Japan must compete for limited openings in senior high school (grades 10-12). Also, students in Taiwan and Japan must sit for intense, pressure-filled, competitive examinations for admission to colleges or universities. However, students in the United States do not have to compete for the opportunities to attend upper secondary schools. According to a report of the National Education Commission on Time and Learning (1994), most American students understand that merely the possession of a high school diploma is enough to get them into some kind of college. The meritocratic and screening examination system certainly has an impact on the differing functions of after-school programs in Taiwan and Japan from those in the United States.

Discussion of Findings Related to Parents' Perceptions of *Busi* Programs

Parents' perceptions of *busi* programs were collected through 15 even-numbered items in Part II of the questionnaire. This section of the survey was designed to expose parents' perceptions about *busi* programs and assess parents' viewpoints of any *busi* benefits, with the hope of identifying the effects of and beneficiaries from *busi*

programs.

The overall mean scores (3.23) of parents' perceptions indicate that parents have positive/neutral attitudes towards after-school programs. Parents in Taiwan believe that after-school programs provide emotional support (Items 18, 22, & 26) and peer affiliation to their children (Item 14) even though they did not show the strong *busi* program perceptions. The respondents also indicated that they perceived that their children complained about not getting enough time to themselves and did not like to go to *busi ban* (70.0%). Parents in Taiwan believe in the merits of *busi* programs and make their own decisions regarding whether or not their children should continue attending *busi ban*, despite their children's complaints of not having their own free time or did not like going to *busi ban*. This belief seems rooted in traditional Chinese culture that providing one's children with the best educational opportunities is a prime parent responsibility. This cultural belief is why Taiwanese parents are committed to enrolling their children in *busi* programs. However, some students (33%) do make their own decision on *busi* attendance, and 25 percent decided not to attend any *busi* programs.

This trend is in contrast to parents in the United States. Rosenthal and Vandell's study (1996) shows that American parents have positive assessments of after-school programs only when their children report positively regarding the climate in an after-school program. Rosenthal and Vandell further conclude that parental perception is particularly important in predicting if children move from formal programs to informal supervision or to self-care, since parents must ultimately finalize family decisions about such changes. The differing attitudes of Taiwanese and American parents towards their children's perceptions regarding the climate in

after-school programs influences differing decisions about *busi* attendance.

Discussion of Findings Related to the Views of *Busi* Benefits for Their Children

For many years, educators in Taiwan have believed *busi ban* were notorious places for cramming and memorization, but in this survey, 87.5 percent of the participating parents trusted their children to *busi ban*, and 48.9 percent of the parents expected their children to have higher scores on examinations as a result of attending after-school programs. Parents send their children to *busi ban* not only for higher academic achievement but also for other benefits their children may obtain from attending *busi* programs (Table 8, Items 1, 13, 17, 21, & 25). In this study, Taiwanese parents also expressed their beliefs that *busi ban* attendance does complement school lessons and provides a different learning atmosphere for their children to understand their lessons better, reinforces students confidence in studying for school, reduces the time for watching TV, and facilitates children to learn independently. Table 32 compares parents' views of the *busi* benefits for their children.

Table 32

Parents' Views of *Busi* Benefits for Their Children

Items	Taiwan (%)	Japan (%)
1. My child understands his/her lessons better now due to *busi ban.*	57.7	***36.8
2. *Busi ban* helps my child develop better study habits.	26.2	*24.4
3. My child has learned to study by him/herself in *busi ban.*	35.4	22.1
4. My child is taught with enthusiasm in *busi ban.*	47.2	**29.7
5. *Busi* enables my child to go more depth in school lessons.	40.8	20.5
6. *Busi ban* teaches test taking skills enhancing my child's performance.	**65.7	20.9
7. There are no particular benefits to the *busi* programs.	13.2	13.2
8. My child has less time for TV and playing.	***67.5	13.3
9. My child made more friends in *busi ban.*	*59.7	10.3
10. My child learns to study without parental guidance.	53.0	13.2
11. *Busi* ban have helped my child achieve high grades at school and high scores on the joint examination.	33.8	1.4

Note. * refers to occurring frequently. ** refers to occurring more frequently.

*** refers to occurring the most frequently.

In Vandell and Ramanan's study (1991), the findings show that children in after-school programs spent more time in academic activities and enrichment lessons, and less time watching TV and playing outside unsupervised than other children. Students in after-school programs also spent less time with siblings than did other students. After-school programs may have different forms and purposes in existence in different countries such as Taiwan, Japan, and in the United States, but the findings in all of these countries indicate that after-school programs help to reduce students' time watching TV and enable students to have more time to spend on academic tasks. Studies (Salomon, 1993) show that children typically learn far less from television than they do from a comparable amount of time spent reading. These findings are consistent with the contention that after-school programs have great potential to help increase student academic achievement (Fashola, 1998).

Discussion of Findings Related to the BCT Scores and *Busi* Hours

The major issue addressed in this study is whether or not *busi* hours have an effect in assisting students to garner significantly higher academic achievement scores. Findings show that students who attend more *busi* hours have significantly greater achievement gains than the students who attend fewer *busi* hours. This is in agreement with the findings of previous studies (Russell, 1997; Dolly, 1992; Lin & Noley, 2000; Vandell & Ramanan, 1991; Posner & Vandell, 1994), which provide evidence that *busi* facilitates students' overall academic achievement.

There are several possible explanations for the positive effects of after-school attendance in this study. First, after-school programs give participating students more time than non-participating students to learn the same thing (National Education Commission on Time and Learning, 1994). The report of the U.S. Department of

Education and Justice (2000) shows that increased student academic achievement can result from additional instructional time. This finding of the current survey study shows students spent more time (M = 9.35 hours) per week with different teachers, friends, and methods for learning in after-school programs. Findings also show that 33 percent of the participating students made their own decisions to attend after-school programs rather than being forced by parents or teachers, which suggests that students who want to spend more *busi* time on academic tasks are better motivated to achieve higher BCT scores. Second, after-school programs help children realize their full potential and give them the opportunities to succeed in school. Findings show that students who have higher educational aspirations, attend more *busi* classes, $F(3, 404) = 14.237$, at $p < .0001$. This finding is in accordance with the previous research (U.S. Department of Education & Justice, 2000), which indicates that after-school programs for middle school children contribute to increasing rates of high school graduation. The research also shows that students who attended as few as one to four hours per week in after-school activities were almost 60 percent less likely to have dropped out of school by the time they were seniors than their peers who did not participate. Third, after-school programs complement school lessons by filling in the gaps for slow learners, by pushing faster learners and by providing an alternate classroom atmosphere (Russell, 1997). Families in Japan persist in using *juku* to help their children pursue better academic performance and higher scores on the meticulous and competitive national examination. Finally, there are usually experts skilled in test-taking strategies in after-school centers to ensure students' success in the national screening examinations (Russell, 1997). Experts who are good at ensuring high scores on examinations are

another factor for students to have a competitive edge in passing examinations and gaining better opportunities in senior high school, colleges, or universities.

Students' academic achievement certainly cannot be contributed to a single factor, such as *busi* hours. In this survey study, family annual income levels are found to have a much stronger direct influence than do the *busi* attendance hours. When the influence of other variables (family incomes and fathers' educational levels) in the model is held constant, the influence of school-based *busi* attendance hours is found to be a statistically insignificant contribution to the BCT scores. Coleman (1966) depicts that family characteristic differences are prior to school influence, and shape children before they attend school. This is a restriction that achievement variance is itself a result of family background differences. However, the analysis of the results shows that the influence of non-school-based *busi* hours, which accounts for the second largest portion of the variance in the dependent variable, is a significant possibility for students to benefit from *busi* attendance. This finding suggests that family income levels and the non-school-based *busi* attendance hours are both the major factors that influence students' BCT scores. Students from advantaged households can reproduce their parents' status by competing successfully on the high school entrance examinations with the help of *busi* programs. As to how much that the students' *busi* attendance hours are influenced by the family annual incomes will be examined later in this chapter.

Discussion of Findings Related to the Family Characteristics and *Busi* Hours

Research findings show that family characteristics significantly impact the idea of educational equity. Family background characteristics by a self-report measure are clustered into seven variables (mothers' educational levels, fathers' educational

levels, family annual incomes, living areas, educational aspirations, family sizes, and gender). Findings show that Taiwanese parent educational levels, family income, and living areas all significantly correlated with the children's *busi* hours, which were found to significantly affect students' BCT scores.

The correlation coefficient between the *busi* hours and the seven variables is indicated as follows: the educational aspirations, -.300; the living areas, .185; the family annual incomes, .131; the mothers' educational levels, .108; the fathers' educational levels, .079; gender, (-.051); and the family sizes, -.018). The findings show that the educational aspirations are the most powerful factor to channel students' non-school-based *busi* hours not the family annual incomes. According to Coleman (1966), educational aspirations are "partly a result of the home, and partly a result of the school" (P. 275). Coleman (1966) further depicts "They [educational aspirations] play a special role, for they are in part an outcome of education, and in part a factor which propels the child toward further education and achievement" (P. 275). This research finding suggests that students with greater educational aspirations have opted to prepare for the unified college entrance examinations, and thus need to have more *busi* hours than students who have chosen to attend junior colleges or vocational high schools.

The second powerful factor interacts with non-school-based *busi* hours is the place of residency variable. Students who live in urban areas have better access and choices for *busi ban* attendance than students who reside in rural areas. There are 765 *busi ban* in Kaohsiung City which has a population of 1.5 million, and only 191 *busi ban* in Kaohsiung County which has a population of 1.2 million (Bureau of Statistics, Ministry of Education, 1999a). The incommensurate rate of the number

of *busi ban* contributes to the differences in the mean of non-school-based *busi* hours between the three types of living areas.

In addition to the two variables (educational aspirations and living area) that significantly affect non-school-based *busi* attendance hours, students from well-educated families also have significantly higher non-school-based *busi* hours. This finding suggests that parents with higher educational levels also expect their children to attend more *busi* programs to enjoy the advantage in school achievement. The analysis of the data also indicates that students from higher-income families have more *busi* attendance hours. Higher-income families can afford more and higher-quality after-school programs for their children. The involvement of private financial support for children's education seems to be contributing to greater inequality of educational opportunities in Taiwan. This same result is found in Russell's study (1997) in Japan. Russell (1997) discovers that there is a growing tendency for the wealthy to pay for extra schooling in private *juku*, which poor parents are unable to provide. Russell's study further indicates that where a student lives and how much the student's parent can afford to pay for private *juku* and tutoring often mean the difference in whether or not the student goes to a top university.

It is also found that inequality of U.S. educational opportunities does abound because of race, social class, gender, disability, and sexual orientation. O'Hair et al., (2000) declare that it is an educator's responsibility to attend to the needs of poor students and students living in rural areas. In particular, extended-day and after-school programs have been proposed as a means of accelerating the achievement of students placed at-risk for academic failure due to poverty, lack of parental support, reduced opportunities to learn, and other socioeconomic and academic factors in the

United States (McGillis, 1996).

While the Bush Administration plans to make every effort to allocate separate state formula grants for U.S. before- and after-school learning opportunities to help at-risk students (Paige, 2001), after-school programs in Taiwan and Japan are costly items for many parents, a factor which contributes to educational inequality in the current Taiwanese education system. It seems that these differing sources of funding impact the function of after-school programs into totally opposite directions, thus, expanding or diminishing inequality of educational opportunities in different countries.

In this study, the research results do not show the significant impact of gender and family sizes on the non-school based *busi* hours. Gender differences remain a non-significant variable, suggesting the influences of cultural ideas about appropriate roles for men and women in Taiwan society, and that gender-differentiated structures of opportunity for higher education are diminished. As to the least correlation coefficient between the family sizes and the non-school-based *busi* attendance hours, the average sibling (2.1) indicates that there is a minor family size difference in existence in Taiwan society, therefore, there is no significant correlation coefficient in existence between the two variables.

Implications for Practice

The findings clearly demonstrate that *busi* benefits students in academic achievement, and that family characteristics, educational aspirations, and living areas affect students' need of *busi* hour attendance. Table 10 shows that school-based and non-school-based *busi* attendance hours, family annual incomes, and fathers' educational levels account for 27.2 percent of students' BCT (Basic Competence Test) scores, which was significant at $p < .0001$ level. Table 11 shows that

non-school-based after-school programs account for the second most percent of BCT scores (7.1 %). The finding reveals that there are at least two lessons that educators in the United Stated can learn from the Taiwan *busi ban* experience. First, Americans can learn to offer more after-school programs by broadening the necessary resources. Presently, most U.S. after-school programs are publicly supported, i.e., funded by the public school budget or supplemental funds. Private funds such as corporate support and student tuition can and perhaps should be sought and utilized. In terms of human resources, after-school programs should involve more than just certified teachers. Volunteers, such as preservice teachers, represent a potential staff, which with training, can become an effective after-school teaching force. More parent participation should also be encouraged. Parent participation can be both direct and indirect, as is the case with parents in Taiwan. Direct participation includes financial support in the form of tuition, but can also be in the form of volunteering as aides, providing transportation, or other such activities that reduce the work-load of teachers. Indirect participation can include such activities as promoting the after-school concept to the community as well as to the educational powers in the community, encouraging children and monitoring their after-school program attendance as is done by many parents in Taiwan. Of course, in the efforts to understand Taiwan's experience, educators in the United States must take into consideration the cultural differences between the two countries, and therefore implement what is culturally appropriate.

Second, Americans may wish to help students better understand that success comes from dedication and hard work. In spite of the belief that these are important American values, the commitment and even sacrifice required academic discipline do

not seem to be evident in many American students and their families. Attention to the work ethic and academic discipline may thus need to be part of the after-school program, as it is in Taiwan. Again, cultural differences may require different approaches in accomplishing this goal, as one does not expect Americans to exert the kind of pressure on youngsters to succeed in the classroom as is exerted in Asian countries.

Third, appropriate tests are necessary in the teaching and learning process. In Taiwan, when students are asked to explain the purpose for their studying, the responses mostly concern increased scores on examinations. High test scores are one of the students' missions, and it motivates them to study the hardest to ensure their success in the future. As Paige (2001) contends:

> [T]eaching and testing are two sides of the same coin that we call education. A major part of our current failing is because we have been using only one side of the coin, based on the flawed notion that we do not need to know where students are academically in order to teach them. The reality is that there is simply no other way to find out whether students are learning and teachers are doing their jobs. Many who say that testing is the problem, rather than lack of learning, are really suggesting that we lower our expectations because some kids can't learn. I reject that because I know from my experience in Houston that it just isn't true. We need to set clear goals for performance and help our schools get the job done. The alternative is to continue to rob millions of poor and disadvantaged young Americans of their futures by failing to provide them an effective education. (p. 8)

Among the lessons to be learned from Taiwan's *busi* culture is that an inequality of after-school educational opportunities should be avoided at all costs.

Measures should be taken so that students from low-income families are afforded the same access to supplemental learning as other students. For example, parents need not be the only source of financial support. Funding might come from fund-raising by affiliated groups like the *busi ban* associations or supplemental financing from other sources, such as industry or government. The Taiwanese educational system should seek to eliminate this financial inequity. Second, the goals and curriculum of after-school programs should be broad, and not as limited and confined as those in Taiwan. This would allow students the opportunity to benefit in various academic and social areas as they develop into well-rounded individuals. Third, the length and hours of after-school programs should be limited, so there will not be excessive after-school work. In other words, after-school programs should not be a mental or physical burden to students, as is the case with some students in Taiwan (Lin & Noley, 2000).

Finally, *busi* education provides a good example of a nonschool institution providing opportunities for learning. From the *busi* experience, public school administrators should realize that conventional schools might lose their monopoly as providers of schooling. *Busi* education has already shifted educational values to become more efficient and flexible by having a better student-staff ratio, rearranging school hours to children's need. Public school administrators may want to be more business oriented (fewer students means business decline), and thus, will want to improve public schooling to be more market-driven, as is the case of the *busi* industry developed in Taiwan.

Busi ban attract students with their enthusiastic teachers (Item 22, 63.6%) who give their time and energy to students and parents as well as their professional

teaching skills (Item 11, 66.4%). In turn, this facilitates and motivates students to become more interested in learning and gaining higher examination scores. One final lesson to be learned from the Taiwan *busi* experience is that public school teachers should be prepared thoroughly as teachers capable of helping their students achieve higher scores on the joint entrance examinations. Being able to improve students' test scores is a very important criterion that students and parents in Taiwan use to evaluate teachers. Teachers need to take the responsibility for their loss of popularity among students, as is the case with the teachers in *busi ban*. Teachers may lose their job due to not doing their work well.

Future Study

This study has gained insights regarding after-school programs in the Kaohsiung district. Approximately 34,000 ninth graders in the Kaohsiung district were selected as participants, which is about 10 percent of the ninth graders in the whole Taiwan area (Bureau of Education, Kaohsiung City Government, 2001). Further research studies, based on the whole population of ninth graders in Taiwan, are recommended in order to get a more complete picture of Taiwan *busi* culture.

Since little research has examined the benefits, the perceptions, the effects, and the beneficiaries of *busi* programs in Taiwan, replicating the present study is welcomed to determine if the data are representative of the *busi* phenomenon in Taiwan. Also, the findings of this survey study strongly recommend that further research in countries with different cultural backgrounds and educational systems must be continued to establish the validation of the questionnaire and expand its use into a global format for cross-cultural studies.

Inevitable limitations do exist in this study. First, parents whose children

received lower BCT scores tended not to report the scores and left it unanswered. This might distort the analysis of the results. In future studies, parents should be informed more clearly that a pseudonym is given to every participant and that identification is kept confidential, thus encouraging the parents to report the scores without hesitancy. Second, the quality of *busi* programs varies from *busi ban* to *busi ban* and the cost also varies in a wide range. The two variances should be considered in further studies. Finally, in order to have better control of the return rate and reliable BCT scores, the researcher suggests the survey be administered in representative schools with the assistance of teachers. Parents in Taiwan cooperate better under the requirement of students' homeroom teachers.

Conclusion

Chinese parents traditionally consider it a prime duty to give their children the best possible education. Most parents in Taiwan send their children to *busi ban*, or, after school programs, as a means of enhancing their learning, or, to have higher scores on examinations (48.9% of 409 participants). It is deemed to be so essential that there are a variety of *busi ban* established for different purposes. Indeed, their presence is so pervasive that most children actually attend at least two to four classes weekly in *busi ban*. It has become a part of the educational culture for children to attend these after-school programs intended to enhance their scholarly skills in public schools. Findings in this survey study show the positive evidence that more *busi* hours ensure higher BCT scores. The results also show that parents (57%) made the decision to send their children to after-school programs. It is obvious that participation in *busi ban* is desirable to most parents with school-aged children. It is also true that parents realize their children may not succeed on the national

examination without experts' assistance in after-school centers.

Although after-school programs may not be accepted by some educators who perceive *busi* as a threat to children's physical development, and even may embarrass the public schools that advocate whole person education, after-school programs have had a long history and have enjoyed much success in Taiwan. In the United States, such programs are also viewed as the hope of American education by former President Bill Clinton (The White House at Work, 1999). In the assertion "No Child Left Behind," President George W. Bush (2001) makes the same advocacy that funding will be increased for school-based after-school programs, and that the states will be allowed to award grants for after-school programs on the same basis administered by other nongovernmental organizations. The endorsement of the expansion of after-school programs by both of these American presidents exhibits the overwhelming support for after-school programs in the United States.

Used wisely and well, after-school programs can be academic equalizers. However, if after-school programs are boomed into a vast commercial industry and are a costly item for parents, then inequality in education will be created, and even widened, by such programs. As lack of financial support is the second most popular reason why parents do not send their children to after-school programs (Table 31) and family characteristics do affect *busi* hours (Table 12), measures should be taken to help children from low-income families attend *busi ban*. *Busi* programs should not create a disparity in students' access to learning opportunities.

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APPENDICES

Appendix A

Survey of *Busi* Culture in Taiwan Education

Part I

Items in Part I are intended to collect general information about you and your child. Please read each question carefully and checkmark the following items that accurately describe you and your child or write your response in the space provided. The answers will be held confidential.

1. Living area a. ___ urban b. ___ suburban c. ___ rural

2. Father's highest educational level
   a. ___ junior high school graduate or less b. ___ senior high school graduate
   c. ___ college d. ___ graduate school
   e. other, please list _____

3. Mother's highest educational level
   a. ___ junior high school graduate or less b. ___ senior high school graduate
   c. ___ college d. ___ graduate school
   e. other, please list _____

4. Your family's annual incomes (NT$)
   a. ___ NT$ 300,000 or less b. ___ NT$ 310,000-420,000
   c. ___ NT$ 430,000-600,000 d. ___ NT$ 610,000-840,000
   e. ___ NT$ 850,000 or above

5. Information regarding your ninth grade child
   a. Gender _____ b. Number of siblings _____

6. The amount of money the family spends **per month** to enable your ninth grade child to attend *busi*.
   a. ___ NT$ 3,000 or less b. ___ NT$ 3,100-4,000
   c. ___ NT$ 4,100-5,000 d. ___ NT$ 5,100-6,000
   e. ___ NT$ 6,100 or above

7. How many hours **per week** does your child spend in school-based after-school programs in the ninth grade? _____

8. How many hours **per week** does your child spend in non-school-based after-school programs in the ninth grade? _____

9. Please give the score your child made on BCT test. _____

10. What type of school do you expect your child to attend after junior high school?
    a. ___ academic high school
    b. ___ junior college
    c. ___ vocational high school
    d. other, please explain _____

11. What is the main reason that you send your child to non-school-based after-school programs? Please choose one.
    a. ___ better scores on examinations
    b. ___ to learn test-taking techniques
    c. ___ to supplement public schooling
    d. ___ improve motivation to learn
    e. ___ to learn how to study by themselves
    f. other, please list _____

Part II

Items in Part II deal with your view of *busi* benefits for your children and perceptions *busi* programs that your child attends. Read each question carefully. Answer the questions using the 5-points scale shown below. Circle the number that corresponds with your answer. Skip to part III if you did not send your child to *busi* programs.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

1. My child understands his/her lesson better now due to *busi ban*. 1 2 3 4 5
2. The *busi* program meets my child's personal needs. 1 2 3 4 5
3. *Busi ban* helped my child develop better study habits. 1 2 3 4 5
4. My child complains about not getting enough time to him/herself. 1 2 3 4 5
5. My child has learned to study by him/herself in *busi ban*. 1 2 3 4 5
6. I am satisfied with the quality of the *busi* program my child has been attending this year. 1 2 3 4 5
7. My child is taught with enthusiasm in *busi ban*. 1 2 3 4 5
8. My child usually likes going to *busi ban*. 1 2 3 4 5
9. *Busi* enables my child to go beyond school lessons. 1 2 3 4 5
10. The teachers in *busi ban* are fair in disciplining my child and in enforcing rules. 1 2 3 4 5
11. *Busi ban* teaches test taking skills enhancing my child's performance. 1 2 3 4 5
12. The relationship between the *busi* teachers and my child is generally positive. 1 2 3 4 5
13. My child had less time for TV and playing. 1 2 3 4 5

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

14. *Busi ban* has been a good environment for my child to build friendships. 1 2 3 4 5
15. Attendance at *busi ban* is necessary for my child. 1 2 3 4 5
16. I would like my child to continue to attend *busi* programs in their further study. 1 2 3 4 5
17. My child learns to study without parental guidance. 1 2 3 4 5
18. The teachers in *busi ban* are more like friends than teachers. 1 2 3 4 5
19. *Busi ban* have helped my child achieve high grades at school and high scores on the joint examination. 1 2 3 4 5
20. I trust the teachers in *busi ban*. 1 2 3 4 5
21. *Busi ban* helps my child have more confidence in studying for school. 1 2 3 4 5
22. I can talk to the teachers in *busi ban* about my child's problem if I need to. 1 2 3 4 5
23. There are no particular benefits to the *busi* programs. 1 2 3 4 5
24. The teachers in *busi ban* really listen to me when I have something important to say. 1 2 3 4 5
25. My child made more friends in *busi ban*. 1 2 3 4 5
26. The teachers in *busi ban* go out of their way to help my child. 1 2 3 4 5
27. Attending *busi ban* programs affects my child's physical development. 1 2 3 4 5
28. The teachers in *busi ban* care about my child. 1 2 3 4 5
29. Attending *busi ban* affects my child's eyesight. 1 2 3 4 5
30. *Busi ban* is a great place for my child to be. 1 2 3 4 5

Part III

Open-Ended Questions

1. Are there other benefits you see in your child's attending after-school programs that you would like to share with us?

2. Are there other disadvantages you see in your child's attending after-school programs that you would like to share with us?

3. Who decided that the child needed to attend non-school-based after-school programs?

4. If your child didn't attend any after-school programs, what is the main reason that can explain why you did not send your child to non-school-based after-school programs?

(Chinese Version of the Questionnaire)

台灣地區補習教育概況調查表

第一部份

第一部份的項目是用來收集您和您的小孩的一般資料。請詳細閱讀並勾選最符合您及您的小孩的選項或在空白處填寫您的答案。所有您的資料及回答均視為機密文件保管。

1. 居住地區　a. □市區　b. □市郊　c. □郊區

2. 爸爸的教育程度
   a. □國中或以下程度　b. □高中畢業
   c. □大專畢業　d. □研究所畢業
   e. 其他（請說明）_____

3. 媽媽的教育程度
   a. □國中或以下程度　b. □高中畢業
   c. □大專畢業　d. □研究所畢業
   d. 其他（請說明）_____

4. 您的家庭年收入（新台幣）
   a. □ 300,000 元 或 以下　b. □ 300,001-420,000 元
   c. □ 420,001-600,000 元　d. □ 600,001-840,000 元
   e. □ 840,001 元 或 以上

5. 您家就讀國三的小孩資料
   a. 性別 _____　b. 兄弟姊妹人數 _____

6. 您家就讀國三的小孩每個月花在補習的費用（新台幣）
   a. □ 3,000 元 或 以下　b. □ 3,001-4,000 元
   c. □ 4,001-5,000 元　d. □ 5,001-6,000 元
   e. □ 6,001 元 或 以上

7. 您家就讀國三的小孩每星期花在學校的補習時間是 _____ 小時。

8. 您家就讀國三的小孩每星期花在校外的補習時間是 _____ 小時。

9. 您家就讀國三的小孩的基本學力測驗總成績是 _____。

10. 您期望您的小孩國中後就讀
    a. □普通高中　b. □五專
    c. □高職　d. 其它（請列出）_____

11. 您家就讀國三的小孩參加校外補習的主要原因（請圈選一項）
    a. □考試有較好的成績　b. □學習考試的技巧
    c. □補助學校教育　d. □增進學習動機
    e. □學習如何自我學習　f. 其它（請列出）_____

第二部份

第二部份的項目是有關您對您家的小孩所參加的補習班的觀點及您對於補習班帶給您小孩的好處的看法。請詳細閱讀以下問題，利用所提供的五分制的標度，圈選最能符合您答案的號碼。如果您的小孩沒參加任何補習，請跳至第三部份作答。

非常不同意	不同意	不確定	同意	非常同意
1	2	3	4	5

1. 補習使我的小孩較能瞭解學校的課業。 1 2 3 4 5
2. 補習班的課程符合我小孩的個人需要。 1 2 3 4 5
3. 補習使我的小孩變得對學習較有興趣。 1 2 3 4 5
4. 我的小孩常抱怨沒有足夠的時間做別的事。 1 2 3 4 5
5. 補習使我的小孩學習靠自己學習。 1 2 3 4 5
6. 我對我的小孩所參加的補習班品質很滿意。 1 2 3 4 5
7. 我的小孩在補習班被很熱忱的教導。 1 2 3 4 5
8. 我的小孩通常喜歡上補習班。 1 2 3 4 5
9. 補習使我的小孩能夠超越學校的課業。 1 2 3 4 5
10. 補習老師很合理的訓誡我的小孩及執行班規。 1 2 3 4 5
11. 補習使我的小孩能夠獲得考試的資訊及進一步的課程。 1 2 3 4 5
12. 補習老師和我的小孩有良好及正面的關係。 1 2 3 4 5
13. 補習使我的小孩減少了看電視的時間。 1 2 3 4 5
14. 補習班是我的小孩建立友誼的良好環境。 1 2 3 4 5
15. 參加補習對我的小孩來說是必要的。 1 2 3 4 5
16. 我的小孩上高中、高職或五專後將會繼續參加補習。 1 2 3 4 5
17. 我的小孩在補習班學習沒有父母親的指導而能自我學習。 1 2 3 4 5
18. 補習班的老師像是孩子的朋友更甚於老師。 1 2 3 4 5
19. 補習使我的小孩在校及各種考試都有較高的成績。 1 2 3 4 5
20. 我信任補習班的老師。 1 2 3 4 5
21. 補習使我的小孩在學習學校的課業上較有信心。 1 2 3 4 5
22. 假如我需要，我可以跟補習老師談我小孩的問題。 1 2 3 4 5
23. 補習對小孩子的學習沒什麼助益。 1 2 3 4 5
24. 補習班老師會注意聽我的重要陳述。 1 2 3 4 5
25. 我的小孩在補習班交更多的朋友。 1 2 3 4 5
26. 補習老師盡全力幫助我的小孩。 1 2 3 4 5
27. 參加補習影響我的小孩的身體發展。 1 2 3 4 5
28. 補習班老師關心我的小孩。 1 2 3 4 5
29. 參加補習影響我的小孩的視力。 1 2 3 4 5
30. 補習班是孩子們的好去處。 1 2 3 4 5

第三部分

開放式問答

1. 請列出其它您認為小孩參加補習班的好處。

2. 請列出其它您認為小孩參加補習班的壞處。

3. 在您們家誰決定小孩需要補習？

4. 如果您的小孩沒上補習班，您主要理由是什麼？

Appendix B

Cover Letter

Dear parent,

I am a doctoral student at the University of Oklahoma. I wish to investigate your perceptions of *busi* programs, *busi* benefits, effects, and the beneficiaries at after-school program attendance. The information obtained will be used to determine the value and worth of after-school education in Taiwan.

The study will require approximately 30 to 45 minutes of your time to be completed at your convenience. There are no foreseeable risks of participation in this project for you. Your participation will greatly help educational authorities determine the best curriculum and instructional programming to help students pursue higher academic achievement.

Your participation in this project is strictly voluntary. Refusal to participate will involve no penalty whatsoever. You also may withdraw your participation at any time without penalty. All information from this project will be kept in a locked file cabinet by the investigator, and will remain confidential within limits of the law, and will be destroyed at the conclusion of the investigation. A pseudonym will be given for you and your current setting so real names and locations will not be known.

I hope this assurance will encourage you to be very frank in your responses to the questions. You are welcome to write additional comments if you wish. A postage paid return envelope is enclosed for your use. The completion and return of the questionnaire constitutes your consent to participate.

If you have any questions about this project, please contact me at: Phone (405) 360-7351, and e-mail address (linsc@ou.edu) or my University supervisor Dr. Grayson B. Noley at: Phone (405) 325-4202, and e-mail address (gnoley@ou.edu). If you have any questions regarding rights of the research participants, you can contact the University of Oklahoma, Office of Research Administration, 1000 Asp Avenue, Buchanan Hall, Room 314, Norman, Oklahoma 73019, U.S.A., phone number (405) 325-4757, and e-mail address (irb@ou.edu).

Thank you,

Shih-chung Lin
Doctoral candidate, University of Oklahoma
(U.S.A. Address) 1415 George Ave., Apt. 202, Norman, OK, U.S.A. 73072.
(Taiwan Address) 325 Chien-kung Rd., Kaohsiung, Taiwan, R.O.C.

(Chinese Version of the Cover Letter)

親愛的家長：

補習儼然已成為我們小孩子們學習與成長的一部份。除了教育學者專家們經常大加撻伐補習的過當外，補習教育的功效、好處、對學習的真正幫助，以及家長們的真正看法卻鮮少被探討和研究。當美國教育當局正羨慕著亞洲囊括2000年國際教育成就數學前五名（台灣自然科學第一，數學第三）並著手進行投資與投入補習教育時，台灣的教育改革政策卻都針對消弭補習而擬定。本研究即是要藉著您的參與，來揭開補習的面紗並瞭解補習對教育的真正影響。

這份問卷將需要您30至40分鐘寶貴的時間來完成。所有您提供的資料將以匿名並被視為機密文件保護，所以您可以很放心的據實回答本問卷的所有問題，甚或在提供的空白處抒發您獨特的見解。所有問題都是根據補習教育的探討與研究而設計，對您絕沒有任何可預見的潛在危害，但是相對的，您的參與以及提供的寶貴資料將有助於台灣教育當局擬定更好的學習課程及教學策略，使莘莘學子更有效率及健康的學習。

除了以上冠冕堂皇的理由外，這次的研究報告將可以幫助我完成博士論文，順利獲得博士學位。我是奧克拉荷馬大學博士研究生，正期待著榮耀的畢業時刻。這項研究受到奧克拉荷馬大學的授權及贊助。如果您有任何有關本研究計畫的問題，請用電話（07-3856805）或網路郵件網址（linsc@ou.edu）和我聯繫。您也可以直接和我的指導教授Dr. Noley聯繫，他的電話是（405-3254202）或網路郵件網址（gnoley@ou.edu）。至於有關參與本計畫的權益可以聯絡奧克拉荷馬大學研究執行辦公室，電話（405-3254757）或網路郵件網址（irb@ou.edu）。

隨信附有郵資已付回郵信封，可供使用。您的回函將被視為您的真誠與熱烈的參與以及我們說不完的感謝。

承蒙撥冗相助，不勝感激；並順頌闔家平安，財源廣進。

博士生 林世忠敬上

Appendix C

Follow-up Postcard

Dear Parents,

Recently a questionnaire was mailed to you seeking information about *busi* culture in Taiwan education. If you have not already done so, please complete and return it to me by mailing it in the postage paid return envelope. It is extremely important that information about your perceptions of after-school programs and the related information of your children's after-school program attendance be included in the study to accurately represent the essences of after-school programs administered in Taiwan area. If by some chance you did not receive the questionnaire, or you would like a replacement, please call Lin, Shih-chung at (07-385-6805) and I will send the questionnaire to you.

Thank you for your assistance.

Lin, Shih-chung
Project Researcher

(Chinese Version of the Follow-up Postcard)

親愛的家長：

前頃，我們寄了一份問卷調查表給您以探詢有關台灣教育補習文化的相關資料。假如您還無暇回覆，懇請撥冗完成問卷並利用回郵已付信封寄回問卷為荷？能將您對補習的看法，及您的小孩參加補習的相關訊息納入本研究以便正確的探討台灣地區補習教育的本質是極其重要的。假如因為某種原因導致您沒有收到這份問卷調查表，或者您希望我們補寄一份，請致電（07-385-6805），我們將儘快寄上。

謝謝您的撥冗相助

問卷研究員

林世忠敬上

Appendix D

SPSS Syntax and Output Related to Research Questions

Syntax and Output Related to Demographics of Families and Question 1

```
FREQUENCIES
  VARIABLES=medulev fedulev annincom livarea mefbusi sex nosibl eduaspir
  /STATISTICS=STDDEV MEAN MODE MEDIAN
  /ORDER= ANALYSIS .
FREQUENCIES
  VARIABLES=hnsbbusi hsbbusi throbusi
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN SKEWNESS
SESKEW KURTOSIS SEKURT
  /ORDER= ANALYSIS .
DESCRIPTIVES
  VARIABLES=bctscore
  /STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS .
```

Frequencies

Statistics

		Mother du. Leve	ather Edu Level	Annual come (NT$	ving Are	Monthly Expense for Busi	mposite S	lumber o Siblings	ducationa Aspiration
N	Valid	409	407	400	406	390	406	408	409
	Missing	0	2	9	3	19	3	1	0
Mean		2.00	2.22	2.80	1.51	2.38	1.53	2.10	1.65
Median		2.00	2.00	3.00	1.00	2.00	2.00	2.00	1.00
Mode		2	2	1	1	1	2	2	1
Std. Deviation		.80	.85	1.51	.82	1.54	.50	1.03	.96

Frequency Table

Mother Edu. Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	junior high or less	115	28.1	28.1	28.1
	senior high	194	47.4	47.4	75.6
	college	85	20.8	20.8	96.3
	grad school	15	3.7	3.7	100.0
	Total	409	100.0	100.0	

Father Edu. Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	junior high or less	85	20.8	20.9	20.9
	senior high	174	42.5	42.8	63.6
	college	120	29.3	29.5	93.1
	grad school	28	6.8	6.9	100.0
	Total	407	99.5	100.0	
Missing	System	2	.5		
Total		409	100.0		

Annual Income (NT$)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	300.000 or less	117	28.6	29.3	29.3
	310.000-420.000	73	17.8	18.3	47.5
	430.000-600.000	64	15.6	16.0	63.5
	610.000-840.000	67	16.4	16.8	80.3
	850.000 or above	79	19.3	19.8	100.0
	Total	400	97.8	100.0	
Missing	System	9	2.2		
Total		409	100.0		

Living Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	urban	286	69.9	70.4	70.4
	suburban	34	8.3	8.4	78.8
	rural	86	21.0	21.2	100.0
	Total	406	99.3	100.0	
Missing	System	3	.7		
Total		409	100.0		

Monthly Expense for Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.000 or less	175	42.8	44.9	44.9
	3.100-4.000	68	16.6	17.4	62.3
	4.100-5.000	36	8.8	9.2	71.5
	5.100-6.000	46	11.2	11.8	83.3
	6.100 or above	65	15.9	16.7	100.0
	Total	390	95.4	100.0	
Missing	System	19	4.6		
Total		409	100.0		

Composite Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	189	46.2	46.6	46.6
	female	217	53.1	53.4	100.0
	Total	406	99.3	100.0	
Missing	System	3	.7		
Total		409	100.0		

Number of Siblings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	19	4.6	4.7	4.7
	1	91	22.2	22.3	27.0
	2	169	41.3	41.4	68.4
	3	100	24.4	24.5	92.9
	4	18	4.4	4.4	97.3
	5	11	2.7	2.7	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Educational Aspiration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	academic high	265	64.8	64.8	64.8
	junior college	42	10.3	10.3	75.1
	vocational high	83	20.3	20.3	95.4
	other	19	4.6	4.6	100.0
	Total	409	100.0	100.0	

Frequencies

Statistics

		Hr. of Non S-Based Busi	Hr. of S-Based Busi	Total Hours of Busi
N	Valid	408	408	408
	Missing	1	1	1
Mean		5.03	3.17	8.18
Std. Deviation		5.31	4.11	6.89
Skewness		1.643	1.389	1.149
Std. Error of Skewness		.121	.121	.121
Kurtosis		3.554	1.632	1.376
Std. Error of Kurtosis		.241	.241	.241
Minimum		0	0	0
Maximum		30	21	34

Frequency Table

Hr. of Non S-Based Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	108	26.4	26.5	26.5
	1	8	2.0	2.0	28.4
	2	29	7.1	7.1	35.5
	3	48	11.7	11.8	47.3
	4	51	12.5	12.5	59.8
	5	12	2.9	2.9	62.7
	6	38	9.3	9.3	72.1
	7	14	3.4	3.4	75.5
	8	20	4.9	4.9	80.4
	9	8	2.0	2.0	82.4
	10	18	4.4	4.4	86.8
	11	1	.2	.2	87.0
	12	23	5.6	5.6	92.6
	13	5	1.2	1.2	93.9
	14	3	.7	.7	94.6
	15	2	.5	.5	95.1
	16	3	.7	.7	95.8
	18	5	1.2	1.2	97.1
	19	2	.5	.5	97.5
	20	1	.2	.2	97.8
	21	4	1.0	1.0	98.8
	24	2	.5	.5	99.3
	28	1	.2	.2	99.5
	30	2	.5	.5	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Hr. of S-Based Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	186	45.5	45.6	45.6
	1	28	6.8	6.9	52.5
	2	26	6.4	6.4	58.8
	3	16	3.9	3.9	62.7
	4	20	4.9	4.9	67.6
	5	44	10.8	10.8	78.4
	6	13	3.2	3.2	81.6
	7	2	.5	.5	82.1
	8	17	4.2	4.2	86.3
	10	39	9.5	9.6	95.8
	11	1	.2	.2	96.1
	12	6	1.5	1.5	97.5
	13	1	.2	.2	97.8
	14	1	.2	.2	98.0
	15	4	1.0	1.0	99.0
	18	2	.5	.5	99.5
	20	1	.2	.2	99.8
	21	1	.2	.2	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Total Hours of Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	51	12.5	12.5	12.5
	1	11	2.7	2.7	15.2
	2	21	5.1	5.1	20.3
	3	27	6.6	6.6	27.0
	4	42	10.3	10.3	37.3
	5	22	5.4	5.4	42.6
	6	33	8.1	8.1	50.7
	7	18	4.4	4.4	55.1
	8	18	4.4	4.4	59.6
	9	18	4.4	4.4	64.0
	10	26	6.4	6.4	70.3
	11	6	1.5	1.5	71.8
	12	19	4.6	4.7	76.5
	13	13	3.2	3.2	79.7
	14	16	3.9	3.9	83.6
	15	9	2.2	2.2	85.8
	16	10	2.4	2.5	88.2
	17	7	1.7	1.7	90.0
	18	13	3.2	3.2	93.1
	19	1	.2	.2	93.4
	20	6	1.5	1.5	94.9
	21	3	.7	.7	95.6
	22	2	.5	.5	96.1
	24	3	.7	.7	96.8
	25	1	.2	.2	97.1
	26	1	.2	.2	97.3
	27	2	.5	.5	97.8
	29	1	.2	.2	98.0
	30	3	.7	.7	98.8
	31	3	.7	.7	99.5
	33	1	.2	.2	99.8
	34	1	.2	.2	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BCT Scores	407	34	300	178.95	57.57	-.270	.121	-.782	.241
Valid N (list	407								

Syntax and Output Related to Research Question 2

```
Temp.
  select if (throbusi > 0 and throbusi < 35).
FREQUENCIES
  VARIABLES=q02 q04 q06 q08 q10 q12 q14 q16 q18 q20 q22 q24 q26 q28 q30
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN MODE
  /ORDER=  ANALYSIS .
RECODE
  q04 q23 q27 q29  (1=5)  (2=4)  (3=3)  (4=2)  (5=1)  .
EXECUTE .
COMPUTE percept = (q02 + q04 + q06 + q08 + q10 + q12 + q14 + q16 + q18 + q20
 + q22 + q24 + q26 + q28 + q30) / 15 .
EXECUTE .
Temp.
  select if (throbusi > 0 and throbusi < 35).
DESCRIPTIVES
  VARIABLES=percept
  /STATISTICS=MEAN STDDEV MIN MAX .
```

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PERCEPT	357	1.07	5.00	3.2286	.5634
Valid N (listwise)	357				

Q02

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	3.1	3.1	3.1
	2.00	64	17.9	17.9	21.0
	3.00	120	33.6	33.6	54.6
	4.00	143	40.1	40.1	94.7
	5.00	19	5.3	5.3	100.0
	Total	357	100.0	100.0	

Q04

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13	3.6	3.6	3.6
	2.00	43	12.0	12.0	15.7
	3.00	51	14.3	14.3	30.0
	4.00	170	47.6	47.6	77.6
	5.00	80	22.4	22.4	100.0
	Total	357	100.0	100.0	

Q06

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	21	5.9	5.9	5.9
	2.00	56	15.7	15.7	21.6
	3.00	126	35.3	35.3	56.9
	4.00	129	36.1	36.1	93.0
	5.00	25	7.0	7.0	100.0
	Total	357	100.0	100.0	

Q08

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	55	15.4	15.4	15.4
	2.00	108	30.3	30.3	45.7
	3.00	103	28.9	28.9	74.5
	4.00	72	20.2	20.2	94.7
	5.00	19	5.3	5.3	100.0
	Total	357	100.0	100.0	

Q10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	16	4.5	4.5	4.5
	2.00	49	13.7	13.7	18.2
	3.00	113	31.7	31.7	49.9
	4.00	148	41.5	41.5	91.3
	5.00	31	8.7	8.7	100.0
	Total	357	100.0	100.0	

Q12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	3.1	3.1	3.1
	2.00	44	12.3	12.3	15.4
	3.00	101	28.3	28.3	43.7
	4.00	162	45.4	45.4	89.1
	5.00	39	10.9	10.9	100.0
	Total	357	100.0	100.0	

Q14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	19	5.3	5.3	5.3
	2.00	79	22.1	22.1	27.5
	3.00	106	29.7	29.7	57.1
	4.00	118	33.1	33.1	90.2
	5.00	35	9.8	9.8	100.0
	Total	357	100.0	100.0	

Q16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	19	5.3	5.3	5.3
	2.00	39	10.9	10.9	16.2
	3.00	155	43.4	43.4	59.7
	4.00	100	28.0	28.0	87.7
	5.00	44	12.3	12.3	100.0
	Total	357	100.0	100.0	

Q18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	20	5.6	5.6	5.6
	2.00	70	19.6	19.6	25.2
	3.00	113	31.7	31.7	56.9
	4.00	124	34.7	34.7	91.6
	5.00	30	8.4	8.4	100.0
	Total	357	100.0	100.0	

Q20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	4.2	4.2	4.2
	2.00	37	10.4	10.4	14.6
	3.00	111	31.1	31.1	45.7
	4.00	156	43.7	43.7	89.4
	5.00	38	10.6	10.6	100.0
	Total	357	100.0	100.0	

Q22

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	12	3.4	3.4	3.4
	2.00	39	10.9	10.9	14.3
	3.00	79	22.1	22.1	36.4
	4.00	180	50.4	50.4	86.8
	5.00	47	13.2	13.2	100.0
	Total	357	100.0	100.0	

Q24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	12	3.4	3.4	3.4
	2.00	27	7.6	7.6	10.9
	3.00	114	31.9	31.9	42.9
	4.00	167	46.8	46.8	89.6
	5.00	37	10.4	10.4	100.0
	Total	357	100.0	100.0	

Q26

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	7	2.0	2.0	2.0
	2.00	32	9.0	9.0	10.9
	3.00	100	28.0	28.0	38.9
	4.00	175	49.0	49.0	88.0
	5.00	43	12.0	12.0	100.0
	Total	357	100.0	100.0	

Q28

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	8	2.2	2.2	2.2
	2.00	32	9.0	9.0	11.2
	3.00	114	31.9	31.9	43.1
	4.00	159	44.5	44.5	87.7
	5.00	44	12.3	12.3	100.0
	Total	357	100.0	100.0	

Q30

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	58	16.2	16.2	16.2
	2.00	99	27.7	27.7	44.0
	3.00	122	34.2	34.2	78.2
	4.00	63	17.6	17.6	95.8
	5.00	15	4.2	4.2	100.0
	Total	357	100.0	100.0	

Syntax and Output Related to Research Question 3

```
Temp.
  select if (throbusi > 0 and throbusi < 35).
FREQUENCIES
  VARIABLES=q01 q03 q05 q07 q09 q11 q13 q15 q17 q19 q21 q23 q25 q27 q29
  /STATISTICS=STDDEV MEAN MODE MEDIAN MODE
  /ORDER=  ANALYSIS .
RECODE
  q04 q23 q27 q29  (1=5)  (2=4)  (3=3)  (4=2)  (5=1)  .
EXECUTE .
COMPUTE benefits = (q01 + q03 + q05 + q07 + q09 + q11 + q13 + q15 + q17 + q19
  + q21 + q23 + q25 + q27 + q29) / 15 .
EXECUTE .
Temp.
  select if (throbusi > 0 and throbusi < 35).
DESCRIPTIVES
  VARIABLES=benefits
  /STATISTICS=MEAN STDDEV MIN MAX .
```

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BENEFITS	356	1.53	4.73	3.3037	.5126
Valid N (listwise)	356				

Q01

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	20	5.6	5.6	5.6
	2.00	46	12.9	12.9	18.5
	3.00	73	20.4	20.4	38.9
	4.00	187	52.4	52.4	91.3
	5.00	31	8.7	8.7	100.0
	Total	357	100.0	100.0	

Q03

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	38	10.6	10.6	10.6
	2.00	98	27.5	27.5	38.1
	3.00	127	35.6	35.6	73.7
	4.00	73	20.4	20.4	94.1
	5.00	21	5.9	5.9	100.0
	Total	357	100.0	100.0	

Q05

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	26	7.3	7.3	7.3
	2.00	96	26.9	26.9	34.2
	3.00	107	30.0	30.0	64.1
	4.00	102	28.6	28.6	92.7
	5.00	26	7.3	7.3	100.0
	Total	357	100.0	100.0	

Q07

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	4.2	4.2	4.2
	2.00	48	13.4	13.4	17.6
	3.00	120	33.6	33.6	51.3
	4.00	143	40.1	40.1	91.3
	5.00	31	8.7	8.7	100.0
	Total	357	100.0	100.0	

Q09

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	19	5.3	5.3	5.3
	2.00	63	17.6	17.6	23.0
	3.00	127	35.6	35.6	58.5
	4.00	114	31.9	31.9	90.5
	5.00	34	9.5	9.5	100.0
	Total	357	100.0	100.0	

Q11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	3.1	3.1	3.1
	2.00	40	11.2	11.2	14.3
	3.00	69	19.3	19.3	33.6
	4.00	205	57.4	57.4	91.0
	5.00	32	9.0	9.0	100.0
	Total	357	100.0	100.0	

Q13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	4.2	4.2	4.2
	2.00	43	12.0	12.0	16.2
	3.00	57	16.0	16.0	32.2
	4.00	171	47.9	47.9	80.1
	5.00	71	19.9	19.9	100.0
	Total	357	100.0	100.0	

Q15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	40	11.2	11.2	11.2
	2.00	57	16.0	16.0	27.2
	3.00	126	35.3	35.3	62.5
	4.00	115	32.2	32.2	94.7
	5.00	19	5.3	5.3	100.0
	Total	357	100.0	100.0	

Q17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	4.2	4.2	4.2
	2.00	45	12.6	12.6	16.8
	3.00	106	29.7	29.7	46.5
	4.00	162	45.4	45.4	91.9
	5.00	29	8.1	8.1	100.0
	Total	357	100.0	100.0	

Q19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	16	4.5	4.5	4.5
	2.00	71	19.9	19.9	24.4
	3.00	146	40.9	40.9	65.3
	4.00	99	27.7	27.7	93.0
	5.00	25	7.0	7.0	100.0
	Total	357	100.0	100.0	

Q21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	10	2.8	2.8	2.8
	2.00	44	12.3	12.4	15.2
	3.00	101	28.3	28.4	43.5
	4.00	168	47.1	47.2	90.7
	5.00	33	9.2	9.3	100.0
	Total	356	99.7	100.0	
Missing	System	1	.3		
Total		357	100.0		

Q23

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	44	12.3	12.3	12.3
	2.00	131	36.7	36.7	49.0
	3.00	137	38.4	38.4	87.4
	4.00	34	9.5	9.5	96.9
	5.00	11	3.1	3.1	100.0
	Total	357	100.0	100.0	

Q25

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	8	2.2	2.2	2.2
	2.00	42	11.8	11.8	14.0
	3.00	93	26.1	26.1	40.1
	4.00	169	47.3	47.3	87.4
	5.00	45	12.6	12.6	100.0
	Total	357	100.0	100.0	

Q27

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	33	9.2	9.2	9.2
	2.00	111	31.1	31.1	40.3
	3.00	127	35.6	35.6	75.9
	4.00	65	18.2	18.2	94.1
	5.00	21	5.9	5.9	100.0
	Total	357	100.0	100.0	

Q29

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	30	8.4	8.4	8.4
	2.00	112	31.4	31.4	39.8
	3.00	122	34.2	34.2	73.9
	4.00	63	17.6	17.6	91.6
	5.00	30	8.4	8.4	100.0
	Total	357	100.0	100.0	

Syntax and Output Related to Research Question 4

```
DESCRIPTIVES
  VARIABLES=bctscore hnsbbusi hsbbusi throbusi  /SAVE
  /STATISTICS=MEAN STDDEV KURTOSIS SKEWNESS .
DESCRIPTIVES
  VARIABLES=zbctscor zhnsbbus zhsbbusi zthrobus  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX .
Temp.
  select if (zbctscor > -2.5 and zbctscor < 2.5 and zhnsbbus > -2.5 and zhnsbbus < 2.5
and zhsbbusi > -2.5 and zhsbbusi < 2.5 and  zthrobus > -2.5 and zthrobus < 2.5).
DESCRIPTIVES
  VARIABLES=zbctscor zhnsbbus zhsbbusi zthrobus  /SAVE
  /STATISTICS=MEAN STDDEV KURTOSIS SKEWNESS .
COMPUTE szhsbbus = SQRT(zhsbbusi + 1) .
EXECUTE .
COMPUTE szhnsbbu = SQRT(zhnsbbus + 1) .
EXECUTE .
DESCRIPTIVES
  VARIABLES=szhnsbbu szhsbbus  /SAVE
  /STATISTICS=MEAN STDDEV KURTOSIS SKEWNESS .
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT zbctscor
  /METHOD=ENTER szhnsbbu szhsbbus fedulev annincom
  /SCATTERPLOT=(*DRESID ,*ZPRED )
  /SAVE SRESID SDBETA .
temp.
  select if (sre_1 > -3.0).
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT zbctscor
  /METHOD=ENTER szhnsbbu szhsbbus fedulev annincom
  /SCATTERPLOT=(*DRESID ,*ZPRED )
  /SAVE SRESID SDBETA .
```

Descriptives

Descriptive Statistics

	N	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BCT Scores	407	178.95	57.57	-.270	.121	-.782	.241
Hr. of Non S-Based	408	5.03	5.31	1.643	.121	3.554	.241
Hr. of S-Based Busi	408	3.17	4.11	1.389	.121	1.632	.241
Total Hours of Busi	408	8.18	6.89	1.149	.121	1.376	.241
Valid N (listwise)	406						

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Zscore: BCT Scores	407	-2.51786	2.10283	2.223E-15	1.0000000
Zscore: Hr. of Non S-Bas Busi	408	-.94783	4.70587	1.579E-16	1.0000000
Zscore: Hr. of S-Based B	408	-.77017	4.33330	-7.687E-16	1.0000000
Zscore: Total Hours of Bu	408	-1.18729	3.74535	1.544E-16	1.0000000
Valid N (listwise)	406				

Descriptives

Descriptive Statistics

	N	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zscore: BCT Scores	384	.847E-02	.0039318	-.223	.125	-.864	.248
Zscore: Hr. of Non S-Busi	384	.977E-02	.8103827	.956	.125	.356	.248
Zscore: Hr. of S-Base	384	.489E-02	.8581967	1.085	.125	-.032	.248
Zscore: Total Hours o	384	.1316988	.8094479	.626	.125	-.367	.248
Valid N (listwise)	384						

Descriptives

Descriptive Statistics

	N	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SZHNSBBU	408	.8670	.4989	.356	.121	-.388	.241
SZHSBBUS	408	.8874	.4615	.765	.121	-.591	.241
Valid N (listwise)	408						

Regression

Variables Entered/Removed [b]

Model	Variables Entered	Variables Removed	Method
1	Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu Level [a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Zscore: BCT Scores

Model Summary[b]

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.506[a]	.256	.248	.8648678	.256	33.547	4	390	.000

a. Predictors: (Constant), Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu. Level

b. Dependent Variable: Zscore: BCT Scores

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.373	4	25.093	33.547	.000[a]
	Residual	291.719	390	.748		
	Total	392.091	394			

a. Predictors: (Constant), Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu.

b. Dependent Variable: Zscore: BCT Scores

Coefficients[a]

Mode		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	-1.557	.153		-10.160	.000			
	SZHNSBBU	.507	.088	.254	5.748	.000	.313	.279	.251
	SZHSBBUS	.162	.096	.075	1.685	.093	.160	.085	.074
	Father Edu. Lev	.217	.056	.186	3.860	.000	.330	.192	.169
	Annual Income	.177	.032	.267	5.564	.000	.386	.271	.243

a. Dependent Variable: Zscore: BCT Scores

Casewise Diagnostics[a]

Case Number	Std. Residual	Zscore: BCT Scores
261	-3.480	-2.06621

a. Dependent Variable: Zscore: BCT Scor

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.9701759	1.3429049	5.029E-03	.5047304	395
Std. Predicted Value	-1.932	2.651	.000	1.000	395
Standard Error of Predicted Value	4.750E-02	.1778266	9.465E-02	2.258800E-02	395
Adjusted Predicted Valu	-.9721603	1.3765520	5.169E-03	.5051963	395
Residual	-3.0093477	2.0210059	-1.187E-15	.8604664	395
Std. Residual	-3.480	2.337	.000	.995	395
Stud. Residual	-3.511	2.347	.000	1.001	395
Deleted Residual	-3.0647376	2.0388484	-1.405E-04	.8717163	395
Stud. Deleted Residual	-3.564	2.361	.000	1.004	395
Mahal. Distance	.191	15.659	3.990	2.429	395
Cook's Distance	.000	.045	.003	.005	395
Centered Leverage Val	.000	.040	.010	.006	395

a. Dependent Variable: Zscore: BCT Scores

Regression

Variables Entered/Removed [b]

Model	Variables Entered	Variables Removed	Method
1	Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu. Level[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Zscore: BCT Scores

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.521[a]	.272	.264	.8521795	.272	36.248	4	389	.000

a. Predictors: (Constant), Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu. Level

b. Dependent Variable: Zscore: BCT Scores

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.295	4	26.324	36.248	.000[a]
	Residual	282.496	389	.726		
	Total	387.790	393			

a. Predictors: (Constant), Annual Income (NT$), SZHSBBUS, SZHNSBBU, Father Edu.

b. Dependent Variable: Zscore: BCT Scores

Coefficients[a]

Mode		Unstandardized Coefficients		tandardiz d Coefficient s	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	-1.581	.151		-10.458	.000			
	SZHNSBBU	.532	.087	.267	6.101	.000	.325	.296	.264
	SZHSBBUS	.142	.095	.066	1.489	.137	.156	.075	.064
	Father Edu. Lev	.221	.055	.191	4.003	.000	.337	.199	.173
	Annual Income	.183	.031	.277	5.835	.000	.398	.284	.253

a. Dependent Variable: Zscore: BCT Scores

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.9870613	1.3972883	1.029E-02	.5176148	394
Std. Predicted Value	-1.927	2.680	.000	1.000	394
Standard Error of Predicted Value	4.684E-02	.1753367	9.338E-02	2.229438E-02	394
Adjusted Predicted Valu	-.9892677	1.4328666	1.039E-02	.5180605	394
Residual	-2.2424459	2.0116236	-1.045E-15	.8478317	394
Std. Residual	-2.631	2.361	.000	.995	394
Stud. Residual	-2.647	2.371	.000	1.001	394
Deleted Residual	-2.2696888	2.0294027	-1.014E-04	.8588378	394
Stud. Deleted Residual	-2.668	2.385	.000	1.003	394
Mahal. Distance	.190	15.640	3.990	2.431	394
Cook's Distance	.000	.048	.003	.004	394
Centered Leverage Val	.000	.040	.010	.006	394

a. Dependent Variable: Zscore: BCT Scores

Syntax and Output Related to Research Question 5

```
DESCRIPTIVES
  VARIABLES=hnsbbusi  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS .
Temp.
  select if (zhnsbbus > -2.5 and zhnsbbus < 2.5).
DESCRIPTIVES
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  /STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS .
COMPUTE szhnsbbu = SQRT(hnsbbusi + 1) .
EXECUTE .
DESCRIPTIVES
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  /STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS .
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT szhnsbbu
  /METHOD=ENTER annincom eduaspir fedulev livarea medulev nosibl sex
  /CASEWISE PLOT(ZRESID) OUTLIERS(3)
  /SAVE SRESID SDBETA .
UNIANOVA
  szhnsbbu  BY medulev
  /METHOD = SSTYPE(3)
  /INTERCEPT = INCLUDE
  /POSTHOC = medulev ( TUKEY )
  /EMMEANS = TABLES(OVERALL)
  /PRINT = DESCRIPTIVE ETASQ PARAMETER HOMOGENEITY
  /CRITERIA = ALPHA(.05)
  /DESIGN = medulev .
UNIANOVA
  szhnsbbu  BY fedulev
  /METHOD = SSTYPE(3)
  /INTERCEPT = INCLUDE
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  /EMMEANS = TABLES(OVERALL)
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  /CRITERIA = ALPHA(.05)
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(Syntax continues)

```
UNIANOVA
  szhnsbbu  BY annincom
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UNIANOVA
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  /EMMEANS = TABLES(OVERALL)
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  /CRITERIA = ALPHA(.05)
  /DESIGN = livarea .
```

Descriptive Statistics

	Mean	Std. Deviation	N
SZHNSBBU	2.2502	1.0142	392
Annual income (NT$	2.79	1.50	392
Educational Aspiratio	1.63	.96	392
Father Edu. Level	2.21	.85	392
Living Area	1.51	.82	392
Mother Edu. Level	1.99	.79	392
Number of Siblings	2.09	1.04	392
Composite Sex	1.53	.50	392

Correlations

		ZHNSBB	Annual come (NT	ducationa Aspiration	ather Ed Level	ving Are	Mother du. Leve	umber c Siblings	mposite S
Pearson Co	SZHNSBBU	1.000	.131	-.300	.079	-.185	.108	-.018	-.051
	Annual Incom	.131	1.000	-.224	.381	-.101	.437	-.090	-.102
	Educational A	-.300	-.224	1.000	-.212	.080	-.243	.141	-.006
	Father Edu. L	.079	.381	-.212	1.000	-.161	.606	-.086	-.079
	Living Area	-.185	-.101	.080	-.161	1.000	-.162	.093	.127
	Mother Edu.	.108	.437	-.243	.606	-.162	1.000	-.039	-.080
	Number of Si	-.018	-.090	.141	-.086	.093	-.039	1.000	.130
	Composite S	-.051	-.102	-.006	-.079	.127	-.080	.130	1.000
Sig. (1-taile	SZHNSBBU	.	.005	.000	.058	.000	.016	.359	.159
	Annual Incom	.005	.	.000	.000	.023	.000	.037	.021
	Educational A	.000	.000	.	.000	.057	.000	.003	.455
	Father Edu. L	.058	.000	.000	.	.001	.000	.044	.060
	Living Area	.000	.023	.057	.001	.	.001	.033	.006
	Mother Edu.	.016	.000	.000	.000	.001	.	.219	.057
	Number of Si	.359	.037	.003	.044	.033	.219	.	.005
	Composite S	.159	.021	.455	.060	.006	.057	.005	.
N	SZHNSBBU	392	392	392	392	392	392	392	392
	Annual Incom	392	392	392	392	392	392	392	392
	Educational A	392	392	392	392	392	392	392	392
	Father Edu. L	392	392	392	392	392	392	392	392
	Living Area	392	392	392	392	392	392	392	392
	Mother Edu.	392	392	392	392	392	392	392	392
	Number of Si	392	392	392	392	392	392	392	392
	Composite S	392	392	392	392	392	392	392	392

Casewise Diagnostics[a]

Case Numbe	Std. Residual	SZHNSBBU	Predicted Value	Residual
271	3.110	5.57	2.5863	2.9815
273	3.062	5.57	2.6322	2.9356

a. Dependent Variable: SZHNSBBU

Model Summary[b]

					Change Statistics				
Mode	R	R Square	djusted R Square	td. Error o e Estimat	R Square Change	F Change	df1	df2	g. F Chang
1	.350[a]	.122	.106	.9588	.122	7.639	7	384	.000

a. Predictors: (Constant), Composite Sex, Educational Aspiration, Living Area, Number of Siblin Mother Edu. Level

b. Dependent Variable: SZHNSBBU

Descriptive Statistics

Dependent Variable: SZHNSBBU

Mother Edu. Leve	Mean	Std. Deviation	N
junior high or less	1.9606	.9456	115
senior high	2.3796	1.0493	194
college	2.1787	.9773	84
grad school	2.7791	.8924	15
Total	2.2348	1.0186	408

Levene's Test of Equality of Error Variances[a]

Dependent Variable: SZHNSBBU

F	df1	df2	Sig.
.498	3	404	.684

Tests the null hypothesis that the error variance of t dependent variable is equal across groups.

a. Design: Intercept+MEDULEV

Tests of Between-Subjects Effects

Dependent Variable: SZHNSBBU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Mode	17.419[a]	3	5.806	5.794	.001	.041
Intercept	935.413	1	935.413	933.390	.000	.698
MEDULEV	17.419	3	5.806	5.794	.001	.041
Error	404.876	404	1.002			
Total	2460.000	408				
Corrected Total	422.294	407				

a. R Squared = .041 (Adjusted R Squared = .034)

Multiple Comparisons

Dependent Variable: SZHNSBBU

Tukey HSD

(I) Mother Edu. Le	(J) Mother Edu. Le	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
junior high or less	senior high	-.4189*	.1178	.002	-.7216	-.1163
	college	-.2181	.1437	.427	-.5872	.1510
	grad school	-.8185*	.2748	.015	-1.5245	-.1125
senior high	junior high or less	.4189*	.1178	.002	.1163	.7216
	college	.2008	.1308	.416	-.1351	.5368
	grad school	-.3995	.2683	.444	-1.0888	.2897
college	junior high or less	.2181	.1437	.427	-.1510	.5872
	senior high	-.2008	.1308	.416	-.5368	.1351
	grad school	-.6004	.2806	.141	-1.3213	.1205
grad school	junior high or less	.8185*	.2748	.015	.1125	1.5245
	senior high	.3995	.2683	.444	-.2897	1.0888
	college	.6004	.2806	.141	-.1205	1.3213

Based on observed means.

*. The mean difference is significant at the .05 level.

Descriptive Statistics

Dependent Variable: SZHNSBBU

Father Edu. Leve	Mean	Std. Deviation	N
junior high or less	1.9391	1.0024	85
senior high	2.3883	1.0244	174
college	2.1651	.9965	119
grad school	2.5048	.9296	28
Total	2.2368	1.0191	406

Levene's Test of Equality of Error Variances[a]

Dependent Variable: SZHNSBBU

F	df1	df2	Sig.
161	3	402	923

Tests the null hypothesis that the error variance of t dependent variable is equal across groups.

a. Design: Intercept+FEDULEV

Tests of Between-Subjects Effects

Dependent Variable: SZHNSBBU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Mode	14.150[a]	3	4.717	4.665	.003	.034
Intercept	1313.484	1	1313.484	1299.106	.000	.764
FEDULEV	14.150	3	4.717	4.665	.003	.034
Error	406.449	402	1.011			
Total	2452.000	406				
Corrected Total	420.599	405				

a. R Squared = .034 (Adjusted R Squared = .026)

Multiple Comparisons

Dependent Variable: SZHNSBBU

Tukey HSD

(I) Father Edu. L	(J) Father Edu. L	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
junior high or les	senior high	-.4492*	.1331	.004	-.7910	-.1074
	college	-.2260	.1428	.388	-.5929	.1408
	grad school	-.5657*	.2191	.048	-1.1286	-2.8442E-03
senior high	junior high or les	.4492*	.1331	.004	.1074	.7910
	college	.2232	.1196	.243	-8.4103E-02	.5305
	grad school	-.1165	.2047	.941	-.6425	.4095
college	junior high or les	.2260	.1428	.388	-.1408	.5929
	senior high	-.2232	.1196	.243	-.5305	8.410E-02
	grad school	-.3397	.2112	.374	-.8823	.2029
grad school	junior high or les	.5657*	.2191	.048	2.844E-03	1.1286
	senior high	.1165	.2047	.941	-.4095	.6425
	college	.3397	.2112	.374	-.2029	.8823

Based on observed means.

*. The mean difference is significant at the .05 level.

Descriptive Statistics

Dependent Variable: SZHNSBBU

Annual Income (NT$)	Mean	Std. Deviation	N
300,000 or less	2.0017	.9524	117
310,000-420,000	2.3369	1.0296	73
430,000-600,000	2.2303	.9811	64
610,000-840,000	2.4424	1.0541	67
850,000 or above	2.3912	1.0507	78
Total	2.2498	1.0179	399

Levene's Test of Equality of Error Variances [a]

Dependent Variable: SZHNSBBU

F	df1	df2	Sig.
.567	4	394	.687

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+ANNINCOM

Tests of Between-Subjects Effects

Dependent Variable: SZHNSBBU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	11.827[a]	4	2.957	2.909	.022	.029
Intercept	1981.484	1	1981.484	1949.257	.000	.832
ANNINCOM	11.827	4	2.957	2.909	.022	.029
Error	400.514	394	1.017			
Total	2432.000	399				
Corrected Total	412.341	398				

a. R Squared = .029 (Adjusted R Squared = .019)

Multiple Comparisons

Dependent Variable: SZHNSBBU

Tukey HSD

(I) Annual Income (N	(J) Annual Income (N	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
300,000 or less	310,000-420,000	-.3353	.1504	.169	-.7455	7.494E-02
	430,000-600,000	-.2287	.1568	.589	-.6563	.1989
	610,000-840,000	-.4407*	.1545	.035	-.8621	1.9357E-02
	850,000 or above	-.3895	.1474	.063	-.7916	1.247E-02
310,000-420,000	300,000 or less	.3353	.1504	.169	-7.4939E-02	.7455
	430,000-600,000	.1066	.1727	.972	-.3644	.5775
	610,000-840,000	-.1055	.1706	.972	-.5708	.3598
	850,000 or above	-5.4287E-02	.1642	.997	-.5022	.3936
430,000-600,000	300,000 or less	.2287	.1568	.589	-.1989	.6563
	310,000-420,000	-.1066	.1727	.972	-.5775	.3644
	610,000-840,000	-.2120	.1762	.750	-.6927	.2687
	850,000 or above	-.1609	.1700	.879	-.6247	.3030
610,000-840,000	300,000 or less	.4407*	.1545	.035	1.936E-02	.8621
	310,000-420,000	.1055	.1706	.972	-.3598	.5708
	430,000-600,000	.2120	.1762	.750	-.2687	.6927
	850,000 or above	5.117E-02	.1679	.998	-.4069	.5093
850,000 or above	300,000 or less	.3895	.1474	.063	-1.2475E-02	.7916
	310,000-420,000	5.429E-02	.1642	.997	-.3936	.5022
	430,000-600,000	.1609	.1700	.879	-.3030	.6247
	610,000-840,000	-5.1168E-02	.1679	.998	-.5093	.4069

Based on observed means.

*. The mean difference is significant at the .05 level.

Descriptive Statistics

Dependent Variable: SZHNSBBU

Educational Aspiratio	Mean	Std. Deviation	N
academic high	2.4469	1.0269	264
junior college	2.1762	.9251	42
vocational high	1.7345	.8358	83
other	1.6030	.8226	19
Total	2.2348	1.0186	408

Levene's Test of Equality of Error Variances [a]

Dependent Variable: SZHNSBBU

F	df1	df2	Sig.
1.957	3	404	120

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+EDUASPIR

Tests of Between-Subjects Effects

Dependent Variable: SZHNSBBU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	40.377[a]	3	13.459	14.237	.000	.096
Intercept	686.751	1	686.751	726.459	.000	.643
EDUASPIR	40.377	3	13.459	14.237	.000	.096
Error	381.917	404	.945			
Total	2460.000	408				
Corrected Total	422.294	407				

a. R Squared = .096 (Adjusted R Squared = .089)

Multiple Comparisons

Dependent Variable: SZHNSBBU

Tukey HSD

(I) Educational Aspiration	(J) Educational Aspiration	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Inte	
					Lower Bound	Upper
academic high	junior college	.2707	.1615	.337	-.1443	
	vocational high	.7124*	.1224	.000	.3980	
	other	.8439*	.2309	.001	.2506	
junior college	academic high	-.2707	.1615	.337	-.6856	
	vocational high	.4417	.1841	.077	-3.1291E-02	
	other	.5733	.2688	.143	-.1173	
vocational high	academic high	-.7124*	.1224	.000	-1.0267	
	junior college	-.4417	.1841	.077	-.9147	3.
	other	.1316	.2473	.951	-.5037	
other	academic high	-.8439*	.2309	.001	-1.4372	
	junior college	-.5733	.2688	.143	-1.2639	
	vocational high	-.1316	.2473	.951	-.7668	

Based on observed means.

*. The mean difference is significant at the .05 level.

Descriptive Statistics

Dependent Variable: SZHNSBBU

Living Area	Mean	Std. Deviation	N
urban	2.3571	1.0357	285
suburban	2.0457	.9804	34
rural	1.9332	.9049	86
Total	2.2409	1.0187	405

Levene's Test of Equality of Error Variances [a]

Dependent Variable: SZHNSBBU

F	df1	df2	Sig.
633	2	402	532

Tests the null hypothesis that the error variance of th dependent variable is equal across groups.

a. Design: Intercept+LIVAREA

Tests of Between-Subjects Effects

Dependent Variable: SZHNSBBU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	13.284[a]	2	6.642	6.578	.002	.032
Intercept	901.121	1	901.121	892.363	.000	.689
LIVAREA	13.284	2	6.642	6.578	.002	.032
Error	405.945	402	1.010			
Total	2453.000	405				
Corrected Total	419.230	404				

a. R Squared = .032 (Adjusted R Squared = .027)

Multiple Comparisons

Dependent Variable: SZHNSBBU

Tukey HSD

(I) Living Area	(J) Living Area	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
urban	suburban	.3114	.1823	.202	-.1159	.7387
	rural	.4239*	.1236	.002	.1341	.7136
suburban	urban	-.3114	.1823	.202	-.7387	.1159
	rural	.1125	.2036	.845	-.3646	.5896
rural	urban	-.4239*	.1236	.002	-.7136	-.1341
	suburban	-.1125	.2036	.845	-.5896	.3646

Based on observed means.

*. The mean difference is significant at the .05 level.

Statistics

		Hr. of Non S-Based Busi	Hr. of S-Based Busi
N	Valid	408	408
	Missing	1	1
Mean		5.03	3.17
Mode		0	0
Std. Deviation		5.31	4.11
Skewness		1.643	1.389
Std. Error of Skewness		.121	.121
Kurtosis		3.554	1.632
Std. Error of Kurtosis		.241	.241
Minimum		0	0
Maximum		30	21

Hr. of Non S-Based Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	108	26.4	26.5	26.5
	1	8	2.0	2.0	28.4
	2	29	7.1	7.1	35.5
	3	48	11.7	11.8	47.3
	4	51	12.5	12.5	59.8
	5	12	2.9	2.9	62.7
	6	38	9.3	9.3	72.1
	7	14	3.4	3.4	75.5
	8	20	4.9	4.9	80.4
	9	8	2.0	2.0	82.4
	10	18	4.4	4.4	86.8
	11	1	.2	.2	87.0
	12	23	5.6	5.6	92.6
	13	5	1.2	1.2	93.9
	14	3	.7	.7	94.6
	15	2	.5	.5	95.1
	16	3	.7	.7	95.8
	18	5	1.2	1.2	97.1
	19	2	.5	.5	97.5
	20	1	.2	.2	97.8
	21	4	1.0	1.0	98.8
	24	2	.5	.5	99.3
	28	1	.2	.2	99.5
	30	2	.5	.5	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Hr. of S-Based Busi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	186	45.5	45.6	45.6
	1	28	6.8	6.9	52.5
	2	26	6.4	6.4	58.8
	3	16	3.9	3.9	62.7
	4	20	4.9	4.9	67.6
	5	44	10.8	10.8	78.4
	6	13	3.2	3.2	81.6
	7	2	.5	.5	82.1
	8	17	4.2	4.2	86.3
	10	39	9.5	9.6	95.8
	11	1	.2	.2	96.1
	12	6	1.5	1.5	97.5
	13	1	.2	.2	97.8
	14	1	.2	.2	98.0
	15	4	1.0	1.0	99.0
	18	2	.5	.5	99.5
	20	1	.2	.2	99.8
	21	1	.2	.2	100.0
	Total	408	99.8	100.0	
Missing	System	1	.2		
Total		409	100.0		

Between-Subjects Factors

		Value Label	N
Mother Edu. Level	1	junior high or less	112
	2	senior high	191
	3	college	81
	4	grad school	15