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FACTORS AFFECTING THE ASPIRATIONS AND EXPECTATIONS OF UNIVERSITY STUDENTS IN CHINA

by

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A thesis submitted in conformity with the requirements
for the Degree of Doctor of Philosophy,
Graduate Department of Education, in the
University of Toronto

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ABSTRACT

This survey study of Chinese university students' aspirations and expectations with regard to future occupations and further education endeavours to examine the main factors that help influence academic and career decisions in a fast evolving society.

The study begins with a review of research on student aspirations from a number of nations and then considers the relevant Chinese studies on this topic. The concepts used in the research are drawn from the bulk of the international literature on student aspirations and the Chinese literature. Certain factors identified in the literature as significant for the formation of aspirations are utilized in this study as independent variables, and led us to research the aspirations of Chinese university students, from differing family backgrounds, in three geographical locations, at three administrative levels of higher education, in the Humanities and Sciences, and finally across gender lines.

The study establishes by quantitative means the degree of significance of each of the factors, and verifies some dimensions of the center-periphery theory, with a widening gap in some areas between students in peripheral and center locations, and between students at the top and bottom of the administrative system. However, other dimensions do not correspond to the expectations that shaped this research project.

The data is based on information gathered through a researcher administered questionnaire.

The population for the study was drawn from nine universities situated in three geographical locations and under three levels of governmental administration. Students were selected by class, based on a male-female, Humanities-Science and first year - last year divisions.

Assessment of the influence of the various factors on the academic and career decisions that Chinese students now face was arrived at through statistical analysis of the responses of the students and tabulated in light of the five main independent variables. Geography and gender proved to be two of the strongest influences shaping the students desires and expectations. By comparison, we found family background (parental occupational status) and students' major field of study did not have such significant effects. The administrative level of the university where the student was enrolled also proved to be a moderately influential factor.

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Chapter I

INTRODUCTION

Without a doubt one of the most hotly debated issues associated with Chinese higher education has been the question of access. Much of the conflict in higher education has resulted from attempts to redistribute opportunities of entrance to higher education, as well as increasing the chance of greater social mobility in terms of careers. A component of the access topic on the demand side is individual expectations and aspirations. This component, however, has not received much coverage in the research in Chinese higher education.

One of the main reasons for this, up until recently, was that in Chinese ideology individual desires or aspirations were placed in subservience to collective goals, both institutional and national. From the early years of the People's Republic, students were largely supported by the government, meaning that tuition, books, room and board, medical provisions, and even some travel money was provided, all in the form of a non-repayable grant.[1] While students were provided for, they were not given much choice, if any, as to their study major, neither were they allowed to select their occupation upon graduation. Constant and effective

propaganda led students, at least verbally, to allow their aspirations to conform to the prevailing ideology. During the Four Modernizations Campaign, stock phrases such as "to serve the country," "to be a famous scientist," and the like, were common answers when questioned about their aspirations.

With the ascension of a more moderate faction within the Chinese Communist Party (CCP) to a secure position of leadership came a relaxation in economic and social areas, extending even to the sensitive issue of education and occupational accessibility. In the late 1980's, the most academically able students continued to compete for scholarships which functioned in much the same way as the earlier grant system. As in the 1950's, test scores became the decisive factor for receiving the financial awards. Likewise, there also arose the increased opportunity for self supporting students (from families that could afford about 2,000-4,000 yuan a year), and for "contract students," supported by their work unit, to be admitted, albeit in limited numbers. There has even been some discussion of student loans, in order to ease the costs of higher education borne directly by the government. Concurrently, reforms to the job assignment process have opened the way for students, even those totally supported by the government, to exercise a varying degree of choice, depending on the institution. A new atmosphere has gradually developed, raising the question, "Have students begun to develop aspirations in terms of academic qualifications and career concerns in a more individually oriented manner, as opposed to the uniform pattern demanded of earlier students?"

1.1 Statement of Problem

The purpose of this study is to discover the career aspirations of Chinese university students, and to discern how far they are affected by differences in family background, geographic location, the level of educational institution they are enrolled in, academic major, and gender.

1.2 Research Questions

The following five research questions were used to guide the study:

1.2.1. From what family backgrounds are the students who are enrolled in China's universities and how does this relate to their academic and career aspirations? What are the students intentions concerning post-graduate education and/or careers, and how does this relate to family background? Does the extent to which they have the real or perceived freedom to choose future academic or career paths vary by family background?

We expected that students' aspirations and expectations in terms of future occupation or post-graduate education, would be predictable based on the parent's category of employment. Those from the families of intellectuals and cadres were expected to have the highest aspirations and expectations.

1.2.2. What geographic areas are the students who are enrolled in China's universities from? What are their academic and career aspirations and how do they relate to geographic

context? Does access to information relevant to making academic and career selections vary by geographical location? Does the extent to which they have the real or perceived freedom to choose future academic or career paths vary by whether the school is on the coast or in the hinterland?

It was expected that students' aspirations would be distinguishable by geographical location of the particular school. Students from the hinterland would have more modest academic and occupational expectations, and those from coastal areas would be more ambitious. It was expected that the closer an institution was located to the coastal areas, characterized by better material conditions and greater opportunities, the higher their aspirations would be. Since the economic climate in Chinese society is changing, with a dramatically increased number of foreign joint ventures, it was expected that students in coastal areas would have aspirations that were aiming toward new forms of employment. As well, it was expected that students from the hinterland would define their aspirations more narrowly in occupational terms.

1.2.3. Do the academic and career aspirations of students differ among institutions under the three different levels of government administration? If a difference exists, what is the pattern of the difference?

We expected that differences in schools under different levels of governmental administration would be reflected in students' aspirations by educational and occupational choice. It was expected that students from schools of higher level administrative levels would aspire to continue their education and obtain entry to more prestigious occupations. It was also expected

that students from municipal level institutions would reflect a desire to remain closer to that municipality, and that these students would be less likely to aspire to further higher education opportunities, as well as to higher level career goals.

1.2.4. Do post-secondary Humanities students differ in regards to levels of aspirations and choices of careers from students of similar backgrounds who are in Science programs?

It was expected that students, depending on whether they were enrolled in Humanities or Sciences, would report that different structural and socio-psychological influences they experienced that shaped their choice of future careers. It was expected that humanities and science students might report differences in their experiences, career-related instruction, and ways in which career information provided in school were useful to them. We also expected that Humanities and Science students might report differences in timing, concerning when they made educational related decisions.

1.2.5. Are the academic and career aspirations of the genders in China's universities and colleges different? If a difference exists what is the pattern of the difference? Do others in the social network affect the career plans of men and women differently?

It was expected that male students would tend to have relatively higher aspirations, in terms of further education and future occupations, than their female counterparts. It was expected that both female and male students would report significant input from parents or guardians concerning career planning. Yet it was expected that there would be a stronger influence over

what female students planned to do after university by what parents or guardians wanted them to do.

By studying a university population of just over 1200 students in first and last year classes, I investigated how one group of contemporary higher education students thinks regarding future academic and career choices. To document their thoughts, I have reported findings from a questionnaire administered to a sample of convenience of students.[2]

1.3 Rationale for the Problem

In spite of all the social and educational changes that have taken place in China over the last 80 years, and especially the past 40, it remains a highly status conscious society wherein degrees, certificates and other academic credentials continue to be the main avenues to attain social mobility and professional recognition.

If a student has limited expectation regarding further educational opportunities he or she has, in a very real sense, been eased off the academic ladder that leads to educational, occupational and social mobility. Access to further educational opportunity plays a crucial role in the selection of persons for the most satisfying or prestigious jobs. Thogerson (1990:16) states that this is due to the much more limited range of "alternative routes for upward social mobility in China." Also, perceived or real levels of access have a great effect on expectations and aspirations. As Seeberg (1993:186) reports from her research, one's major, one's gender, the character of one's high school, geographical location, and one's category of enrolment are indicators that will have strong influence over a candidate's access to levels of prestige

associated with the institution's subject of study or being trained for employment in a particular career.[3]

Higher education has expanded fairly rapidly in China since 1949. At the time of the founding of the People's Republic there were approximately 205 formal post-secondary institutions; by the mid 1960's that number had doubled to about 434, and by 1981, there were 675 higher education institutions (China Handbook, Editorial Committee, 1983). The greatest single growth period in higher education took place between 1982 and 1985 with the establishment of 400 new institutions over that time (SEdC 1986). There were a total of 1075 regular higher and short cycle institutions (SEdC, 1990:116-117) by 1990.

Since 1985, the State Education Commission (SEdC) and various lower bureaus of education have persisted both in expansion and in experimentation with different types of "higher education" in response to both national economic needs and social demand. The expansion of the short-cycle sector is particularly notable, (See Appendix A) and has provided increased opportunities for entering post-secondary education. Many innovative forms of post-secondary education have been introduced in the past thirteen years, along with the re-establishment of national entrance examinations.

This study should generate an accurate picture of the impact that this variety of academic avenues has on the present cohort's academic aspirations. Both the first-year and last-year students in this cohort were, at least theoretically, exposed to the full range of post-secondary academic alternatives, since most were available when these students started secondary school

in the early 1980's.

In spite of recent improvements in many fronts, advancement up the education ladder remains a difficult and steep gradient, as can be seem from the <u>Essential Statistics of Education in China for 1992</u>. In that year, 21,832,000 (p.43) were enrolled in grade one for the first time; 18,723,520 (p.43) students graduated from primary school but only 14,917,000 (p.5) went on to lower secondary that year (a promotion rate of 79.7%). 3,003,209 (p.19, 25) graduated from all forms of upper secondary school but only 754,000 (p.1) (a promotion rate of 25.1%) were admitted into regular institutions of higher education. So, if we go back to the primary school entry group, this means 3.5% of those enrolled could expect to go on to higher education (754,000 out of 21,000,000).

Those in rural locations, those from non-intellectual backgrounds, and females (Pepper 1984) faced many obstacles on this education ladder. In this study we hope to discover why some persons in these and other less represented categories survived the weeding out process. What factors and aspirations do these survivors have in common with students from the more over-represented groups, such as those from intellectual families, urbanites and males? Hooper's (1991) study showed that females from rural areas have the least incentive or encouragement to continue past the most elementary levels of education, and are even overtly discriminated against in admission procedures to secondary and tertiary institutions, due to expected employment discrimination. The obstacles faced by urban females are less than those of their rural counterparts, but still substantially more than those of male cohorts (Seeberg 1993:182-3). However, some of the factors which influence the development of female aspirations, such as

intellectual and psychological self-image, attitudes of peers, and perceptions of their future social roles, will most probably be found to be significant factors for other groups covered in this study as well.

Though there has been a retention problem in the elementary and secondary levels for some time, recently, there has been a significant increase in the drop-out rate among post-secondary students, so much so that it began to receive coverage in journals and the media (Lou, 1989:5).[4] A few years ago this phenomena would have been a concern only for administrators in the lower levels of education. The main reason for such a trend has been attributed to dissatisfaction with state allocated jobs and with the five year waiting period required for graduates prior to overseas study[5] (Parkins 1988, Pepper 1988).

Much research has been carried out in order to describe and assess admissions policies to universities in China. However, Seeberg's (1993) study is the only one that makes reference to regional and gender differences, and none that looks at such factors as differences between administrative levels within the hierarchical post-secondary system. Frequently, earlier studies have looked at the influence of admissions policies to post-secondary institutions in terms of their impact upon the secondary system (Yang 1987, Taylor 1981, Unger 1982, Pepper 1984). They were most often executed by western scholars, because the topic was so politically sensitive in China, and were basically looking at the problems encountered by students in the secondary schools because of the tertiary selection process.

The majority of previous studies have focused on students of secondary school level and

methods of preparation and selection for higher education. Most recent studies have widened the perspective at the secondary level by dealing with problems of academic selection due to geographical preference, which may limit the school a student attends (Zhang 1987), and with the influence of family background and gender on access opportunities (Thogersen 1987). While at least one study attempted to examine the representation of various social groups in student cohorts at key universities (Pepper 1984), the focus of this study was an analysis of the selection process that takes place in the final stages of high school. Important questions at the tertiary level, not dealt with in previous studies, are those which concern the impact of the academic climate and social environments on students as they make career decisions.

At present, there is a growing concern expressed by universities and government regarding the intentions and aspirations of university students. A number of articles on this topic (Parkins, 1988: Luo et.al., 1989) have indicated that an increasing number of students, albeit a small percentage, are dropping out of their programs prior to completion in order to engage in business or to avoid the compulsory five year post-graduate work requirement before one can apply for overseas studies. Furthermore, student outcomes in terms of the original goals of admission policies are of interest. One cannot assume that students will in fact seek the types of employment or pursue the types of advanced training that are expected by those who plan the system, especially in light of the present more relaxed social climate and greater tolerance for individual choice.

1.4   Organization of the Study

This study is an assessment of the aspirations of China's university students in relation to future academic and professional goals. The study has been conceptualized with regard to the body of research which has developed on student aspirations. The assumption is that a number of factors influence students' aspirations and expectations at various points of decision in their academic career. The factors expected to affect student aspirations in this study include: parents' educational and occupational status, geographical context, administrative level of the particular institution, field of study and gender.

1.5   Study Population

This study will deal with samples of the first and last year student populations from nine national, provincial and local universities on the Chinese east coast, the central interior and the far west hinterland.

The research included three specific urban locations, starting on the east coast and moving progressively west: Nanjing in Jiangsu province; Xi'an in Shaanxi province; and Lanzhou in Gansu province. Three normal universities connected with the Canada-China Joint Doctoral Program (OISE) assisted the researcher in gaining access to students in their own institutions and other post-secondary institutes in their regions. These institutions were carefully selected to represent the three administrative levels of Chinese higher education: national, provincial and municipal, with one institution at each level in each province. Within each of these nine universities, four classes were selected for the purposes of this study, two from the sciences and two from the humanities, and of these, one was a first year and the other a last year class.

Of the thirty six classes to be surveyed only one had to be omitted from the study, because we had failed to take into account the fact that some final year classes would be allowed to leave the institution much earlier than we had expected.

In Jiangsu province, 146,894 undergraduate students were enrolled in 70 regular universities in 1990. 95,417 students were enrolled in Shaanxi's 47 regular universities in the same academic year. At that time, Gansu's 18 regular universities had a student population of 32,805 (See Table 1.1). As stated earlier, the national total enrolment in 1990 for all forms of higher education was 2,065,995 in 1075 institutions. Of this population 902,295 were at national level institutions, 1,087,951 at provincial institutions and 72,449 at municipal level institutions.

Most programs at the national level lead to bachelor degrees. At the provincial level about half lead to academic degrees and half to short-cycle diplomas. Programs at municipal level institutions are mainly short cycle and lead to diplomas rather than academic degrees.

This study focused on students who were registered in the first or last year of their programs during the 1991-92 academic year in the provinces of Jiangsu, Shaanxi and Gansu. As Table 1.1 shows, the combined total of undergraduate students in these three provinces is roughly 13 percent of the national total.

Table 1.1

Regular University Student Population in Jiangsu, Shaanxi, and Gansu in 1990
and those involved with this study and National Enrolment Figures

Province	Formal Hi.Ed. Inst. (1)	Number of Students (2)	Institutions involved (3)	Students involved (4)	Percent of Enrolment (4 of 2)
Jiangsu	70	146,894*	3	449	0.3%
Shaanxi	47	95,417*	3	389	0.4%
Gansu	18	32,805*	3	377	1.14%
Totals	135	257,116*	9	1216	0.05%
National Totals	1075	2,043,662			

Source: State Education Commission, 1991, Educational Statistical Yearbook of China, 1990   p. 116-117.
* These figures are slightly lower than 1988-89.

Nine schools were approached to request access to student participants for the study. All nine

of the universities granted this researcher access to their schools. Nanjing University, which

was designed to contribute about 11 percent of the total study population (145 students), was

unable to give access to 30 fourth-year science students who had left the school early. The

study was limited due to the lack of access to this class. Of the remaining 109 students

surveyed at this school, all responded. The 1216 total respondents represented an overall rate

of return of 91 percent. This nearly complete return rate affords the study a high level of

confidence in interpreting the data for the group surveyed.

Obviously, with only nine participating universities from across the country, the study is

limited in the breadth of generalization that can be generated from it. However, these schools

do represent three different geographical regions, and the three main administrative levels at which higher education is managed.

A sample of students in a humanities program as well as in a science program was chosen, a first and final year. While it would have been ideal to have an equal number of respondents from each program, there were in the end a few more humanities student because their classes tended to be larger than the science classes.

1.6   Methods of Data Collection

The data for this study was collected by means of a written questionnaire. The questionnaire was composed of 56 multiple choice and short answer questions. The questionnaire underwent a number of revisions to reduce ambiguity, add precision and ensure its reliability for the Chinese post-secondary context. It was piloted with a first year class of 64 Art students at the university that hosted this researcher, Nanjing Normal University. The final revision was based on the results of the pilot test.

In addition, my thesis committee helped focus the questionnaire, and over the entire process helpful comments were given by Chinese colleagues at OISE, who ensured that the content was of a sufficiently apolitical nature as to make the questionnaire acceptable in China.

After the project was accepted by Nanjing Normal University, it was planned that the survey

would be conducted in the months of April to June of 1992. This time was chosen deliberately as it was felt that both first and last year students would more likely to have decided on their academic or career options for the next year by that point in the school year. Also, the first year students would have had almost the maximum exposure to the school environment available to first year students. Another of the aims of administering the questionnaire at that point in the program was to identify the responses of those who had decided to leave the program at the end of that current academic year.

The instrument was administered by the researcher with the cooperation of four doctoral students and many instructors and undergraduate students. In all but two classes, the researcher was able to administer the questionnaire personally, offering an opportunity for further informal discussions and to conduct a small structured interview with the respondents' instructors.

Since the habit of skipping classes is not frequent in China it is unlikely that many students were missing from the sample. By having the questionnaire completed in class time it helped to ensure a most comprehensive coverage of the planned sample.

1.8   Overview of the Thesis

A review of the literature concerning Chinese higher education and research into students aspirations will make up Chapter Two. The theoretical framework on which the study is based will be explained in Chapter Three. In Chapter Four, the research methodology will be discussed and the study population will be presented. In Chapters Five, Six, Seven, Eight and

Nine, we will present the study's results in terms of the effects of family background, geographical location, administration level of institution, field of study and gender on aspirations and expectations. A summary of conclusions and implications of the study will be presented in Chapter Ten.

Notes:

1. During much of the first thirty years of the new republic students received admission based on a combination of grades and political background. In this period, only the 1962 enrolment for higher education rested solely on academic merit (Interview with Chinese researcher).

2. By sample of convenience, we mean that while we had requested, from each school, students in both first and last years of both humanities and science majors, we had no direct control over subsequent choice of the subjects used in the study. Entire classes were surveyed by assignment of the universities involved.

3. Seeberg's article provides us with the access rationale from which we derive our research questions on aspirations.

4. Luo (1989) writing about problems instituting reforms in education, told of how several students in Hangzhou were expelled and to express their gratitude they gave a banquet to thank their teachers. They also documented the rising drop out rate, stating that in 1987 there were 700 official dropouts and 900 by 1988. Luo also noted the failure of candidates to show up at the institutes that have accepted them for both undergraduate and post-graduate studies. The Northeast Engineering Institute had planned to enrol 10 students in their Masters degree program but only one completed the process. The China People's University reported one student who chose a position in a travel agency rather than accept their offer of enrolment.

5. This move to require graduates to work in China for at least five years after completion of a program began when large numbers of students failed to return from government sponsored study programs. However, it was emphasized more in the post-Tiananmen period, officially to curb the influence the West was having on Chinese youth. The turmoil that resulted in the killing in Beijing and other Chinese cities was attributed to the bourgeois liberalism and democratic ideas of the West.

Chapter II

REVIEW OF THE LITERATURE

In order to give scholarly grounding to this study two different bodies of inquiry have been surveyed: research on the aspirations of contemporary Chinese students and the literature which deals with students' aspirations from various national and international studies. Previous research results are summarized, and domains in need of research are identified.

The area of research to be examined is that which deals with the academic and professional aspirations of students. A number of studies on aspirations from an array of international investigations have been examined, some involving secondary students, but most dealing with college or university students. The factors which are thought to affect student aspirations are noted. These factors are then discussed in relation to the particular characteristics of students who attend Chinese universities. Due to the lack of research at the higher levels in China, we must rely to a certain extent on that which has been written about students at the secondary level and in preparation for higher education or the job market.

2.1 Research on Students' Aspirations - World Wide

While studies into students' academic and professional expectations and aspirations have been carried out since at least the 1940's[1], this field has become of particular interest to educational planners in recent years. The issue of whether or not systemic discrimination against students from particular social backgrounds is inherent in our "meritocratic" educational institutions has also encouraged research in this field.

The studies in this field have encompassed a number of concerns, but most of these studies could be placed in one of two categories. The development of student aspirations over a period of years is one category, and the usual focus is in the elementary and secondary school period of development. For instance, such studies have looked at varying levels of expectation among minority children in comparison with those of children who are part of the general population (Gecas, 1980; Saha, 1982). Undoubtedly, this research is worthwhile, but due to the constraints of this study a detailed discussion will not be part of this review.

The other, more pertinent, category contains studies that examine factors that influence students' preference as they embark on setting post-secondary plans. The main aim of such research has been to reveal the aspirations that might aid educational planners in forecasting ultimate academic or professional choices students will make. Rather than examine the process of formulation of such aspirations, studies in this category focus on currently held aspirations, since these have a more direct effect on post-secondary institutions. Researchers assert that both structural and social-psychological factors tend to have an impact on the formation of aspirations.

Porter, Porter and Blishen (1982), in their highly praised study of student aspirations, Stations and Callings: Making It Through the School System, are a prime example of a group of researchers who examined both structural and social-psychological factors, though they tend to emphasize the former. Some of the many structural factors they examine are as follows: sex differences, class background, urban and rural settings, ethnic origins, number of children and birth order, and school programs. O'Neill (1976) in his study concentrated on different contextual settings as measured on a rural to urban scale. Studies that lean more towards social-psychological aspects have generally focused their attention on the relative influence of significant others in the formation of preferences and aspirations (Carpenter and Western 1982; Lin, 1978). These studies, in the main, tried to discover students' subjective estimations or evaluations of their own aspirations as acquired while under the influence of particular social groups and the relative influences their significant others (parents, peers, tutors, etc.) have had on their choices.

In recent years, long range planning has been the principal motivation for this type of research. Collective, historical and current factors are considered in helping to measure the level of educational and/or professional aspirations in students at points of transition through the educational system.

Based on the assumption that the present situation has a direct influence on the educational and professional choices of students, many researchers have seen the need to examine students' aspirations during later stages of high school (Oborne, 1988; Porter et.al., 1979; O'Neill, 1976). Generally, studies of this type have been successful in gathering data from large populations

of students by way of brief questionnaires.

Aspiration research has been used to inquire into numerous problems. Due to the limited scope of this research we have attempted to note only those studies most closely related to the issue at hand. Attempts have been made to incorporate all Chinese sources that are available, but a limited number of studies have been undertaken in the Chinese context.

2.2 Research on Chinese Students' Aspirations

The body of literature regarding mainland Chinese student aspirations is rather sparse. This author has only encountered one work that has, for its main focus, the investigation of student aspirations. A Beijing-based study of high school student's aspirations by Zhang (1987) focused on the academic preferences of students taking the national university entrance examinations. That researcher concluded that the magnetism of Beijing city was a strong enough geographical pull factor to compel the vast majority of the respondents to down- grade their aspirations in order to ensure that they would be able to remain residents of the city. For the most part, the aspirations were not really individual in any sense, for whole families would often be involved in weeks of heated deliberations before official preference forms were submitted by examinees.

While critics may fault the research, since Beijing maybe considered a unique case, being the political capital and cultural mecca of China, there has been, and continues to be a desire, on the part of students, to migrate to major metropolitan centers, such as Tianjin, Guangzhou and

Shanghai, as well as medium and smaller cities. There is a well recognized pecking order among urban locations and most young people seek to use higher education as a means of improving their geographical location.

Gender is another important factor in selection and enrolment for higher education. Hooper (1991) notes the effect of gender stereotypes on women's self-esteem and aspirations, and how their expectations are generally lower due to the societal view of womens' role.

In the international and Chinese research on aspirations, a battery of factors have been identified which are intrinsically connected with student aspirations and expectations. In spite of the lack of consensus on the relative importance of each factor, or their significance in the formation of academic and professional aspirations, there is generally agreement that the core factors are as follows: a) family background - socio-economic status, size of the family, the subject's birth order, ethnic origins, and religious affiliation; b) personal characteristics - academic achievement, intellectual ability, and gender; c) significant others or reference groups - parental or guardian desires, peer aspirations; d) geographical indicators - types of communities such as urban or rural, large or small. Each of these factors will be discussed in the remaining section of this chapter.

2.3 Family Background

Even a brief survey of the literature would reveal that the bulk of the researchers identify family background as one of the most important determinants of students' aspirations, as far

as academic and professional choices are concerned. Study after study has set out to explain the strength of the relationship between socio-economic factors and aspirations. Within this group studies have shown that fathers' professions, parent's educational attainment, and family income have significant influence on the development of students' aspirations. (See for example a study of rural Mexican-Americans (Gecas, 1980), and a three-generational study of womens' aspirations (Whisler 1986).)

At times, other familial factors have been explored, such as the size of family and birth order (Lin, 1978; Porter et.al. 1982), ethnic origins (Jones, 1982), and religious affiliation (Copp, 1974). The conclusions of most of these studies differ, not as to whether or not family background strongly influences aspirations, but only as to what degree of importance the various factors have.

Concerning China's secondary school students in the 1980's, Thogerson (1987:94) concluded that social factors (i.e., family background) had greater influence than did academic record, especially in the case of females on aspirations.

2.4 Parent or Guardian Aspirations

As one might expect, parental and guardian aspirations have been found to have a strong influence on students. Numri (1987), in a study of Finnish high school students, found that, as students neared completion of high school, the influence of parents (in this study, mothers)

had a clear co-relation with the students' own aspirations. This confirmed a much earlier Canadian study (Breton, 1972). In a study involving both parents from different ethnic groups (Martinez-Pons, 1988), the results showed that paternal achievement played a larger role than maternal achievement in the academic achievement of Hispanic students, which in turn had a direct bearing on the students' educational-occupational aspirations. This could well be interpreted as supportive of the Social-Environmental view of academic achievement and indicative of important differences among the different ethnic groups. Results from Howell's study of black and white high school students in North Carolina (1988) indicated that parental influence, combined with gender, were significant predictors of occupational aspirations, but for occupational expectations, only parental influence was significant.

In the crucial period when choices become plans, rather than desires, according to Wilson (1972:111) parental pressures tended towards open "rewards and sanctions," and Porter et.al. (1982:143) agreed that as students progress through high school peer influence increases at the expense of parental influence, at least in the Canadian case. The shift towards peer influence could explain the stick and carrot type pressure that parents tend to resort to in order to maintain a crucial position of influence.

In the Beijing context, parental influence appeared not to decrease in the final stages of high school but rather to increase and become the most decisive factor influencing academic choices for the great majority of students (Zhang, 1987:25-26). While the issue that caused these parents to become so intensely involved with their children's academic choices centered on specific institutions and geographical localities, knowing that the traditional Confucian style

child-parent relationship is still a part of the social structure in the People's Republic of China, one should not be surprised to find parents' high level of influence over and involvement in the process of choice[2]. (One must be mindful of the small geographical area that Zhang's survey encompassed. We expect that findings of a similar survey would be significantly different depending on the geographic location within China, especially when one considers the draw from hinterland to metropolitan and coastal urban centers.)

2.5 Peer Aspirations

As mentioned before, as students progress through high school, peer group decisions regarding further academic study and future occupations begins to have a heavy influence on individual students aspirations. Oborne (1988:34) stated that peer influence grew strong for at least two reasons: "...the desire to conform to the patterns of the social group plays an important part in the decisions of students.." And "the student's interaction and status in the groups affects his/her self concept, and shapes his/her aspirations." This seems to be, like the parental factor, an almost universal phenomenon in varying degrees of intensity, no matter the cultural differences.

Though not able to supply the exact reason for such a phenomenon, Porter et.al. (1982:146-147) found that peers consistently had a negative influence on Canadian student aspirations, that is, the effect of this influence was towards the lowering of academic aspirations. The situation was somewhat similar in China, with at least one study concluding that the attitude of peers in combination with other factors tended to inhibit educational and occupational

aspirations (Hooper 1991:362-363). So most researchers would agree that peer influence is a factor to be taken into consideration in any study of aspirations.

2.6 Geographic Context

While there are a few exceptions, studies that have explored the geographic factor have concluded that students from rural areas have consistently lower aspirations than their counterparts from larger more urbanized areas, thus making it a crucial component of aspiration research. In one American study, the researcher detected that a greater numbers of students aspired to enter post-secondary institutions as community size increased (Sewell, 1964). But from a similar study in the same country, Rogoff (1962:247) was convinced that, while this was a trend, there were definitely exceptions to the rule. Porter, Porter and Blishen (1982:67) state, "It is clear from our analysis that degree of urbanization is related to educational aspirations." There has also been some evidence of a reverse effect; that is to say residence in some of the very large cities has been linked to students who had aspirations on par with their village counterparts (Rogoff, 1962; Zhang, 1987; Seeberg, 1993). Zhang (1987) said that in the capital city of China, Beijing, in the mid-1980's, there was immense social pressure on students not to go to institutions outside of Beijing, so high aspirations were purposely down graded and students chose schools that they might not have otherwise selected, in order to stay in Beijing or to be allocated there after graduation.

The present study looks at aspirations of students in three centers, ranging from a large relatively highly industrialized coastal city, Nanjing, to a medium sized inland city, Xi'an, and finally to a smaller hinterland city, Lanzhou. China tends to be more prosperous in the coastal

provinces than the inland provinces, which means the aspirations of students from these three locations are likely to differ. One other consideration that compounds this factor in this study is that, in China, depending on the governmental level under which the school operates, students may well be drawn from many different geographical regions. As part of the admissions policies there is provision made so that schools administered at the national level, which have central government funding, must receive a certain number of students from other provinces and autonomous regions. This was not a concern in Thogerson's (1987) work, since he was dealing with secondary students whose parents' residence would most likely be in the same general geographical location as the school.

2.7 Program of Study and Length of Program

Different programs have been linked to student aspirations in a number of published studies (Porter et.al., 1982; Thogerson, 1987). Breton (1970; 1972:247) concluded that in the case of Canadian students, program was the main predictor of educational aspirations. Program choice may be a sorting mechanism, propelling individuals to go in specific directions and not in others.

In a study of Taiwanese students at vocational-industrial middle schools (Fang, 1990), there was a trend that students' career aspirations became increasingly realistic and sophisticated with each succeeding grade level. However, the study concluded that significant differences only existed between 12th grade and 10th grade students in all but one of the dependent variables[3]. Mauer (1990) also found the same phenomena and noted that refined aspirations were not developed until well into the senior year for college students in UCLA, Los Angeles.

Especially in higher education in China, the choice of social sciences or arts as opposed to science or engineering would seem to limit one's further academic possibilities. Sixty-five percent (China Educational Statistical Yearbook — Zhongguo Tongji Nianjian, 1991:26, 27) of all post-secondary enrolment is in science. While there is a certain amount of choice, in that students fill in program and school request forms (zhi yuan biao)[4] (at the close of their final high school year and around the time of the national entrance examinations), still there was a quota set by the national government (SEdC) limiting the enrolment in the humanities (Hayhoe 1992:3-5). Thus, there are fewer places in the arts and social science programs by design and not because of students preferences. This restriction in opportunities for study in the Humanities is even more exaggerated at the post-graduate level, where 83% of all post-graduate students (93,018) in 1990 were enrolled in the sciences (China Educational Statistical Yearbook — Zhongguo jiaoyu tongji nianjian, 1991:38) leaving few avenues for social science and humanities students at the graduate level, other than overseas opportunities.

2.8 Gender

There appears to be a tendency for females in the West to consider higher education earlier, to forget it during secondary school and then again make more serious plans at tertiary levels. Luzzo's (1990) analysis of California university students revealed that women were significantly more "career mature" or realistic than men on each of the dependent measures of career maturity. Ethnic group differences appeared to play a greater determining role in female's decision making than did social class. This is easily explained since many ethnic groups place a higher value on domestic roles for females than career oriented roles.

Many studies have noted an interaction between gender and social class that seemed to affect aspirations (Regan, 1982; Porter et.al., 1982; Saha, 1982).

Seeberg's (1993) work on access to higher education in China revealed that women only reached a measure of equity in the upper socio-economic classes. However, in general, and not surprisingly, males tended to have placements in higher academic and professional programs than their female counterparts in any particular social class (largely due to early socialization).

As with all the factors discussed so far, there are exceptions to the general trends, and three studies of Asian Chinese showed somewhat unexpected results. No gender differences appeared to exist in a study of Taiwanese vocational industrial high school students' aspirations, as far as career maturity was concerned (Fang 1990)[5]. Male and female students were equally realistic and equally decisive. This might have been explained by the fact that these students, in a vocational stream, had limited prospects before them in terms of occupational choices, causing all involved to be quite realistic and focused. However, in a study carried out in China's coastal province of Shandong, in the rather prosperous district of Yantai, in all categories of middle schools in the Yantai district, more girls aspired to go to university than did boys (Thogerson, 1987:97). These findings seem hard to explain, especially when one considers the number of elements working to maintain the status quo[6]. Hooper (1991:391-362) lists four factors mitigating against higher aspiration levels for Chinese females: 1) they often have a low self-image; 2) the official media reinforces traditional stereo-types; 3) the strong influence of male peers; and 4) their own perceptions of their later roles

as wives and mothers.

In a recently completed study, Dr. Maria Jaschok, Vice-President of the International Institute of Women's Studies at Zhengzhou University, revealed that while it was thought that the attitude towards women and girls had greatly improved since the Second World War, there has been a resurgence of the buying and selling of women for "...marriage, concubinage, domestic service, and prostitution in China... ." This reached alarming proportions in the late 1980's and early 1990's (Jaschok and Miers, 1994:296 and Chap. 12).[7] This kind of social atmosphere is almost certain to affect the sense of self worth and influence the future of girls in higher education.

Another factor that has caused females to have lower aspirations is the fear of placing themselves out of the marriage market by having too much education, since it is generally thought that it is not beneficial for wives to be more highly educated than their spouses. Undoubtedly gender is a factor that needs to be clearly charted in the Chinese context.

2.9 Summary

As might be anticipated, researchers remain less than unanimous in determining the point at which each factor has an effect on other factors to combine in shaping academic and occupational aspirations. This may be a result of the fact that each of the studies that have been undertaken is often singular in its focus, location, and time. From the studies completed in different countries and cultures mentioned here, USA, Australia, Canada, China, Finland,

Mexico, New Zealand and Taiwan are all set in different contexts, geographically, culturally and time-wise. Thus, it is easy to conclude that any thorough construction of a sampling frame or a questionnaire needs serious consideration of the "interactive and surrogative nature" of the factors (Deosaran, 1977:78).

To do this we have taken as broad as possible a sample from the regular university sector for this study and have attempted to develop a questionnaire with sufficient scope to give opportunity to consider the main factors that strongly influence aspirations, singly or in combination.

There does not appear to be any study which has compared the aspirations and access rates of various social classes across higher education institutions under varying levels of governance in different geographical regions, encompassing both first and last year humanities and sciences students. Research on aspirations of Chinese students has been limited to evaluating geographical factors on post-secondary academic preference (Zhang, 1987), and examining the nature of the influence of social background and gender on, among other factors, preference for different subjects and particular careers (Thogerson, 1987).

In both these studies, the context is a relatively prosperous district with students who have generally grown up in that district. By contrast, in the present study, the subjects are university students from universities in a range of districts, from prosperous Nanjing to relatively backward Lanzhou, with respondents largely from these three provinces of China.

The core factors to be considered in this study, as noted in the literature discussed above, are family background, geographic context, administrative level of the institution, major field of study and gender. The factor of academic achievement has not been utilized simply because students in China's universities generally represent high achievers from senior secondary school.

The factors discussed in this review will help to form the foundation of this study's conceptual framework.

Notes:

1. T.E. Livesay carried out research in this area in the early 1940's using Hawaiian high school seniors as the subjects.

2. Zhang (1987:25-26) mentions one student who claimed his entire family had spent a number of days of intense struggle trying to come to some agreement on what should be the student's official preference for post-secondary institutions.

3. The dependant variable in Fang's study were: career planning, career exploration, decision making, world of work information, knowledge of preferred occupational group and career orientation score.

   The independent variables for this study were: sex, age, student's educational goal, parental educational expectation, certainty of career plans, satisfied with school program, work experience, involvement with career related activities, curriculum, student's academic achievement, student practice achievement, student's I.Q. and socio-economic status.

4. This academic major and school selection form (zhi yuan biao) was generally filled in by students at the close of the final high school year and was often the topic of family debates and discussions for weeks prior to the deadline when it

had to be handed in. (Zhang 1987) gives some excellent examples of this phenoenon.)

This process was often much like a lottery in that students were choosing rather blindly, because they did not know their test scores and so had no idea whether they would be able to meet certain thresholds that were set for programs and schools. Some years this form has been scheduled to completed prior to the examination while other years it was completed after the exam when students had a better idea of their possibilities.

5.   It could be that this lack of significant difference between the sexes in career maturity was due to the fact that the population of the study was drawn from a vocational senior high school where the nature of the school itself had significantly narrowed the possible range of future careers for those attending the school.

6.   Possibly the introduction of the market economy has had some effect on the aspiration of the female at the lower levels of education. The other factor that needs to be taken into account is that Yantai is above average as far as its economic conditions are concerned, which could easily have an broad effect on the female students as well as the population in at large.

7.   Numerous press articles dated as late as 1991 were cited by Jaschok suggesting a profitable trade in females for childbearing and prostitution was alive and well in China, much of which has the involvement of officials (1994:264-5)

The shocking thing about all this is that it seems that underlying this trend is the resurgence of an ancient traffic spurred on by greater rural affluence and the enduring patriarchal values, all of which have served to "push up the value of women as childbearers while at the same time perpetuating the low esteem in which they continue to be held." (Jaschok and Meir, 1994:265)

To curb such extreme tendencies as the sale of women the government has resorted to meeting out punishments ranging from execution to a few years in prison. The Chicago Tribune reported the trial of a man from Guangzhou who had planned to sell his wife to a farmer in a scam. The man now faces a possible term of life in prison. (Toronto Star, Feb. 11, 1995: K13)

Chapter III

THEORETICAL FRAMEWORK AND RELATED CONCEPTS

Chapter Two reviewed the literature related to research on students' career and academic aspirations. In this chapter the theoretical framework and related concepts chosen for this present study will be discussed.

3.1 Theoretical Framework

Frameworks from various fields of study, such as psychology (Shoeib, 1982; Howell, 1988; Luzzo, 1990; Fang, 1990; Mauer, 1990), and sociology (Lee, 1988; Martinez-Pons, 1988; Barcinas, 1989), have been used in aspirations research. While any number of frameworks may be chosen, depending on the purpose and focus of a particular study, gender, geographic location, family status, and field of study are concepts essential in such research because of the central roles they play in the development of expectations and aspirations. However, a political component may also come into play in the formation of aspirations, especially in a country like China.

China's educational administrative structure and relations between various levels of

administration is made more understandable when viewed through the framework of the center-periphery theory. A Neo-Marxist approach sets the key questions, "Where does power lie?" and "How does one gain it?". Power relationships are perpetuated through education, and thus the center-periphery model helps us to understand the development of hierarchical relationships in education on an international scale. However, Jacobson pointed out that one of the main weaknesses in the early model was that it focused mainly on "international networks at the expense of regional or local educational relations" (1993:39). McLean (1983) suggested that the Marxist emphasis on economic factors, needed to be balanced by some consideration of social, political and cultural factors. Center-periphery relations can be seen operating within individual nations, and this may help to explain phenomena that are otherwise difficult to explain.

Vilma Seeberg (1993) used the World Systems Theory to examine "cores" and "peripheries" within the Chinese context which can be defined in social, geographical and economic terms. Seeberg uses the "core-periphery" model to describe socio-economic hierarchies and their dynamics, but also the regional and sectoral pull within China. She states, "World Systems Theory

> posits a simple explanatory model for these dynamics that appears to apply well to the PRC economy at the time of the study. In the model, dynamics move along vectors of influence from a core to peripheral locations. Core elements, be they economic, social or cultural, act as incentives exerting a pull. The more peripheral or remote the locale, the weaker the pull, and the narrower the access to the advantages available in the core. Socio-economic hierarchies can also be modelled as core-periphery systems. (Seeberg, 1993:170)

Considering the importance of social and geographical factors mentioned by Zhang (1987), and the fact that we could expect different behaviour in other regions of China, Seeberg's

application of this theory to China makes possible a better understanding of the economic, social and geographical factors influencing the expectations and aspirations of Chinese students.

It would seem that these educational theorists have avoided blindly transferring an economic theory to an educational setting and have made efforts to critically modify aspects of the theory. In other words, the framework chosen for this study is the result of a long evolution and was selected for its ability to illuminate key areas of concern to this study.

3.2   Related Concepts

The present research endeavours to measure the aspirations of groups of students in order to determine whether there exists a different collection of aspirations for those students who are located in different geographical areas, who are enroled in universities under different administrative authorities, are either in the Humanities or Sciences, are either male or female and are from different family backgrounds.

The concepts drawn from the aspirations research literature as having the greatest impact upon the formation of students' aspirations include gender, family factors, parent or guardian influence, peer influence, teachers role, school context and geographic factors. Since China has a unique context of its own, the concepts included in this study also differ somewhat from those included in studies in other national contexts. In this section we will attempt to justify the inclusion of each factor and develop a path model.

3.2.1. Family Factors

Socio-economic status in China has had a much flatter contour than might be found in other countries due to the intervention of a state controlled wage system. Thus, to try to probe into family incomes, would not only have been intrusive, but also of little profit, because of the small differential in the wage system. So, we have chosen to take parents' educational attainment and profession as a indicator of social status. Attempting to take the Chinese context into account, we have constructed an occupational rating scale, categorizing occupations into ten divisions, as a rough index of SES, which we have called the Socio-economic Index for Occupations in the People's Republic of China (See Appendix E). Parental profession or occupation then, may be considered for this study to be the main indicator of SES, the equivalent to other, non-Chinese studies which included income.

Family size also needs to be considered, due to the fact that it has been demonstrated to be significant in other national studies. The urban students in this study are near the last that will show any difference in their aspirations due to family size, because by 1995, most of the students from urban locations attending university for the first time will be from single child families. The other reason for its inclusion is that the Chinese literature has shown that families have sometimes only expected to have one child, usually a male, attend a higher education institute. In spite of the government subsidized education, it still proved to be financially taxing for some families to send their children to institutes of higher education. Thus, such an effect would seem to be significant, though not a major factor for the purposes of this study.

3.2.2. Parental-Guardian Aspirations

Like parents' occupation and educational attainment (SES), parents' aspirations for their children have been shown to exercise some influence over the formation of students' aspirations. Zhang (1987) related how whole families in Beijing took very seriously the aspirations of their high school leavers and how fierce debates raged until application-choices were registered before writing the national entrance examinations. It must be remembered that Beijing has a peculiar situation, as the capital city, and this same circumstance may not be true of other areas encompassed by this study. This study will attempt to ascertain whether or not there exist any significant differences between the influence of parents in different types of families and in three geographical locations. It will also consider the role they play in the formation of female aspirations.

3.2.3. Peer Influences

As with the two previous variables, peer influence has been proven to strongly influence students. Coleman (1966), in terms of variation in the family background, concluded that peer effect had a greater impact on achievement than either school facilities or the curriculum. This factor may prove to be of importance because for the duration of their undergraduate years almost every student in China will be spending far more time with class and dormitory mates than with their families. This goes to support the cultural theory that the Chinese family is still one of the strongest units in Chinese society.

3.2.4. Teacher/Tutor Role

While individual instructors may have a limited role in influencing students choices, as far as career or academic paths are concerned, the tutor system employed in most Chinese universities does make for a strong contact between the student and tutor. This mentoring type of relationship breeds a sense of loyalty and commitment towards the tutor, and their opinions are often held in high esteem by the students. This has been shown to influence not only the students' academic decisions but even marital ones.[1]

3.2.5. School Administrative Context

Some of the most heated research in Chinese education has been over the issue of educational institutions, at all levels, and the effect they have in producing an elite class of students. Aspirations research would tend to confirm these findings, indicating that the context of the school is a significant factor to take into consideration. This study will therefore compare aspirations of students from differing levels of administration: - national, provincial and municipal. We expect that this influence will be enormous, because China is a highly hierarchical and status conscious society and the university that one attends becomes part of one's identity. The higher the administrative level of the institution, the greater the prestige. Prestigious institutes can open many doors of opportunity, simply because one was enrolled at that institution.

3.2.6. Geographic Location of H.E. Institutions

As the Center-Periphery Theory would seem to indicate, those centers under heavy influence from the West would tend to present more of an attraction to students than peripheral areas, with their relatively poorer economic conditions and inferior opportunities. This is somewhat confirmed in the work of Zhang (1987) where he found Beijing students downgrading their aspirations in order to remain in the capital. Likewise, following this theory, it is presumed that those in prosperous centers in developing countries would be strongly attracted to those countries that are role models for their home country. (Also see Seeberg.) So we might expect those students from the more economically developed coastal regions, such as Nanjing, to be more attracted to overseas study opportunities than those further inland.

3.2.7. Gender

Internationally, gender is seen as a factor that dictates one's aspirations and expectations. In recent years a number of studies have been undertaken in China reflecting the growing interest in gender related issues. With the increased liberalization of the job assignment system, the effect of gender on expectations may have increased, since it has become more difficult for female students to be placed in jobs by school officials or to find their own positions. Employers do not want to bear the burden of paying maternity benefits.[2] Thus, the effect of gender on aspirations and expectations deserves serious consideration . This study will explore how it differs in schools at different levels, in different majors, and in different geographical locales.

3.3   Summary

In this chapter, the theoretical framework and concepts which will be used to analyze the data were presented. The concepts are seen as significant factors that affect the development of expectations and aspirations. Not only can this framework be used to view geographic and administrative phenomena, but it can also facilitate a consideration of social factors, which may include parental occupations, parental education, gender, and academic field of study.

While there is a growing body of literature on aspirations in China, the extent of the influence of the variables mentioned is not yet clearly established, particularly at the tertiary level and across geographic lines. The literature, nonetheless, suggests each of the variables discussed has some influence and our survey results will be a preliminary effort to gauge the relative significance of these influences.

Notes:

1.   This author taught in Changsha, Hunan at the National University of Defense Technology of China from 1985 to 1988. At that institution we were able to observe first hand the effect of the tutor-student relationship in a couple of crucial areas of the students' lives, especially future education, career choice and the selection of a marriage partner.

2.   In interviews with administrators and researchers in China there was mention of the relief of a more relaxed job assignment system which would take the pressure off of university officials who were having difficulty placing all their female graduates. This would then allow students to take on some of the responsibility themselves and perhaps use some of their own political and social connections to secure employment.

Chapter IV

RESEARCH METHODOLOGY AND SAMPLE DESCRIPTION

So far we have established the purpose of this study, rationalized the research questions, looked at pertinent research and presented the theoretical framework for the study. The purpose of this chapter is to delineate the methodology utilized in this study. The survey technique, the source of the data, and the method of analysis will be discussed.

In an effort to gain relevant data about the expectations and aspirations of university students in China across a wide geographical range, in higher education institutions across different political administrative levels, and different major fields of study, a survey questionnaire was chosen. While this type of data collection has been employed recently in China, by at least one foreign researcher (Thogerson 1987), the problems he encountered left some doubt as to whether or not this present study would be possible[1]. However, the information required was not available in institutional records, and thus the questionnaire survey technique seemed to be the most promising approach. The respondents were expected to describe and explain their expectations and aspirations. The items on the questionnaire were designed to make apparent aspirations held by university students of both genders, in different geographical locations, different fields of study, at higher education institutions under different levels of administration, and at various points in particular programs.

4.1 Surveys

Although the survey technique has a long history, Oborne (1988:48) points out that poorly handled studies have produced erroneous results that have brought the usefulness of the method into question in the view of some scholars. Best cited problems with surveys in the form of questionnaires, especially the limited return rates of lengthy questionnaires and the public's general skepticism towards them, but concludes that the questionnaire has unique advantages and with conscientious and judicious use can be the most appropriate and useful data-gathering device (Best 1981:167-168).

So, in spite of past problems the method continues to be popular. Borg and Gall (1983:404-405) reported that in a case study of educational journals in a particular year about a third of the research utilized surveys to facilitate the collection of data. Still others (Cohen and Manion 1989) went further to say that the survey was "...the most commonly used descriptive method in educational research ...". Besides being useful to describe situations, surveys are also used to explore the nature of relationships, longitudinal transformations, various results of psychological treatments, and, as in this study, comparisons between groups.

What are the advantages to using the survey method? Questionnaires tend to deliver data that is standardized and therefore quantifiable, which is probably its major advantage; they are also easy to administer, compared to interviews. The raw data is much easier to process than qualitative data, especially when the study involves large populations. Another advantage is the replicability, allowing others to readily repeat and attempt to confirm or disconfirm the result of previous research. The most important aspect is the representativeness that the

method can afford in giving the researcher a general picture of a specific population.

The main disadvantage of the questionnaire technique is its inability to take into consideration some information that the respondent might want to give about the topic at hand. This information is often not reportable because of the number of limited allowable responses in the tool employed (Best 1981:168). This drawback has given rise to the use of semi-structured questionnaires and the use of open-ended questions in surveys, and to the growing popularity of qualitative research.

In his work <u>Survey Research Methods</u>, Babbie (1973) conceptualizes survey research as a process firmly rooted in the social sciences and, in turn, in the sciences, by virtue of the characteristics that the two areas share. Babbie gives the following arguments for the scientific characteristics of survey research: (1) it is logical and must be utilized only under the direction of rational understanding of social behaviour; (2) it is deterministic in nature, because researchers are trying to "...explain the reasons for and sources of observed events, characteristics, and correlations..." (p.46); (3) it is general in that its purpose is usually to arrive at a general understanding of the larger populations of which the sample is only one subset; (4) it is parsimonious in that it tries to gain the most explanatory power while utilizing the smallest number of variables; (5) it is specific in that the researchers specify their methods of measurement; (6) it is verifiable through the collection and manipulation of data; and (7) it is inter-subjective in that two researchers from different orientations could arrive at the same conclusions if each conducted the same research using identical processes and methods.

Surveys have also been characterized as an interdependent two-phased process of 'data construction and data interpretation' (Bateson 1984; Oborne 1988) arrived at by investigators, and founded on information acquired from those responding to the survey.

> "Data construction takes the informants' concepts, cleans them of the looseness and fuzziness that characterize everyday knowledge, and refines them into standard forms, so that the items of knowledge of the many different survey informants may be combined to present a single picture of the social world..." (Bateson 1984:24). (Phase one)

The second phase, data interpretation, is that process whereby an investigator is involved in 'knowledge production' about the social world, based on the results of the survey and on his or her presuppositions about the existing social world. The role of presuppositions is to act as a filter through which one sees the world and to lay a basis for the values and therefore for the decisions a researcher will make.

4.2   Sources of Data

Data construction in this research was mainly undertaken through the use of a structured questionnaire. Based on previous surveys and consultation with colleagues, a questionnaire was developed in the initial stages. To check the relevance of the survey, a pre-test was run using 10 Chinese students at the Ontario Institute for Studies in Education. The instrument was then translated into Chinese, with the help of Chinese colleagues. Once in the target language, the questionnaire underwent a number of refinements, the last of which was completed in China with researchers experienced in developing contemporary Chinese questionnaires. Its validity and accuracy was further checked by personal interviews with pertinent administrators, instructors and student who did not take part in answering the

questionnaires. For the semi-structured interviews with teachers and administrators, a set of questions were drawn from the questionnaire. This researcher also received a variety of documents from each institution which served, in a limited way, to help check the validity of the survey.

4.2.1. The Questionnaire

The questionnaire contained questions in a number of areas of concern, but only five were utilized for this analysis: educational and occupational aspirations and expectations, which were to be used as dependant variables; family background information and parental influence, geography, institutional administrative level, major field of study, and gender were the independent variables. At first the questions for the questionnaire were derived from the researcher's acquaintance with the Chinese situation and the available literature, and they were later modified to suit a changing Chinese context. For instance, the questions regarding geographical influence grew from the work of Zhang (1987), but were further modified under the guidance of Chinese researchers at Nanjing University.

The questionnaire followed a fairly structured format in order to aid speedy and accurate completion by the respondents and also decrease the possibility of error of interpretation during the data entry process. It was planned into the design of the questionnaire that the students would be able to complete it in approximately 20 minutes.

In the questionnaire there were a total of 55 items of both closed and open ended types of

questions. The vast majority of the items were multiple choice in nature, with the rest made up of short answer questions requiring only one word or short phrase replies. All possible responses were assigned an input code number, which appeared both on the questionnaire and the response sheet, in order to facilitate final input into the computer before analysis.

Through its revisions, the questionnaire grew considerably. With the subjects in mind, attempts were made to clarify and to make items as readable as was possible. The questionnaire was then piloted in one class in Nanjing: a first year arts class. Based on the pilot testing, revisions were made in order to produce the present instrument. (See Appendix B for the Chinese introduction letter, the Questionnaire and Response Sheet and Appendix C for their English Translations.)

4.2.3. The Interviews

Structured interviews were conducted among university staff concerning their impression of the expectations and aspirations of the students who were in their particular school. Most of these interviews took place while the instructor's class was involved with the completion of the questionnaire. However, sometimes more formal interviews were set up to gain administrators' perceptions of the aspirations of students. These impressions were taken as a reference in interpreting the data collected from the subjects' responses. (See Appendix D for a copy of the schedule of Interview Questions.)

4.2.3. The Institutional Documents

While conducting the survey at each institution the principal researcher requested and obtained institutional documents that usually gave brief histories of the institutions, including enrolment statistics. Documentation concerning major focuses and course offerings was also acquired. At one of the universities we were also able to obtain enrolment information for one entire year of educational psychology majors from which we were able to verify the information gathered from the survey of that particular class. (This document gave vital statistics of the students and their parents.)

4.3. The Sample

The population from which the sample was selected were regular university students in China. The sample of subjects was a single group selected from the regular cycle university sector. This type of sample is termed

> "convenience sampling - or "..."accidental sampling -"..."choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained. Captive audiences such as pupils or student teachers often serve as respondents in surveys based on convenience sampling."
> (Cohen and Manion, 1989:103)

These university students made up a sample drawn from a stratified selection of institutions, that is institutions from three levels of political administration, and three geographical locations. These universities were chosen in this fashion to get the widest possible representation of the national scene suitable for the proposed study, rather than a strict proportional sample which might have required between 170,000 and 350,000 subjects and which would be technically

taxing and quite beyond the scope of this study. These universities and the students involved in the study were chosen because the character of the universities tended to cover the industrialized east coast schools, the interior institutions and the poorer hinterland institutions, and the students generally reflected most types of student population at the tertiary level.

One main difference between our sample and the general university population is that an equal number of institutions from each region (coastal, interior and hinterland) were selected, when in actual fact there are more universities on the coast than in the interior and more in the central interior than in the hinterland, giving us slightly unbalanced geographical proportion. The other difference is that we chose half humanities classes and half science, though in reality there is a greater proportion of science than humanities students, and because of this the number of females in this study is greater than in the overall university population.

Compared to many other studies in aspirations, this sample size is far from small, even when considering the various sub-groups that were analyzed. Near the end of the 1991-92 academic term there were nine universities that fit the criteria for this research venture. Initially, we had hoped to have a sample of between 1200 - 1800 subjects, and the final total yielded a sample of 1216 subjects.

4.4. Survey Data Collection

Four months prior to the proposed starting date for the data collection, through the Canada-China Joint Doctoral Program In Education at OISE, the relevant authorities at Nanjing Normal

University and Jiangsu Education Bureau were contacted requesting permission to carry out this present study. The character of the study was outlined in the abstract of the proposal and their backing was sought for the study. Permission to carry out the study was granted and financial support from the host Chinese university, Nanjing Normal University, was forth coming.

Nanjing Normal University's Educational Research Department sent letters to the nine universities set out in our proposal, requesting access to the identified sample of students and including information concerning the intent of the study, the proposed time frame for the data collection, and the identification of ways in which the study could meet some of the university's needs. Eight of the schools were successfully petitioned and their provincial education bureaus gave endorsement to the study and access to the students. The ninth school on the proposed list, Jin Cheng University, a municipal level school in Lanzhou, Gansu, had been closed due to its political involvement in the democracy movement of 1989 and therefore was unavailable. Colleagues at Northwest Normal University were able to arrange for the survey to be conducted at Gansu Lian Da University, also a school administered at the municipal level.

Due to circumstances beyond the researcher's control the pilot test and the printing of the final version of the questionnaire and answer sheet were not completed until the first week of May, 1992. This at first did not seem to present a problem, since the study was designed to be conducted in the later part of the academic year in order to gather data at a time when students would have solidified their plans with regards to careers or academic avenues. However, while

still in Nanjing, and with two more cities to visit, we became aware of the fact that some fourth-year students were allowed to leave the school prior to the end of the year because their course requirements were already fulfilled. Consequently, we were unable to include the fourth-year science group from the sample population at Nanjing University, a key university under the SEdC. Though this happened near the beginning of the collection process, with two more cities further inland to visit, this problem was not encountered again.

The consequence of this missing component of the population at Nanjing University is that it resulted in approximately 2-3 percent of the planned student sample being excluded from the study. For the case at that institute, the omission of that data proved frustrating, as it limited the extent to which we could compare first and last year student data within a specific major, and it was a strong signal that the study needed to proceed with all haste. Since this portion would have somewhat enhanced the study, we later tried to send the questionnaires by mail but found that method unsuccessful. Due to the small size of this omission, the final results of the study should not be seriously affected, considering the fact that the survey was across three geographical regions which included two other schools under the same administration and with two fourth-year classes from the sciences.

With governmental approval already received, arrangements to visit each school were made a couple of days in advance by a Chinese research assistant. Either while making these arrangements, or upon arrival at the particular institute, the nature of the survey was explained to the Foreign Affairs Office, school administrators and\or the instructors of the classes to be surveyed. From the beginning, we had let it be known to the schools that it was the wish of

the principal researcher that the questionnaire be administered by himself and his assistants. In all nine universities we were able to administer the questionnaire personally; however in three of the institutions the principal researcher and the trained assistants worked with two classes simultaneously with the aid of school personnel, in order to create as little disruption as possible. It was during the months of May and June 1992 that the questionnaires were administered.

The data collection took place in three provinces across China, representing three diverse geographical regions. Three schools from each capital city were selected with the consultation of Chinese colleagues temporarily in Toronto during the planning stages of this study.

In Jiangsu province, the first geographical location, situated on the eastern coast, three schools in Nanjing, the capital, were involved. Nanjing University (Nanjing Daxue), a key school[2], under national administration, gave a sample of first and last year science students, and first-year Humanities students. Nanjing Normal University (Nanjing Shida), under provincial administration, gave a complete sample of first and last year students in both science and humanities. Jinling Vocational University (Jinling Zhiye Daxue), under municipal administration, offered more than a full sample of science student by one extra class, but failed to offer a last year humanities class to be surveyed. While these losses proved to be somewhat frustrating, it was decided to continue on with the rest of the study in the other geographical locations since the loss only represented about 6 per cent of the desired sample.

The second geographical location, Shaanxi province, considered as central China, contained

three schools in the capital city of Xi'an. All three schools, Shaanxi Teachers University (Shaanxi Shida), under national administration; Northwest University (Xibei Daxue), under provincial administration; Xi'an United University and Teachers College (Xi'an Lianhe Daxue Shifan Xueyuan), under municipal administration, were able to provide complete samples as required by this study's plan. This collection was completed in one week.

The third and most western geographical location, Gansu province, like the other locations, contained three schools in its capital city Lanzhou[3]. Lanzhou's three participating schools, Lanzhou University (Lanzhou Daxue), under national jurisdiction, Northwest Normal University (Xibei Shifan Daxue), under provincial jurisdiction, and Gansu United University (Gansu Lianhe Daxue), a municipally run institution, were all able to provide complete samples. As with the earlier location the collection was completed in one week.

Although the sample obtained would not allow for a complete comparison at the level of final year students, as had been planned, the data collection was more than 90 per cent complete.

4.5. Data Analysis

Data from each response sheet was encoded for statistical analysis by computer. The Centry data entry system was used as way to prepare the data for later analysis by the Statistical Package for the Social Sciences (SPSSX).

Tabulations for student responses focused the variable description - all nonparametric, because of the categorical nature of the responses. Using family background, geographical region, school administrative level, field of study and gender as the major dimensions of analyses, we isolated certain student group responses and compared them with students either at different stages in their academic program and/or in different majors and\or in different geographical locations. A cross tabulation shows the distribution of the sample across the above factors (See 4.3 The Sample); we represented the results as simple percentages to illustrate frequencies of response. Chi square tests were also run on each of the cross-tabs to determine the level of significance of each particular factor, and those results were placed at the bottom of each particular table. Factor analysis was done to group related variables for easier and more efficient interpretation.

Certain variables related specifically to each of the five research questions. For example, as one way of testing one of the main assumptions (that students from the coastal areas would have higher and more clearly defined and realistic aspirations than students from the hinterland areas), we performed a Chi-square test on hinterland students by academic aspirations and the same test on coastal students by academic aspirations. We expected the coastal group to be significantly higher, shown by the resultant f-score $p. < 0.05$ (this threshold of 0.05 should be sufficient because of the sample size).

Item number 31 was simply "What occupation would you most like to have as a career?", and the answers were fit into one of the nine occupational categories listed in the occupational index designed for this study. To analyze questionnaire data relative to the other research

questions, I similarly keyed certain variables to each of the questions, as shown in at the top of each of the tables.

4.6   Description of the Sample

The purpose of this section is to describe the sample involved in this study. This description will entail reporting who the population is with regard to the basic variables involved in the research.

4.6.1. The Students

This study was conducted in three provinces of China, Jiangsu, Shaanxi, and Gansu during the months of April, May and June, 1992. The students surveyed were drawn from two groups: Humanities students who were in located at the first and last-year levels of their programs and Science students who were located at the same levels. The actual number of Humanities students involved in the study, their representation according to gender and their percentage in relation to the entire sample is presented in Table 4.1.

In total 689 Humanities program students responded to the survey. Based on the school statistics this sample represents almost total participation by students in their particular classes in these fields and years at the tested universities. The response rate for this group was a little less than 100%. Only students who were absent from the institutes under study on the day the questionnaire was administered did not complete a questionnaire.

TABLE 4.1

HUMANITIES STUDENT RESPONDENTS BY PROGRAM YEAR AND GENDER

Year	Males	Percent of Humanities Students	Females	Percent of Humanities Students	Total	Percent of Total
First	237	52.3	216	47.7	453	65.7
Final	127	53.8	109	46.2	236	34.3
Totals	364	53.1	325	46.9	689	100

The respondents in the Science program sample consisted of all of the students, selected by school administrators, who were in attendance at their respective classes at the time of the administration of the survey, with the exception of one final year class, as noted above. The number and percentage of Science program males and females responding to the survey are presented in Table 4.2. 523 Science students responded to the questionnaire. A copy of the questionnaire completed by the Humanities and Science students is included in the appendices to this study.

TABLE 4.2

SCIENCE STUDENT RESPONDENTS BY PROGRAM YEAR AND GENDER

Year	Males	Percent of Science Students	Females	Percent of Science Students	Total	Percent of Total
First	177	66.3	90	33.7	267	51.1
Final	170	66.4	86	33.6	256	48.9
Totals	347	66.3	176	33.7	523	100

Of the total sample, the Science program sample is approximately 43.3 percent and the Humanities sample, 56.7 percent[4], this is after the two classes missing classes were factored in. The various administrators experienced some difficulty in selecting students who were of the same subject major as students in the other schools involved, since not all subjects are found in all universities, even though they may be considered "comprehensive". This reinforced the benefit of the broader division into Humanities and Sciences. After the researcher's wishes were made known to the administrators at the various schools, it was decided to accept the respective administrator's judgements as to what constituted a comparable group on the basis of the Humanities-Science split.

The number of students enrolled at the two program levels included in this study in both Humanities and Science are presented in Table 4.3. It is important to note that the number of first year students compose 58.4 percent and those in the final year 41.6 percent (This latter designation could mean that a student is in any year from year two to year five.). The percentage of females in Humanities remained relatively constant between the first and final year, with 47.68% percent in the first year class and 46.18% of the final year group. The percentage of females in Sciences was quite a bit lower, but remained constant within that field at a little over 33.5%. The lower number of students enrolled in the final year is indicative of the expansion that has taken place in enrolment between 1989 and 1992, when the study was carried out.

TABLE 4.3

TOTAL STUDENT RESPONDENTS BY PROGRAM YEAR AND GENDER

Year	Humanities Males	Humanities Females	Science Males	Science Females
First	237	216	177	90
Final	127	109	170	86
Totals	364	325	347	176

Roughly one third of the participants were from each geographic location, but the balance of male and female students was different in each location. The national average for female participation was about 33% in 1992, and Lanzhou had a female participation rate very close to this. The figures for female participation in Nanjing and Xi'an were considerably above the national average, particularly in Xi'an, where there was almost equal representation between the two groups (Table 4.4).

TABLE 4.4

STUDENTS IN THE VARIOUS LOCATIONS

Location	Male	Female	Row Total
Nanjing	261 58.1%	188 41.9%	499 37.0%
Xi'an	204 52.6%	184 47.4%	388 32.0%
Lanzhou	246 65.6%	129 34.4%	375 30.9%
Column Total	711 58.7%	501 41.3%	1212 100.%

Number of Missing Observations: 4

Though there was a considerable difference in gender balance across geographical sectors, across administrative levels there was a close similarity, with roughly 60%-male and 40%-female split at all three administrative levels (Table 4.5). One should take note that the lowest level of institution had the highest proportion of women. This probably reflects the heavy urban intakes of these institutes.

TABLE 4.5

STUDENTS AT THE DIFFERENT ADMINISTRATIVE LEVELS

Administrative Level	Male	Female	Row Totals
National	201 59.3%	138 40.7%	339 28.0%
Provincial	281 58.5%	197 41.2%	478 39.4%
Municipal	229 58.0%	166 42.0%	395 32.6%
Column Totals	711 58.7%	501 41.3%	1212 100.0%

Number of Missing Observations: 4

4.7. Summary

In this chapter the methodology used in this research has been described and the rationale for it has been offered. The survey method has been by far the most widely used in educational research, where informants are required to give information or opinions, due to the advantages it affords, such as the ease with which it reveals tendencies and the reliability it allows for in testing hypotheses. It was the most direct method of gathering data that would facilitate the sort of analysis that the research questions required.

Notes:

1. Thogerson's study in Yantai (1987) among middle school students was initially given official sanction. It was not until he tried to leave the country that the results of the survey were confiscated because they were considered too politically revealing, due to the questions related to the Communist Party and the Communist Youth League. After a few weeks delay the data was returned once the sections in question were deleted.

2. Key schools are those designed so by the national level of government, the State Education Commission (SEdC). A number of factors, the number of professors (along with their fame, and publication list), the threshold of the unified entrance exam scores, and the funding level, are generally substantially superior to the regular school. Besides the 'key school' designation for higher education, elementary and high school levels have these types of schools. Throughout the years, there has been debate about the 'elitist' tendencies of these schools and the official designation has at times been imparted and at others withheld.

   Since this study was undertaken, economic imperatives have forced the national government to release their control over some universities, and either entered into joint administration with other national ministries, with provinces, or allow provinces to take complete control.

3. This city is considered by the average Chinese to be almost the equivalent of Russia's Siberia for the it remoteness in terms of geographical location. The common saying that included three of these Siberia-like locations were Xinjiang, Xizang and Lanzhou was,

"Xin Xi Lan."

4. This sample is not typical of the general university population where usually science students far outnumber the humanities students, but the purpose of this survey was to get equal samples of both groups for comparability, rather than a purely representative sample.

CHAPTER V

FAMILY BACKGROUND

From what family background are the students who are enrolled in China's universities and how does this relate to their academic and career aspirations? What are the students intentions concerning post-graduate education and/or careers, and how does it relate to family background? Does the extent to which they have real or perceived freedom to choose education and career paths or residence vary by family background? We will report findings from the total questionnaire sample (N=1216). Our questions focused on the relationship between student aspirations and expectations, and the occupational and educational background of parents and grandparents. We were also interested in the affect of parental aspirations and peer influences.

It was found that the Humanities group of students was similar in several aspects to the Science group. A high percentage of both groups were drawn from homes of families where members spoke a dialect or variant of the national language. Similarly, a high percentage of both groups reported living with both parents. On the coast, fathers of both groups were quite likely to be employed in high status positions, but as one moved inland there was a greater tendency for those involved in peasant occupations to become the predominant single grouping by far. While mothers of Humanities students in Nanjing held a slim majority

of their positions in the top half of the occupational index scale, all other mothers tended to rank in the lower half. For mothers, again the predominant single occupational category was farming, with intellectuals (1) in far distant second place. Grandfathers of most of the student population were employed as peasant farmers, showing the considerable mobility that had been achieved through education.

5.1. Parental Occupation Levels

5.1.1. Fathers' Occupation

Students were asked to name the occupation at which their fathers were employed. Their responses to this question are reported in Table 5.1.

Fathers' occupational rankings were determined upon the basis of what we will term the Socio-economic Index for Occupations in the People's Republic of China.[1] The occupational ratings for this scale (which were developed for this study), are based on deciles[2], and the relative level of prestige was decided after detailed discussions with my Chinese colleagues. Differences between occupations based upon the decile groupings may appear to be somewhat arbitrary, therefore caution should be exercised by not comparing categories as discrete entities, but rather treating them as approximations of a continuum of ratings.

With this caution in mind, the reported occupation of the Humanities-Science split fell into a similar categorical breakdown. The minority (Nanjing - 49.8%; Xi'an - 37.3% and Lanzhou 36.8%) of the Humanities fathers belonged to the top two deciles in this scale that we are using

TABLE 5.1

FATHERS' OCCUPATIONAL LEVELS IN DECILES*
IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational level Students & Location	Humanities Students	Science
Nanjing (n=444)		
90-100	29.7	30.8
80-89	20.1	15.7
70-79	2.3	2.2
60-69	15.4	9.7
50-59	8.9	9.7
40-49	5.0	7.0
30-39	17.1	23.2
20-29	1.5	1.6
10-19	-	-
1-10	-	-
Xi'an (n=386)		
90-100	25.2	28.5
80-89	12.1	14.0
70-79	1.4	2.3
60-69	12.6	11.0
50-59	10.3	15.1
40-49	6.5	5.8
30-39	30.4	20.9
20-29	1.4	2.3
10-19	-	-
1-10	-	-
Lanzhou (n=377)		
90-100	23.1	21.8
80-89	13.7	12.1
70-79	2.4	1.8
60-69	9.0	6.7
50-59	11.3	10.3
40-49	4.2	6.7
30-39	35.8	40.0
20-29	.5	.6
10-19	-	-
1-10	-	-

* - for a detailed explanation of the deciles see endnote #2

for this study. As for the Science fathers, a somewhat lower number fell into these top two

categories (Nanjing - 46.5%; Xi'an - 32.5% and Lanzhou - 33.9%). Across geographical

TABLE 5.2

PATERNAL OCCUPATIONAL CATEGORY* IN THE WORK FORCE
IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational Group & Location	Humanities Students	Science Students
Nanjing (n=444)		
Office Worker	15.4	9.7
Intellectual	29.7	30.8
Leading Cadre	20.1	15.7
Skilled Worker	8.9	9.7
Factory Worker	5.0	7.0
Farmer	17.0	23.2
Businessman	2.3	2.2
Military	1.5	1.6
Xi'an (n=386)		
Office Worker	12.6	11.0
Intellectual	25.2	28.5
Leading Cadre	12.1	14.0
Skilled Worker	10.3	15.1
Factory Worker	6.5	5.8
Farmer	30.4	20.9
Businessman	1.4	2.3
Military	1.4	2.3
Lanzhou (n=377)		
Office Worker	9.0	6.7
Intellectual	23.1	21.8
Leading Cadre	13.7	12.1
Skilled Worker	11.3	10.3
Factory Worker	4.2	6.7
Farmer	35.8	40.0
Businessman	2.4	1.8
Military	.5	.6

* - Occupations are reported in the order of their appearance in the questionnaire.

sectors, 41.3% of Humanities fathers were in the top twenty percent of the work force while the parallel figure for Science fathers was 37.6%. While both groups were clustered towards the higher ranking occupations, the Humanities fathers tended to hold a still higher proportion of the most prized occupations than did the Science fathers. Fathers in Nanjing also tended to be employed in higher status positions than those in Xi'an and Lanzhou.

Students were asked as well to place their father's occupation into one of the occupational categories described in Table 5.2. The responses to this question indicate that a slightly larger number of the Humanities fathers held high status professional or political positions than the Science fathers. The difference is not great however, being 0.18% when averaged across geographic lines. The other notable trend is a high percentage of fathers within the farming occupation, with the Humanities fathers at 27.7% and the Science fathers at 28.3%. Even more striking about this trend is the difference between geographical regions: Nanjing averages 20.1% in this category, Xi'an with 25.6% and Lanzhou with 37.9%, differences of between 5.5% and 17.8%.

5.1.2. Mothers' Occupations

Students were asked, as well, to indicate what job their mothers held. Their mothers' occupations were then rated according to the Socio-economic Index for Occupations in the People's Republic of China. The results to this question are reported in Table 5.3.

Compared to fathers' occupations, mothers' occupations were clearly close to the lower half

of the scale. A comparison of Humanities and Science students' maternal occupation showed some similarities, however. A clear minority (Nanjing - 29.1%; Xi'an - 20.9% and Lanzhou 20.3%) of the Humanities mothers belonged to the top two deciles in this scale that we are using for this study. A slightly smaller number of Science mothers fell into these top two categories (Nanjing - 24.2%; Xi'an - 23.7% and Lanzhou - 17.6%). Across geographical sectors, the Humanities mothers represented 23.4% of the top twenty percent of the work force and the Science mothers belonging to the top twenty percent of the work force constituted 21.8% of the total Science group of mothers. Although, both two groups are clustered towards the lower ranking occupations, the Humanities mothers tended to hold a greater proportion of the most prized occupations than do the Science mothers.

Students were asked to describe their mother's occupation as belonging to one of a number of occupation categories. The responses to this question (Q27) are reported in Table 5.4. The responses to this question indicate that a slightly larger number of the Humanities mothers held high status professional or political positions than the Science mothers. The difference is not great, however, being 1.7% when averaged across geographic lines. When compared with the fathers' occupational profile, mothers as a group held fewer high status professional or political positions. This was especially noticeable in the area of political careers, with approximately 14% lower. The other notable trend is the high percentage of mothers within the farming occupation, with the Humanities mothers at 41.9% and the Science mothers at 45.3%. When viewed geographically, the difference between regions reveals a disparity: Nanjing averages 32.8% in this category, Xi'an 45.3% and Lanzhou 52.7%, differences ranging between 7.4% and 19.9%.

TABLE 5.3

MATERNAL OCCUPATIONAL LEVELS IN DECILES*
IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational level & Location	Humanities Students	Science Students
Nanjing (n=444)		
90-100	25.1	21.0
80-89	4.2	3.2
70-79	.4	1.1
60-69	22.4	11.8
50-59	8.5	4.8
40-49	8.9	14.5
30-39	27.0	38.7
20-29	.4	-
10-19	3.1	4.8
1-10	-	-
Xi'an (n=386)		
90-100	18.6	22.0
80-89	2.3	1.7
70-79	1.9	1.2
60-69	9.3	12.1
50-59	2.8	4.0
40-49	7.4	8.7
30-39	47.9	42.8
20-29	-	-
10-19	9.8	7.5
1-10	-	-
Lanzhou (n=377)		
90-100	20.3	15.8
80-89	-	1.8
70-79	1.4	.6
60-69	8.5	4.8
50-59	2.4	2.4
40-49	7.1	10.3
30-39	50.9	54.5
20-29	.5	-
10-19	9.0	9.7
1-10	-	-

* - for a detailed explanation of the deciles see endnote #2

TABLE 5.4

MATERNAL OCCUPATIONAL CATEGORY* IN THE WORK FORCE
IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational Group & Location	Humanities Students	Science Students
Nanjing (n=444)		
Office Worker	22.4	11.8
Intellectual	25.1	21.0
Leading Cadre	4.2	3.2
Skilled Worker	8.5	4.8
Factory Worker	8.9	14.5
Farmer	27.0	38.7
Businessman	.4	1.1
Military	.4	-
Housewife	3.1	4.8
Xi'an (n=386)		
Office Worker	9.3	12.1
Intellectual	18.6	22.0
Leading Cadre	2.3	1.7
Skilled Worker	2.8	4.0
Factory Worker	7.4	8.7
Farmer	47.9	42.8
Businessman	1.9	1.2
Military	-	-
Housewife	9.8	7.5
Lanzhou (n=377)		
Office Worker	8.5	4.8
Intellectual	20.3	5.8
Leading Cadre	-	1.8
Skilled Worker	2.4	2.4
Factory Worker	7.1	10.3
Farmer	50.9	54.5
Businessman	1.4	.6
Military	.5	-
Housewife	9.0	9.7

* - Occupations are reported in the order of their appearance in the questionnaire.

However, both groups are equally likely to be homemakers (7.3%). Humanities mothers are more likely to be office workers by 3.9%. Such a difference is slight when the size of the sample is taken into consideration.

Generally, the most striking feature that comes across in the consideration of parental occupations is the fact of greater social mobility for students in the Sciences and in the Humanities. Obtaining entry to the humanities programs in higher education requires more input in terms of family background than to science programs. A second marked feature is the greater social mobility of students in the hinterland than in the coastal area.

5.1.3. Grandfathers' Occupations

Students were asked to name the occupation at which their grandfathers were employed. Their responses to this question are reported in Table 5.5.

Grandfathers' occupational rankings were determined upon the basis of what we have termed the Socio-economic Index for Occupations in the People's Republic of China. As with the reporting of parents' occupations, the report for occupation of the Humanities-Science split fell into a similar categorical breakdown, with a tendency toward the lower end of the scale. The majority (Nanjing - 51.8%; Xi'an - 73.8% and Lanzhou 69.1%) of the Humanities grandfathers belonged to the lower third, fourth and fifth deciles in this scale that we are using for this

TABLE 5.6

PATERNAL GRANDFATHERS' OCCUPATIONAL LEVELS IN DECILES* IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational level & Location	Humanities Students	Science Students
Nanjing (n=421)		
90-100	13.3	8.7
80-89	4.8	4.1
70-79	11.2	8.7
60-69	5.6	2.9
50-59	8.8	8.7
40-49	5.6	7.0
30-39	46.2	57.0
20-29	4.4	2.9
10-19	-	-
1-10	-	-
Xi'an (n=373)		
90-100	7.8	9.0
80-89	2.9	7.8
70-79	6.8	9.0
60-69	1.9	3.0
50-59	6.8	6.0
40-49	3.9	2.4
30-39	66.0	59.3
20-29	3.9	3.6
10-19	-	-
1-10	-	-
Lanzhou (n=366)		
90-100	8.8	11.7
80-89	5.4	2.5
70-79	9.3	7.4
60-69	3.4	1.9
50-59	3.9	6.8
40-49	2.5	3.7
30-39	62.7	64.2
20-29	3.9	1.9
10-19	-	-
1-10	-	-

* - for a detailed explanation of the deciles see endnote #2

study. As for the Science grandfathers, also a clear majority, a significant number fell into these same three categories (Nanjing - 66.9%; Xi'an - 65.3% and Lanzhou 69.8%). Across geographical sectors, the Humanities and Science grandfathers represented only 14.3% and 14.6%, respectively, of the top twenty percent of the work force. While both groups are clustered towards the lower ranking occupations, the Science grandfathers tended to hold a still higher proportion of the least wanted occupations than did the Humanities grandfathers.

Students were asked as well to place their grandfather's occupation into one of the occupational categories described in Table 5.6. The responses to this question (Q28) indicate that a slightly larger number of the Science grandfathers held more high-status professional and political positions than the Humanities grandfathers. The difference is not great however, being 0.3% when averaged across geographic lines. What cannot be ignored is the trend of a high percentage of grandfathers within the farming occupation, with the Humanities grandfathers at 58.3% and the Science grandfathers at 60.1%. The difference between geographical regions is as follows: Nanjing averages 51.6% in this category, Xi'an with 62.6% and Lanzhou with 63.4%, a difference of between 11% and 0.8%. This data provides a further confirmation of the remarkable mobility that has taken place through higher education across generations, and the fact that this mobility has been somewhat greater in the hinterland than the coastal regions.

TABLE 5.6

PATERNAL GRANDFATHERS' OCCUPATIONAL CATEGORY*
IN THE WORK FORCE
IN EACH GEOGRAPHICAL LOCATION BY PROGRAM IN PERCENT

Occupational Group & Location	Humanities Students	Science Students
Nanjing (n=421)		
Office Worker	5.6	2.9
Intellectual	13.3	8.7
Leading Cadre	4.8	4.1
Skilled Worker	8.8	8.7
Factory Worker	5.6	7.0
Farmer	46.2	57.0
Businessman	11.2	8.7
Military	4.4	2.9
Xi'an (n=373)		
Office Worker	1.9	3.0
Intellectual	7.8	9.0
Leading Cadre	2.9	7.8
Skilled Worker	6.8	6.0
Factory Worker	3.9	2.4
Farmer	66.0	59.3
Businessman	6.8	9.0
Military	3.9	3.6
Lanzhou (n=366)		
Office Worker	3.4	1.9
Intellectual	8.8	11.7
Leading Cadre	5.4	2.5
Skilled Worker	3.9	6.8
Factory Worker	2.5	3.7
Farmer	62.7	64.2
Businessman	9.3	7.4
Military	3.9	1.9

* - Occupations are reported in the order of their appearance in the questionnaire.

5.1.3. Inter-generational Movement in Occupations

Table 5.7 shows the upward movement for the two generations. When comparing paternal grandfathers' occupational rankings in the work force with that of students' mothers and fathers, we find a dramatic upward shift, particularly for the second generation males.

TABLE 5.7

PARENT'S AND GRANDFATHERS' OCCUPATIONAL LEVELS IN DECILES* IN PERCENT

Occupational level	Fathers (n=1207)	Mothers (n=1210)	Grandfathers (n=1160)
90-100	26.5	20.7	9.5
80-89	14.8	2.3	4.4
70-79	2.1	1.1	8.5
60-69	11.0	12.1	3.1
50-59	10.7	4.4	6.6
40-49	27.2	42.6	56.0
30-39	2.1	1.1	8.5
20-29	1.3	.2	3.4
10-19	-	7.1	-
1-10	-	-	-

* - for a detailed explanation of the deciles see endnote #2

The responses tend to follow a not-so-unexpected trend when grandfathers' occupational categories are compared with those of the next generation, revealing a clear shift to the lower half of the occupational scale. The grandfathers across geographical locations occupy roughly 10 to 16 percent fewer places in the top deciles than second generational mothers and fathers. As for the ranking within the second highest decile, it is evident that a shift from lower decile categories has benefitted second generation males, giving them 3.5 times the proportion of this

second decile. Generally, parents of the students who participated in this study made substantial moves up the scale, which translated into higher socio-economic levels.

Students were asked to describe their relatives' occupations as belonging to one of the nine occupational categories. The responses to these questions (Q27, Q28, Q29) are reported in Table 5.8, which indicates that the largest first generational category was that of Peasant\farmer (7) at 56%, but the next generation males had only 27.2% in the same category and instead many held high status professional or political positions. When compared with the grandfathers' occupational profile, mothers, as a group, held a greater percentage of the Intellectual category (1) at 20.7% over the formers' 9.5%, but still far less of the high status political positions, by approximately half. Due to the fact that we do not know the maternal grandfathers' occupations, it is not possible to make any authoritative statement about whether or not there is any substantial upward movement for the mothers represented in the study.

TABLE 5.8

PARENTS' AND PATERNAL GRANDFATHERS' OCCUPATIONAL CATEGORIES* IN PERCENT

Occupational Group	Father (n=1207)	Mother (n=1210)	Grandfather (n=1160)
Office Worker	11.0	12.1	3.1
Intellectual	26.5	20.7	9.5
Leading Cadre	14.8	2.3	4.4
Skilled Worker	10.7	4.4	6.6
Factory Worker	5.8	9.3	4.0
Farmer	27.2	42.6	56.0
Businessman	2.1	1.1	8.5
Military	1.3	.2	3.4
Housewife	-	7.1	-

* - Occupations are reported in the order of their appearance in the questionnaire.

Both parents are more likely to be found in the upper half of the occupational scale than the grandfathers were, meaning more desirable jobs. This illustrates an upward trend of social mobility, from grandfathers to parents to students. It is particularly high in the hinterland and among science students.

5.2 Family Background

5.2.1 Students Occupational Expectations and Aspirations

Statistically, there was no significant difference as to what occupation students expected

TABLE 5.9

Fathers' Occupations by (Q31) Students Desired Occupation

Fathers' Occupation Category	\ Student \Occupation \Choice	1	2	3	4	5	6	7	8	9	Row Totals
Intellectual	1	200	25	49	13	3	1		10		301 29.9%
Leading Cadre	2	96	25	23	10	10	1		3		168 15.0%
Business\Entre	3	13	1	5	1	1			3		24 2.1%
Office Worker	4	63	21	15	6	3		1	8		117 10.4%
Skilled Work	5	70	13	14	6	4	1		13		121 10.8%
Factory Labour	6	37	4	6	5	5			3		60 5.4%
Peasant\Farm	7	197	40	29	13	13	1	2	19		314 28.0%
Military	8	9	4	1	1						15 1.3%
Homemaker	9									0	0.0%
Column Total Percentage		685 61.2	133 11.9	142 12.7	55 4.9	39 3.5	4 .4	3 .3	59 5.3	0 0	1120 100%

Chi-Square	Value	DF	Significance
Pearson	65.35181	49	.05904
Likelihood Ratio	67.26916	49	.04259
Mantel-Haenszel test for linear association	3.24686	1	.07156

Number of Missing Observations: 96

(Q23), nor in the desired or expected level of their own educational attainment (Q29 or Q30) when paternal occupational status was the only factor considered in the analysis. However, as expected from the literature, and as Table 5.9 shows, there was a marginally significant difference when student's answer to the question, "What occupation would you most like to have as a career?" is analyzed according to father's occupation (Pearson p. = 0.05904 and the Likelihood Ratio tests p. = 0.04259).

By far occupations in the Intellectual category (1) were the most popular choice with 61.2% of respondents favouring such a position. Students whose fathers were placed in that category were more likely to choose this same category by a margin of 5.24% over the overall average. The second most popular choice was the Business\Entrepreneur category (3) at 12.7% of the total response. Here again, the students from intellectual backgrounds chose this category more often than the average by 3.5%.

It is also interesting to note that children of office workers (cat. 4) were the most likely to choose professions related to politics (17.9%), even more so than those from that category (2) (14.8%). Students from the Business category (3) were the respondents most frequently found choosing that same category (20.8%). Category 4 and 5 (Officer worker and Skilled Labourer) were most often chosen by respondents from a category just below them, category 6, Factory/Unskilled labour, at 8.3% each. The military category (8) was selected the most by respondents from the Business category (12.5%), which was 7.2% more frequent than the average.

The only two categories that failed to have single respondent desire an occupation within the same category as their fathers was the Factory/unskilled (6) and the Military (8).

TABLE 5.10

Fathers' Occupations by (Q33A) Knowledge of mothers' desires

		1 yes	2 no	Total
Fathers' Occupational Categories	1	173	147	320 26.7%
	2	89	90	179 14.9%
	3	11	13	24 2.0%
	4	67	67	134 11.2%
	5	61	68	129 10.8%
	6	26	44	70 5.8%
	7	108	221	329 27.4%
	8	6	9	15 1.3%
Column Total		541 45.1	659 54.9	1200 100.0%

Chi-Square	Value	DF	Significance
Pearson	35.44411	7	.00001
Likelihood Ratio	35.94335	7	.00001

Number of Missing Observations: 16

As shown in Table 5.10, students from the upper category (Intellectuals) of the Socio-economic Index for Occupations in China[3], when asked whether they had a knowledge of their mothers' desires for their future occupation (Q33A), were more likely to answer affirmatively (54.06%) than their cohorts from the lower categories, Worker/Non-skilled (6); Farmer/peasant (7); and Military (9). Thus, there was a significantly steep decline in the students' knowledge of their

mothers' wishes for their futures as one descends the occupational index.

When examining students' knowledge of their fathers' desires for their future occupation (Q36), again there was also a significant difference (p. = 0.00007). Students of the highest category (59.2%) were more frequently than those of the lowest category (31.25%), answered affirmatively regarding their knowledge of their father's desires. Table 5.11 also shows a clear demarcation between the upper four categories and the lower four categories, in that the majority of students in each category in the upper section knew what career their fathers desired for them, while in each category in the lower section the majority did not.

When asked, "If you continue your education past graduation would you like to study in China? (for a degree or research)" there appeared to be no significant difference (p. = 0.06) between students from different socio-economic categories according to the Pearson test, with 86.3% answering "possibly" to "definitely." However, the Likelihood Ratio test did infer that there was some significance (p. = 0.044). When viewing Table 5.12, it is evident that the students from the lower categories were more likely to desire to continue on to graduate studies than their counterparts from the upper socio-economic categories. When averaging the response of 'most likely' and 'definitely', we find seventy-two percent of the students from the lower categories giving this response compared to only fifty-six percent of those from the upper categories. This corroborates anecdotal information which reports that graduate school is seen as an important way to enhance career and mobility prospects for students of disadvantaged family backgrounds.

TABLE 5.11

Fathers' Occupations by (Q36) Knowledge of fathers' desires

		1 yes	2 no	Total
Fathers' Occupational Categories	1	189	130	319 26.6%
	2	100	80	180 15.0%
	3	16	9	25 2.1%
	4	78	55	133 11.1%
	5	60	70	130 10.8%
	6	33	35	68 5.7%
	7	136	192	328 27.4%
	8	5	11	16 1.3%
Column Total		617 51.5	582 48.5	1199 100.0%

Chi-Square	Value	DF	Significance
Pearson	30.71541	7	.00007
Likelihood Ratio	30.90700	7	.00006
Mantel-Haenszel test for linear association	25.49374	1	.00000

Number of Missing Observations: 17

When asked, "If you continue you education past graduation would you like to do research in the same field you are in now?" (Q42), there was no significant difference amongst responses based on socio-economic background. The frequency analysis showed the following results: Definitely - 16.4%, Most likely - 27.5%, Possibly - 24.9%, Most likely not - 23.0% and Definitely not - 7.4%.

TABLE 5.12

Fathers' Occupations by (Q41) Aspirations for graduate school in China?

		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Total
Fathers' Occupational Categories	1	55	128	88	36	13	320 26.8%
	2	24	68	64	19	3	178 14.9%
	3	2	13	3	5	2	25 2.1%
	4	25	51	42	11	3	132 11.1%
	5	29	49	30	18	3	129 10.8%
	6	11	33	17	5	3	69 5.8%
	7	74	145	65	34	9	327 27.4%
	8	3	8	3			14 1.2%
Column Total		223 18.7	495 41.5	312 26.1	128 10.7	36 3.0	1194 100.0%

Chi-Square	Value	DF	Significance
Pearson	40.43547	28	.06044
Likelihood Ratio	41.90087	28	.04430
Mantel-Haenszel test for linear association	8.99758	1	.00270

Number of Missing Observations: 22

Likewise, in response to Question 45, "Do you plan to attend post-graduate school in China?", none of the three chi-square test indicated any significant co-relation to respondents' fathers' occupational categories. Frequency analysis of this question revealed these expectation results: Definitely - 9.4%, Most likely - 18.8%, Possibly - 47.4%, Most likely not - 19.0%, Definitely not - 5.4%. The related question, "Do you plan to attend post-graduate school outside of China?" (Q46) also indicated that socio-economic status of the father had no bearing on student's expectation regarding graduate school outside of China. The analysis of frequency

did point to a very realistic view of the slim possibilities of such an endeavour with these results: Definitely - 2.7%, Most likely - 4.7%, Possibly - 32.7%, Most likely not - 36.0% and Definitely not - 23.8%.

In terms of expectation concerning future employment, students were asked, "Do you think it will be difficult to find employment when you have finished your studies?" (Q51). The Likelihood Ratio test once again deviated from the analysis of the Pearson test by stating there was significance (p. = 0.029), establishing some significance of the co-relation between this expectation and our occupational index.

As Table 5.13 reveals, when the 'Definitely' and the 'Most Likely' responses were combined for each occupational category, the trend was that the further down the scale, the more probable it was that a student would expect difficulty in finding employment after graduation, with the exception of the lowest classification of the military for which there was a more positive outlook concerning future employment. Those from the Farmer/Peasant category (7) were almost twice as likely (17.17%) to see real problems in locating employment as compared with the Intellectual category (1) (9.47%).

TABLE 5.13

Fathers' Occupations by (Q51) Will finding employment be difficult?

		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Total
Fathers' Occupational Categories	1	17	13	102	123	61	316 26.5%
	2	4	11	54	71	40	180 15.1%
	3	4		9	7	5	25 2.1%
	4	14	8	29	50	31	132 11.1%
	5	7	10	40	39	34	130 10.9%
	6	5	4	17	29	14	69 5.8%
	7	36	20	93	107	69	325 27.2%
	8	1		8	6	1	16 1.3%
Column Total		88 7.4	66 5.5	352 29.5	432 36.2	255 21.4	1193 100.0%

Chi-Square	Value	DF	Significance
Pearson	39.86069	28	.06804
Likelihood Ratio	43.67888	28	.02989
Mantel-Haenszel test for linear association	4.54194	1	.03307

Number of Missing Observations: 23

Statistically, there was no significant difference in the view students held regarding the limitations their major would have on future education (Q47), in the expectation of whether or not they would use their educational training (Q48), in the aspirations which would hinder them from accepting jobs unrelated to their major (Q49), in whether or not they would find satisfying employment (Q53), nor in the respondents' expectation as to whether their major would afford an easier time of obtaining a satisfying occupation compared with other majors

(Q54), when father's occupational status was the only factor considered in the analysis.

5.2.2 Mothers' Occupational Status as a Factor

As we have seen in the literature review, there are varying degrees to which family background influence students' expectations and aspirations. In this section we will see that even within the family, parents have greater or lesser influence in relation to different questions.

When mother's occupation is considered, those from the Leading Cadre category (2) and the Business Category (3) tend to have appreciably higher expectations for educational attainment than the other groups both above and below them on the index. We must exclude the military category here because only 2 respondents claimed to have mothers in that category).

While all categories had an average of 35.8% students who expected to obtain a post-graduate degree, there were 51.85% from the Leading Cadre category (2), which was a difference of 16.05% over the average university student. This is quite notable, since even the Intellectual category had only 38.64% of its students expecting to earn a post-graduate degree. This may be due to the fact that parents in political positions often have some ability to open doors for their offspring, when it comes to gaining admission to educational institutions.

TABLE 5.14

Mothers' Occupations by (Q30) Highest expected level of ed.

		middle s ch.grad 1	some col or univ 2	college grad. 3	univ. gr ad. 4	post-gra d.dgree 5	other 6	Total
Mothers' Occupational Categories	1		5	17	127	97	5	251 20.9%
	2			4	9	14		27 2.3%
	3		1		8	4		13 1.1%
	4		2	8	75	56	5	146 12.2%
	5		1	8	25	18	1	53 4.4%
	6		1	11	62	35	2	111 9.3%
	7	2	10	50	259	182	10	513 42.8%
	8		1		1			2 .2%
	9			14	38	29	2	83 6.9%
Column Total		2 .2	21 1.8	112 9.3	604 50.4	435 36.3	25 2.1	1199 100.0%

Chi-Square	Value	DF	Significance
Pearson	57.40740	40	.03661
Likelihood Ratio	39.12680	40	.50941

Number of Missing Observations: 17

From a statistical point of view, practically 100% of the students with mothers engaged in business expected to finish university, but few intended to go on to post-graduate education. This tendency must be viewed with caution as the group is quite small, only 1.1% of the respondents.

Unlike the father's occupational category as a significant factor, a mother's occupation was found to not play a role in the formation of aspirations for future occupations (Q31) for their children (p. = 0.16579).

However, as with the father's occupation factor, the mother's occupation factor played a very

significant role (p. = 0.000) as to whether or not students knew what their mother's preferences

were concerning their childrens' future occupational choice (Q33a). Table 5.15 clearly

TABLE 5.15

Mothers' occupation by (Q33A) Knowledge of mothers' desires

```
                        | yes    | no
                        |   1    |     2  | Total
               --------+--------+--------+
Mothers'        1  |   156  |   95   |   251
Occupational       |        |        |   20.9
Categories        +--------+--------+
                2  |   14   |   13   |    27
                   |        |        |    2.2
                  +--------+--------+
                3  |    4   |    9   |    13
                   |        |        |    1.1
                  +--------+--------+
                4  |   82   |   63   |   145
                   |        |        |   12.1
                  +--------+--------+
                5  |   31   |   22   |    53
                   |        |        |    4.4
                  +--------+--------+
                6  |   57   |   56   |   113
                   |        |        |    9.4
                  +--------+--------+
                7  |  168   |  347   |   515
                   |        |        |   42.8
                  +--------+--------+
                8  |    1   |        |     1
                   |        |        |     .1
                  +--------+--------+
                9  |   32   |   52   |    84
                   |        |        |    7.0
                  +--------+--------+
           Column    545      657      1202
           Total     45.3     54.7    100.0
```

Chi-Square	Value	DF	Significance
Pearson	79.03935	8	.00000
Likelihood Ratio	80.30232	8	.00000
Mantel-Haenszel test for linear association	56.80789	1	.00000

Number of Missing Observations: 14

demonstrates the fact that a mother's occupation is an important factor as to whether or not a

student has a clear picture of their mothers' wishes for their future employment. Here we see

an even steeper slope than in Table 5.10, starting up at the top of the index, with 62% of the

Intellectual category (1) compared to only 38.09% for the Housewife category (9) at the bottom, a difference of 24.01%. Thus, in general, at the homes of families in the Intellectual category we see that there appears to be a much greater level of communication of ideas concerning respondents' future occupations or further education than in those of the lower level families.

In other words, the lower the student's mother's ranking on the index, the less likely they are to know exactly what their mother would like them to do as a profession after graduation and vice versa. The exception to this is the Business\Entrepreneur category 3), which was much lower than the average among categories, with only 30.7% of their students claiming to know what their mothers' desires for their careers was.

While whether one knew their mother's desires about their future careers was dictated to a great extent by their mother's occupational category, in Table 5.16, there proved to be no statistical significance (p. = 0.16) regarding the exact choice that the mother's had in mind (Q33b). That is to say, while you could predict whether or not a student had a clear knowledge of their mothers' hopes by the mother's occupational level on the index, you could not use that same ranking to predict what that hope might be.

TABLE 5.16

Mothers' Occupations by (Q33b) Career mothers wanted for respondents

OCCUPATIONAL CATEGORY

		1	2	3	4	5	8	Total
Mothers' Occupational Category	1	98	13	6	2	6	1	126 29.0%
	2	7		2				9 2.1%
	3	3						3 .7%
	4	42	7	6	6	3		64 14.7%
	5	19	6	1		1		27 6.2%
	6	30	12	1	1	4		48 11.0%
	7	93	18	6	4	8	2	131 30.1%
	8	1			1			2 .5%
	9	19	1	1	2	2		25 5.7%
Column Total		312 71.7	57 13.1	23 5.3	16 3.7	24 5.5	3 .7	435 100.0%

Chi-Square	Value	DF	Significance
Pearson	48.72400	40	.16215
Likelihood Ratio	40.96567	40	.42795
Mantel-Haenszel test for linear association	1.76759	1	.18368

Number of Missing Observations: 781

Still, it is not insignificant to note that 71.7% of all mothers had wished for their children to be working within careers that would rank in the Intellectual category (1). The next closest category of choice was the Leading Cadre category (2) at 13.1%. The rest were all in a descending order, except categories 6, 7, and 9[4] (Factory\Unskilled, Farmer\Peasant, and Housewife), which were not chosen at all by any of the mothers, as far as the students were able to recall. (All this must be seen within the setting of only a 35.7% response on this question. This was low, yet, a greater response than the one received for the question inquiring

about the same information regarding the fathers[5] (Q36b).)

TABLE 5.17

Mothers' Occupations by (Q36) Knowledge of fathers' desires

```
                     | yes  | no
                     |   1  |    2  | Total
              --------+-------+--------+
Mother's        1 |  140 |  111 |  251
Occupational      |      |      |   20.9%
Category         +-------+--------+
                2 |   13 |   15 |   28
                  |      |      |    2.3%
                 +-------+--------+
                3 |    6 |    7 |   13
                  |      |      |    1.1%
                 +-------+--------+
                4 |   91 |   56 |  147
                  |      |      |   12.2%
                 +-------+--------+
                5 |   28 |   25 |   53
                  |      |      |    4.4%
                 +-------+--------+
                6 |   58 |   54 |  112
                  |      |      |    9.3%
                 +-------+--------+
                7 |  235 |  276 |  511
                  |      |      |   42.5%
                 +-------+--------+
                8 |    2 |      |    2
                  |      |      |     .2%
                 +-------+--------+
                9 |   45 |   40 |   85
                  |      |      |    7.1%
                 +-------+--------+
        Column      618    584   1202
        Total       51.4   48.6  100.0%
```

Chi-Square	Value	DF	Significance
Pearson	16.85188	8	.03169
Likelihood Ratio	17.70295	8	.02357
Mantel-Haenszel test for linear association	5.08447	1	.02414

Number of Missing Observations: 14

Unlike the case when the fathers' occupations was considered, mothers' occupations were a very significant factor as to whether or not students had a knowledge of their fathers' desires for their future careers, and there was a clear split between the upper part of the index

answering affirmative and the lower half answering in the negative (p. = 0.031 in the Pearson test and 0.023 in the Likelihood Ratio test). Those respondents from the Intellectual background and Office worker background were able to say they knew what their father's desires were in this matter (55.77% and 61.9% respectively). Both of the answers were above the average response level per category. The low end was similar to the earlier comparison, as is evident in Table 5.17, that the Peasant/Farmer group (7) were least likely to have a knowledge of their fathers' wishes for their future career. The other two groups that were well below the average when mothers' occupation was analyzed as a factor were the Leading Cadre category (2) and the Business\Entrepreneur category (3) which each registered about five percent below the average when it came to answering affirmatively. This may be due to the fact that some of these women are married to men from lower ranking categories and their husbands' occupations had greater influence as a factor in the final analysis.

When asked the question, "If you continue your education past graduation would you like to study in China?" (Q41), the influence of the mother's occupation (p. = 0.005) had a much greater impact than of the father's occupational category (see Table 5.12) on the aspirations of students regarding graduate school in China.

In general, Table 5.18 shows that lower ranking groups tended to have more positive aspirations about attending graduate school in their homeland. When the 'Definitely' and 'Most Likely' responses were combined, these categories of the lower end of the index averaged a 62.18% positive response compared to only 54.57% of the upper four categories. The upper categories were almost twice as likely (16%) to respond with the negative 'Most

likely not' and 'Definitely Not' answers, than their lower end counterparts at 9.2%. Students whose mothers were housewives (category 9) were the most optimistic or enthusiastic about their desires for graduate school in China (69%). On the other side of the decision, students from the Office worker category (4) were the most likely not to desire to attend graduate school in China (22.7%).

TABLE 5.18

Mothers' Occupations by (Q41) Aspirations for graduate school in China?

		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Row Total
Mothers' Occupational Category	1	35	104	73	32	7	251 21.0%
	2	5	10	10	2	1	28 2.3%
	3	2	6	3	2		13 1.1%
	4	17	48	47	27	6	145 12.1%
	5	11	18	20	1	1	51 4.3%
	6	17	46	34	12	1	110 9.2%
	7	118	221	108	49	18	514 42.9%
	8	1					1 .1%
	9	17	41	19	4	3	84 7.0%
Column Total		223 18.6	494 41.3	314 26.2	129 10.8	37 3.1	1197 100.0%

Chi-Square	Value	DF	Significance
Pearson	55.97388	32	.00546
Likelihood Ratio	57.46554	32	.00375
Mantel-Haenszel test for linear association	12.97094	1	.00032

Number of Missing Observations: 19

To the question, "If you continue your education past graduation would you like to do research in the same field you are in now?" (Q42), students' responses about their aspirations, according to the statistical analysis, were not predictable (p. = 0.206) based on the mother's occupation level. Similarly, considering the same factor for analysis, students were even less predictable (p. = 0.47155) in their answers about their expectations to the question, "Do you plan to attend post graduate school in China?" (Q45).

For the related question, "Do you plan to attend post-graduate school outside of China?" (Q46) the occupational status of the father had no bearing on student's expectation. It appears from Table 5.19 that the mother's status did act as a strong factor (p. = 0.00019) in helping to predict students' expectations. Still, the analysis of frequency pointed to a generally realistic estimation of the slim possibilities of attending graduate studies overseas with these results: Definitely - 2.8%, Most likely - 4.7%, Possibly - 32.6%, Most likely not - 36.1% and Definitely not - 23.9%.

As one might have easily predicted, the students with political connections through their parents were undoubtably the group that most frequently expected to be able to study abroad, with 21.42% responding under 'definitely' and 'most likely', while the average positive response from all groups was only 7.5%. The next closest positive response was from the Office worker category (4), at only 9.57%.

On the negative side of this question, though the average response per category was 60%, three groups were well above that. Respondents from the Business\Entrepreneur category (3) and

those from Peasant\Farmer category (7) were 9.23 and 7.88 above the response rate. Strikingly, the greatest negative response was from the Housewife category (9), in which 75.29% of students had little or no expectation of going abroad to do graduate work.

TABLE 5.19

Mother's Occupation by Q46 Expect to attend grad. school out of China?

Mother's Occupational Category		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Total
	1	6	17	105	77	44	249 20.8%
	2	3	3	8	10	4	28 2.3%
	3	1		3	4	5	13 1.1%
	4	8	6	57	48	27	146 12.2%
	5	1	3	23	15	10	52 4.3%
	6	3	4	43	40	21	111 9.3%
	7	10	21	134	202	147	514 42.9%
	8				1		1 .1%
	9	1	2	18	36	28	85 7.1%
Column Total		33 2.8	56 4.7	391 32.6	433 36.1	286 23.9	1199 100.0%

Chi-Square	Value	DF	Significance
Pearson	68.46953	32	.00019
Likelihood Ratio	65.21874	32	.00047
Mantel-Haenszel test for linear association	32.90514	1	.00000

Number of Missing Observations: 17

Mothers' occupations did not prove to be a factor in the following questions: "Does enrollment in your university program limit your opportunities to enter particular schools for graduate study in your field?" (Q47) (p. = 0.93), "Do you expect to use your present educational training

in your future career or place of employment?" (Q48) (p. = 0.19), and "Would you accept a

job where you would only occasionally use your present training?" (Q49) (p. = 0.39).

TABLE 5.20

Mothers' Occupations by (Q51) Will finding employment be difficult?

		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Total
Mothers' Occupational Category	1	9	16	72	106	45	248 20.7%
	2	1	2	8	8	9	28 2.3%
	3	5	1	3	4		13 1.1%
	4	7	8	50	51	29	145 12.1%
	5	5	4	17	17	8	51 4.3%
	6	9	8	36	43	17	113 9.4%
	7	47	26	142	174	121	510 42.6%
	8				1	1	2 .2%
	9	5	2	24	27	28	86 7.2%
Column Total		88 7.4	67 5.6	353 29.5	431 36.0	257 21.5	1196 100.0%

Chi-Square	Value	DF	Significance
Pearson	53.28264	32	.01049
Likelihood Ratio	48.96355	32	.02798
Mantel-Haenszel test for linear association	.00206	1	.96376

Number of Missing Observations: 20

When it comes to whether or not students foresaw difficulties in locating work after graduation

(Q51), Table 5.20 gives a strong indication (p. = 0.01) that a mother's occupation did play

some role in the formation of this expectation as held by the students. Students from the

Business\Entrepreneur category (3) were the most likely to have a negative response (46.15 %)

over the average (13%), when the answers 'definitely' and 'most likely' were combined. This might be due to the fact that there was probably no government controlled position that their family could hand down to respondents. At the opposite end of the possible responses,students whose mothers were ranked as in the Housewife category (9) were the most likely not to see any problem locating work after graduation (63.95%) compared to the average (57.5%). The most probable reason for this optimism on the part of these children of low ranking mothers, is that getting into university is probably one of the most difficult things one may encounter in China[6], therefore they may have seen other subsequent difficulties as trivial in comparison.

When it comes to finding a satisfying type of work after graduation (Q53) there is a definite shift toward a more pessimistic viewpoint on the part of respondents. This tendency had an even stronger co-relation with the father's occupation (p. = 0.09) than with the case of the mother's occupation (p. = 0.25). However, neither carries any significant statistical weight in the formation of this attitude. The related question (Q54) which compared their chances for a satisfying job with students from other majors also showed no strong co-relation with the mother's occupational background.

5.3 Summary of Results

As we have seen, the occupational categories that were the most popular as future career paths were the Intellectual, by a large majority, and then Business by a much smaller margin.

Students from different family backgrounds tended to choose slightly different careers or

educational paths from each other. For example, students from the Intellectual category (1) were more inclined to choose that same category for a professional path; while those from the office worker category (4) leaned strongly toward politically oriented occupations (2). Generally, respondents chose careers that were higher than those of their parents. For example, the students whose parents were Factory or skilled workers (5), most often chose one category higher (4) and the same was true of students from Unskilled occupational backgrounds, who tended to choose some career in the Factory\skilled worker category (5). Children of those with Business backgrounds (3) were the only group to consistently choose occupational paths within the same category as their parents.

There also appeared to be significant correlation between parental occupations and the formation of aspirations and expectations, but the exact extent of the influence depended on the specific issue under consideration. Taking the fathers' occupations as a factor, statistically it proved to have significant influence in a number of areas. For instance, upper category students tended to have more knowledge of their parents' wishes, particularly their mothers', regarding future career paths. Lower category respondents were much more likely to aspire to attend graduate school in China than their upper category counterparts. Ironically, these students, especially those of Peasant background (8), also tended to expect more trouble finding jobs than those higher in the categorical background ranking.

Maternal occupational ranking often had a somewhat higher co-relation with students' aspirations and expectations. This factor was of greater influence in the formation of the desire regarding graduate school in or outside of China, especially for those whose mothers were in

the Housewife category (9), who were the most positive about studies in China, but the least expectant about studying overseas. Yet, students with mothers in this ninth category were the most optimistic about future job prospects.

Again, the mothers' occupational ranking, was statistically more of a significant factor when knowledge of parental wishes were considered. The higher one ranked on the occupational ranking scale, the more likely they were to have such knowledge. Still considering this factor, business (3) and political (2) family background students had the highest expectation level for education.

Across class or categorical lines, most students were either not interested, or undecided, about further studies in their then present major. Only slightly less than a third of all respondents were expecting to study at graduate school in China, and less than one-tenth saw overseas graduate work as a likely possibility.

As with other national studies, family background tended to exert a peculiar influence over students' expectations and aspirations, and not always in predictable ways. While this study was able to detect open communication about these topics in families which would rank in the upper end of the scale, statistically the covert influence proved to be very strong at times. Not withstanding students tended to claim that the career choices they made most often had little to do with parents or significant others. They also stated that peer influence was relatively unimportant to them in the decision making process.

Though Zhang (1987) found a decrease in parental influence, over time, and an increase in peer influence, and Hooper (1991) stated that peers hindered aspirations, results from this study do not confirm those assumptions. Rather, students often claimed themselves to be the biggest influence over their decisions, but also did not fail to acknowledge the importance of parental influence, which was much ahead of peer influence.

Notes:

1.   This scale is modeled after the Revised Socio-economic Index for Occupations in Canada. This can be viewed in B. Blishen and H. McRoberts' "A Revised Socio-economic Index for Occupations in Canada" found in The Canadian Review of Sociology and Anthropology Vol. 13, Issue 1, p. 71-79, 1976.

2.   Deciles were used to form the occupational index into a continuous scale, with the top ranked professional category, Intellectual (1) as occupying the top decile (i.e., Category 1 = 90-100 on the decile scale), and the lowest ranked category was housewife which occupied the second lowest decile (11-20 on the decile scale). Unemployed or disabled would have occupied the lowest decile, had there been any responses in those groupings.

3.   While the arrangement of professions was randomly set for the questionnaire, in the analysis, we ordered it according to a general consensus of a number of Chinese colleagues to reflect the relative order of prestige given to it in Chinese culture. They are as follows:

> 1 -intellectuals
> 2 -leading cadres
> 3 -businessmen
> 4 -office workers
> 5 -skilled worker
> 6 -factory/non-skilled workers
> 7 -Farmer/peasants
> 8 -Military personnel
> 9 -housewife
> 10 -non-working

One must not forget that China is in a period of great flux. Though this index

fits relatively well to the situation in 1992, a tremendous change in the declared value system may have continued to alter to such an extent that the index could need major revamping.

4.   Category 9, Housewife, is missing from the career category in this table, simply because no mothers were reported as having had such an aspiration for their children.

5.   The response to the question, "please specify your father's career plans that he would like you to have," was so meager it was decided to leave it out of the analysis.

6.   The chances of entering university have been likened to thousands of people all rushing to cross a foot bridge that can only hold one person at a time.

CHAPTER VI

GEOGRAPHY

Students in China are generally residents of the province in which they attend university, how does this factor affect their academic and career aspirations? What are the intentions of students from different geographic locations concerning post-graduate education and/or careers? Does access to information relevant to making academic and career selections vary by geographical location? Does the extent to which they have the real or perceived freedom to choose future academic or career paths or lifestyles vary by whether the school is on the coast or in the hinterland? These are some of the questions dealt with in this chapter.

It was expected that students' aspirations would be distinguishable by the geographical location of the institution. Students from the hinterland were expected to have more modest academic and occupational expectations, and those from coastal areas be more ambitious and less limited to traditional aspirations. It was expected that the closer a school was located to the coastal areas, characterized by better material conditions and greater opportunities, the higher students' aspirations would be. Since the economic climate in Chinese society is changing, with a dramatically increased number of foreign joint ventures, it was expected that students situated more near the coast would have aspirations that were aiming toward new forms of

employment. By the same token, it was expected that students from the hinterland would define their aspirations more narrowly in occupational terms.

6.1 GEOGRAPHIC LOCATION

To begin with the three cities involved with this study have all been important metropolitan centers at some time in China's history. The coastal city of Nanjing, meaning "Southern Capital," has been the capital of China on more than one occasion in the past, and was so in this century as recently as 1949, when it was the seat of the Nationalist government (Guomindang). Nanjing remains an important center because it is the provincial capital of one of the most prosperous provinces of China, Jiangsu. Since Jiangsu may help produce up to one quarter of China's gross national product, Nanjing's links to Beijing, the political center are obvious. Xi'an, meaning "Western Peace," was also one of China's inland capitals about 2,000 years ago, and in this century it played an important part during the years of struggle against the Japanese, and during the subsequent civil war. Due to the strategic importance the location played in the "liberation," Xi'an has retained some of its political connections with the central authorities in Beijing. While it remains an important inland cultural center today, it is much smaller than it was two thousand years ago, when it was the starting point of the Silk Route to the west. Lanzhou, the capital of far western province of Gansu, is a regional center for the north west. Like Xi'an, Lanzhou was an important war time center, and much earlier was an important trading center on the Silk Route.

As Table 6.1 illustrates, the largest single grouping of students held residence permits in villages (43.0%), next were those from metrocenters (33.1%), then medium sized cities (17.0%)

and last those from county towns (6.2%). This high percentage of students from the villages is not unexpected, since approximately eighty percent of the entire population reside in the countryside, which includes villages, and county towns. It should be noted that 50.1% of the students came from metro and city locations, in spite of the fact that twenty percent or less of the population live in these types of centers. However, given the generally low quality of resources in rural schools, it is quite remarkable that rural representation was so high.

TABLE 6.1

Q12A   Residence Permit

Residence Type	Value	Frequency	Percent	Valid Percent	Cum Percent
Metrocenter	1	402	33.1	33.4	33.4
city	2	206	17.0	17.1	50.5
county town	3	75	6.2	6.2	56.7
village	4	522	43.0	43.3	100.0
	.	10	.8	Missing	
	Total	1215	100.0	100.0	

Valid cases   1205   Missing cases   10

While there were students from every province and autonomous region enrolled in these 9 institutions involved with this study (this is probably due largely to the state planning policy which requires national level institutes to admit students from all regions nationally, and enroll them in certain programs), Table 6.2 does reveal that 85% of the population, or 1,000 students, used in this study were from the provinces in which the institutes, participating in the study, were situated. Even further, when the provinces just bordering the target provinces are taken into account then roughly 95% of the students involved in the survey are from the three geographic regions involved. Therefore, we seem to have the student falling into three distinct geographical regional groups, those studying in Nanjing, from the coastal area, those studying

in Xi'an, from the inland area, and those studying in Lanzhou, from the far west or north west.

TABLE 6.2

Q12B   Region of Residence Permit

Location	Value	Frequency	Percent	Valid Percent
Anhui	1	6	.5	.5
Beijing	2	1	.1	.1
Fujian	3	5	.4	.4
Gansu	4	309	25.4	26.3
Guangdong	5	5	.4	.4
Guangxi	6	6	.5	.5
Guizhou	7	4	.3	.3
Hainan	8	1	.1	.1
Hubei	9	8	.7	.7
Heilongjiang	10	4	.3	.3
Henan	11	7	.6	.6
Hubei	12	7	.6	.6
Hunan	13	10	.8	.8
Jiangsu	14	390	32.1	33.1
Jiangxi	15	6	.5	.5
Jilin	16	5	.4	.4
Liaoning	17	4	.3	.3
Nei Mongol	18	4	.3	.3
Ningxia	19	9	.7	.8
Qinghai	20	8	.7	.7
Shaanxi	21	301	24.8	25.6
Shandong	22	23	1.9	2.0
Shanghai	23	6	.5	.5
Shanxi	24	9	.7	.8
Sichuan	25	15	1.2	1.3
Tianjin	26	3	.2	.3
Xinjiang	27	14	1.2	1.2
Yunnan	29	5	.4	.4
Zhejiang	30	2	.2	.2
	.	38	3.1	Missing
Total		1216	100.0%	100.0%

Valid cases   1177   Missing cases   38

6.2 Students' Occupational Aspirations and Expectations

As we have noted regarding an earlier study involving Chinese high school students (Zhang 1987), the geographical factor played an important role in the formation of student's expectations and aspirations.

In our study, geographical location proved to be a very significant factor (p. = 0.00000) in the make up of career expectations (Q23), as can be seen in Table 6.3. Students at universities in Xi'an clearly had the highest expectations on the Socio-economic Index for Occupation for the Peoples' Republic of China, in that 77.96% expected to later be employed in professions in the Intellectual category (1). This was about 15% higher than the average for all locations in this study and just over 30% higher than students attending schools in Nanjing (46.03%). It seems to reflect Xi'an's role as a regional intellectual center[1]. By contrast though not confirmed by earlier studies, Nanjing respondents

TABLE 6.3

Geographic Location by (Q23) Expected Occupation

		EXPECTED OCCUPATION 1	2	3	4	5	6	7	8	Total
Location	Nanjing	203	92	25	58	27	2	2	2	411 36.6%
	Xi'an	276	25	31	7	11	1	1	2	354 31.6%
	Lanzhou	221	63	38	27	4		1	3	357 31.8%
Column Total		700 62.4	180 16.0	94 8.4	92 8.2	42 3.7	3 .3	4 .4	7 .6	1122 100.0%

Chi-Square	Value	DF	Significance
Pearson	110.95689	14	.00000
Likelihood Ratio	120.48915	14	.00000
Mantel-Haenszel test for linear association	18.24405	1	.00002

Number of Missing Observations: 94

were the most likely to expect politically oriented professions (22.38%), which may reflect their greater proximity to Beijing, the national center. The Nanjing students were also about twice a likely to expect Office Worker (4) or Skilled Labourers (5) and Factory\unskilled workers (6) types of work than students from the two other locations, Xi'an and Lanzhou.

Lanzhou respondents were the most likely to expect to be involved with business related work after graduation, though these were still only slightly over 10 percent.

Due to the low expectations for Peasant\farmer (7) or Military (8) type careers, less than 5 responses per location, it was decided not to include them in the discussion.

Geography also made a significant difference (p. = 0.0004) in the make up of aspirations regarding careers (Table 6.4). When answering the question, "What occupation would you most like to have as a career?" (Q31), Nanjing's students had the highest aspirations as they were definitely the most likely (40.23%) to want to hold positions that ranked within the Intellectual category (1), but were only slightly ahead of Lanzhou's students when it came to choosing the Leading Cadre category (2), by little more than a percentage point. Students in Xi'an were the most likely to choose Business\Entrepreneur category (3) (30.93%), that is 7 percentage points above the average, but ranked third in response to both categories 1 (25.4%) and 2 (17.1%). Needless to say, Lanzhou came in second in all of the top three categories (1 at 27.0%; 2 at 22.16% and 3 at 24.86%). However, it did rank first among in desiring work in the Military category (9) at 13.5%.

So why the difference in expectations, between Lanzhou respondents, who chose business (3), and Nanjing respondents, who favoured the leading cadre category (2)? Possibly the Nanjing students, with their east coast experience, knew how hard a business career would be, so they chose the softer and more secure cadre position. Often business cannot be accomplished without political connections and bribery, and there is a high rate of business failure in China.

This knowledge could have deterred coastal students from aspiring to the then rising-in-popularity occupation, business.

The unskilled labour (6) and Peasant\Farmer category (7) were discounted in this table because of low frequency of response indicating desire for this occupation.

TABLE 6.4

Geographical Location by (Q31) Desired Occupation

```
          Desired Occupation
          |    1|     2|     3|     4|     5|     6|     7|     8| Total
       ---+-----+------+------+------+------+------+------+------+
Nanjing |  103|   60|    41|    19|    15|     3|     1|    14|  256
          |     |      |      |      |      |      |      |      |      41.2%
       ---+-----+------+------+------+------+------+------+------+
Xi'an   |   46|   31|    56|     9|    17|     1|     1|    20|  181
          |     |      |      |      |      |      |      |      |      29.1%
       ---+-----+------+------+------+------+------+------+------+
Lanzhou |   50|   41|    46|    15|     7|      |     1|    25|  185
          |     |      |      |      |      |      |      |      |      29.7%
       ---+-----+------+------+------+------+------+------+------+
  Column   199    132    143     43     39      4      3     59    622
   Total   32.0   21.2   23.0    6.9    6.3     .6     .5    9.5  100.0%
```

Chi-Square	Value	DF	Significance
Pearson	38.64112	14	.00041
Likelihood Ratio	40.11033	14	.00025
Mantel-Haenszel test for linear association	10.62836	1	.00111

Number of Missing Observations: 594

6.2 Students' Views of Future Occupations

On the whole students were quite positive, answering 'definitely' or 'most likely' (57.2%) to the question "Do you expect to use your present educational training in your future career or place of employment?" (Q48). A full third of the respondents (34.5%) were undecided and that left less than a tenth (8.3%) expecting to use it little or not at all. Statistically, however,

geography played no apparent role in the formation of this expectation (p. = 0.54761).

Students from Xi'an appeared to be the most flexible or accommodating with regards to their expectations about future employment, when answering the question, "Would you

TABLE 6.5

Location by (Q49) Would you accept job only slightly related to your training?

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Location	Nanjing	73	47	201	110	17	448 37.0%
	Xi'an	101	47	157	71	10	386 31.9%
	Lanzhou	80	51	140	91	15	377 31.1%
	Column Total	254 21.0	145 12.0	498 41.1	272 22.5	42 3.5	1211 100.0%

Chi-Square	Value	DF	Significance
Pearson	19.71408	8	.01147
Likelihood Ratio	19.97012	8	.01045
Mantel-Haenszel test for linear association	3.29137	1	.06965

Number of Missing Observations: 5

accept a job where you would only occasionally use your present training?", by choosing 'definitely' or 'most likely' 38.34% of the time (Table 6.5). Lanzhou's students were close behind with 34.74% and Nanjing last with 26.78% in these positive categories. Indecision was strongest in the east (Nanjing 44.86%) and lowest in the west (Lanzhou 37.13%), with the average at 41.1%. Xi'an's respondents were least negative in this question, answering 'most likely not' or 'definitely not' only 20.89% of the time, which was about 8% less than both Nanjing or Lanzhou (28.25% and 28.1% respectively). In these decisions that the students made geographical location tended to act as a weighty factor (p. = 0.01147).

A partial answer to this situation, maybe that those in the east are located in an area that is undergoing a tremendous social and economic change, therefore their indecision is quite understandable. Xi'an, on the other hand, was still just beginning to feel the effects of the rumblings of this great change, and any job was better than being out of work, no matter the rather unrelatedness.

TABLE 6.6

Location by (Q51) Expectation of whether finding employment will be difficult or not

```
                 |definite Most lik Possibly most lik definite
                 |ly       ely               ely not  ly not
                 |    1   |    2   |    3   |    4   |    5   | Total
        ---------+--------+--------+--------+--------+--------+
         Nanjing |   30   |   29   |  159   |  149   |   77   |  444
Location         |        |        |        |        |        |  37.0%
        +--------+--------+--------+--------+--------+--------+
         Xi'an   |   34   |   19   |   94   |  137   |  101   |  385
                 |        |        |        |        |        |  32.1%
        +--------+--------+--------+--------+--------+--------+
         Lanzhou |   24   |   19   |  100   |  149   |   80   |  372
                 |        |        |        |        |        |  31.0%
        +--------+--------+--------+--------+--------+--------+
          Column     88       67      353      435      258     1201
          Total      7.3      5.6     29.4     36.2     21.5    100.0%
```

Chi-Square	Value	DF	Significance
Pearson	23.20610	8	.00311
Likelihood Ratio	22.90192	8	.00349
Mantel-Haenszel test for linear association	4.99549	1	.02541

Number of Missing Observations: 15

Table 6.6 indicates that geographically, Nanjing as a location had a negative effect on student expectations for finding future employment (p. = 0.00311). While the negative categories, 'definitely' or 'most likely', were much the same for all locations (12.9%), Nanjing had approximately 10 percent more students that were undecided (35.81%), and when the two

positive categories were combined ('most likely not' or definitely not' have trouble finding work), its students were slightly less likely to choose either of these responses by ten percent (50.89%). However, there seemed to be little difference between the Xi'an and Lanzhou in terms of location as a factor (Xi'an reported 13.76% negative, 24.11% undecided, 61.81% positive; Lanzhou reported 11.55% negative, 26.88% undecided, 61.55% positive.).

Students from the east are probably a little more pessimistic on the whole, but also the change that they are experiencing all around them and the ill prepared state they were in to make so many personal choices may account for this. Jiangsu, the geographical context for Nanjing, also tends to be much more avant garde in the experimentation and policies that have risen in the past ten years, and these students have been exposed to not only the successes, but also the excesses and failures.

TABLE 6.7

Location by (Q53) Difficulty in finding satisfying job after graduation

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Location	Nanjing	108	69	222	37	12	448 37.1%
	Xi'an	114	68	151	37	15	385 31.9%
	Lanzhou	112	80	139	35	9	375 31.0%
	Column Total	334 27.6	217 18.0	512 42.4	109 9.0	36 3.0	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	18.22696	8	.01959
Likelihood Ratio	18.03487	8	.02097
Mantel-Haenszel test for linear association	5.10917	1	.02380

Number of Missing Observations: 8

The questionnaire also asked the related question, "Do you think that it will be difficult to find employment in a job of your choice when you finished your studies?" (Q53). At all three locations, students rarely selected 'most likely not' or 'definitely not' (average 12%), reflecting a rather pessimistic view of their chances of finding satisfying employment. In spite of these common choices, geography appears to a strong determinant of student concepts of future employment (p. = 0.01959) as Table 6.7 illustrates.

Regarding those who were undecided, there was a rather clear and gradual shift from east, with Nanjing reporting a high of 50%, to the west, with Lanzhou reporting the low of 37.06%. On the other hand, Lanzhou respondents were the most negative (51.19%) whereas the Nanjing respondents were the least negative (39.5%) about finding a job of their choice.

TABLE 6.8

Location by (Q54) Less difficulty finding satisfying job compared to other programs

		definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Total
Location	Nanjing	55	80	202	89	21	447 37.0%
	Xi'an	31	54	166	112	23	386 31.9%
	Lanzhou	42	75	141	95	23	376 31.1%
Column Total		128 10.6	209 17.3	509 42.1	296 24.5	67 5.5	1209 100.0%

Chi-Square	Value	DF	Significance
Pearson	18.85921	8	.01563
Likelihood Ratio	19.25838	8	.01354
Mantel-Haenszel test for linear association	1.74264	1	.18681

Number of Missing Observations: 7

Nanjing and Lanzhou student tend to be more optimistic about their chances of finding satisfying employment as compared to students in programs other than their own (30.19% and 31.11% respectively). From Table 6.8, we find that these two locations had almost 10% more responses choosing it would 'definitely' or 'most likely' easier, than in Xi'an, where only 22.01% chose these responses. Lanzhou students seemed to be the most definite in decision making, in that they were the least undecided group (37.5%) and those in Nanjing the most (45.19%).

Looking at the negative end of the question, students in the central and western locations were more inclined to think that those in other programs would more easily find satisfying jobs than themselves (Xi'an 34.96% and Lanzhou 31.36%). Nanjing student were the least pessimistic, although, even there 24.51% felt that other who majored in different programs would find more gratifying employment.

Thus, here too, geographical location was confirmed as a strong influence (p. = 0.01563) in the development of expectations.

6.3 Educational Aspirations and Expectations

Table 6.9 shows the answer to the question, "From the list below indicate the highest level of education you want to attain." Here we can see a tempering of aspirations due to geographical location. Though the statistical significance (p. = 0.00733) is not as strong for expectations, still geography plays an obvious factor in the development of academic aspirations.

Overall Nanjing students had lower levels of aspirations for education than the students at the other two locations. Unlike the average (32.3%), Nanjing respondents were more likely to be satisfied with simply graduating from their then-present programs (37.21%). And in like manner, these respondents were below average when desiring post-graduate degrees (54.48%) by more than five percent.

Xi'an led the way in aspirations to obtain Masters or Doctoral degrees (66.66%), by about 7% over the average, and by 12.18% over those in Nanjing. Lanzhou respondents ranked virtually average in all categories, but again higher than Nanjing, except in the desire to obtain a bachelor degree.

TABLE 6.9

Location by (Q29) Highest desired level of education

		some col or univ 1	college grad. 2	univ. gr ad. 3	post-gra d.dgree 4	other 5	Total
Location	Nanjing	2	14	166	243	21	446 36.9%
	Xi'an	3	5	99	258	22	387 32.0%
	Lanzhou	3	4	126	222	22	377 31.2%
Column Total		8 .7	23 1.9	391 32.3	723 59.8	65 5.4	1210 100.0%

Chi-Square	Value	DF	Significance
Pearson	20.93078	8	.00733
Likelihood Ratio	20.95420	8	.00727
Mantel-Haenszel test for linear association	3.77581	1	.05200

Number of Missing Observations: 6

As expected, in Table 6.10, there was a dramatic overall drop between what students aspired to, and what they actually expected for the future, in academic terms. On average, the post-graduate degree category decreased 23.6%, with University graduate, and college graduate categories receiving a majority of responses, indicating more realistic outlooks about further tertiary education.

TABLE 6.10

Location by (Q30) Highest expected level of education

		middle s ch.grad 1	some col or univ 2	college grad. 3	univ. gr ad. 4	post-gra d.dgree 5	other 6	Total
LOCATIONS	Nanjing	1	13	55	223	148	6	446 37.1%
	Xi'an		3	27	176	169	8	383 31.8%
	Lanzhou	1	5	31	207	119	11	374 31.1%
	Column Total	2 .2	21 1.7	113 9.4	606 50.4	436 36.2	25 2.1	1203 100.0%

Chi-Square	Value	DF	Significance
Pearson	29.23084	10	.00114
Likelihood Ratio	29.34737	10	.00109
Mantel-Haenszel test for linear association	3.63581	1	.05655

Number of Missing Observations: 13

Respondents in Xi'an remained the most optimistic in their academic expectations (44.12%), with a drop of only 22%, which explains why they did not increase as much as the average in the other lower categories of choice (p. = 0.0011). Nanjing respondents' answers to this expectation question were much closer to their aspirations, a smaller gap between their hope and what they saw as a real possibility, an indication of career-maturity.

6.4 Students' Plans for Graduate School

TABLE 6.11

Location by (Q45) Do you plan on graduate school in China?

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Location	Nanjing	33	78	207	96	32	446 37.2%
	Xi'an	49	77	189	55	15	385 32.1%
	Lanzhou	31	70	173	77	18	369 30.8%
	Column Total	113 9.4	225 18.8	569 47.4	228 19.0	65 5.4	1200 100.0%

Chi-Square	Value	DF	Significance
Pearson	18.92949	8	.01524
Likelihood Ratio	18.94331	8	.01517
Mantel-Haenszel test for linear association	2.14561	1	.14298

Number of Missing Observations: 16

In general, just slightly less than half of all respondents (47.4%) across geographical lines selected the rather undecided category of 'possibly', when they answered Question 45, "Do you plan to attend post graduate school in China?". Table 6.11, does indicate that, however, that is where the similarity ends. Xi'an student were again most probable respondents to choose the two positive categories, 'definitely' and 'most likely' (32.72%) over their coastal and more hinterland cohorts, which were both below the average of 28.2%. By about 10%, Nanjing students (28.69%) chose these negative option more often than those in Xi'an (18%).

In answer to Question 46, "Do you plan to attend post graduate school <u>outside</u> of China?", only 7.4%, of all students surveyed were actually inclined to plan on going abroad to do graduate work. The vast majority were leaning toward either the undecided category (32.7%) or toward the negative responses (59.8%). The geographical factor proved to be insignificant in this question (p. = 0.06667).

Question 47 asked, " Does enrollment in your university program limit your opportunities to enter particular schools of graduate studies in your field?" To which the average response was 34.1 % 'definitely' or 'most likely', 41.8% 'undecided' and 23.1% 'most likely not' or 'definitely not.' Once more the geographical factor was determined to be insignificant (p. = 0.07437) for the student's aspirations development.

It was the same for the question, "If you continue your education past graduation would you like to study in China? (for a degree or research)" (Q41). So, geographical location proved not to be a factor in the development of educational aspirations (p. = 0.85331).

The factor of geographical location was significant in the choice over whether or not one would remain in the same academic field in post-graduate work (Q42) according to Table 6.12 (p. = 0.000). Students at the eastern location, Nanjing, were the most likely to answer 'definitely' or 'most likely' (55.49%), more than 20 percentage points above Xi'an respondents (35.4%) and 15 percentage points above those in Lanzhou (39.89%). All 'possibly' responses from all locations were very close to the overall average of 25.1%. At the central and western locations of Xi'an and Lanzhou, students were much the same with the negative response 'most likely not' and 'definitely not' (35.92% and 35.89% respectively). In these same combined

categories Nanjing was 14 percentage points less at 21.79%.

TABLE 6.12

Location by (Q42) Would you like post-graduate work in same field?

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Locations	Nanjing	99	148	101	77	20	445 36.9%
	Xi'an	46	90	110	103	35	384 31.9%
	Lanzhou	54	96	91	100	35	376 31.2%
	Column Total	199 16.5	334 27.7	302 25.1	280 23.2	90 7.5	1205 100.0%

Chi-Square	Value	DF	Significance
Pearson	44.94133	8	.00000
Likelihood Ratio	45.57517	8	.00000
Mantel-Haenszel test for linear association	27.76533	1	.00000

Number of Missing Observations: 11

Probably, the main reason for such a difference between the east and the other two locations, is that there are substantially more students were able to receive their original first choice when applying for university.

6.5 Perceived Freedom for Academic and Career Paths

In an attempt to know whether students had access to information that would aid them in making career related decision, we also asked the question, "Are students informed by the university about career options after graduation?" (Q43). In Table 6.13, we find a strong co-relation (p. = 0.00016) between geography and the perception of the degree to which the universities help students by giving career related information.

Students from the three institutes in Nanjing were the most likely (45.27%) to see the universities as rather helpful in this matter, while Xi'an students were almost 15% less likely (31.47%) to see their schools in the same light. In the case of Lanzhou, their response rate in these two categories, 'definitely' and 'most likely' was just half way between the other two locations at 38.66% . In this regard, Xi'an respondents were the least decisive at 57.14% ('possibly') in this regard and Nanjing the most at 47.76%, with

TABLE 6.13

Location by (Q43) Students informed about career options by school

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Location	Nanjing	105	98	214	30	1	448 37.0%
	Xi'an	71	48	216	49	3	387 32.0%
	Lanzhou	90	55	201	26	3	375 31.0%
	Column Total	266 22.0	201 16.6	631 52.1	105 8.7	7 .6	1210 100.0%

Chi-Square	Value	DF	Significance
Pearson	30.67583	8	.00016
Likelihood Ratio	30.19076	8	.00020
Mantel-Haenszel test for linear association	1.75761	1	.18492

Number of Missing Observations: 6

Lanzhou again in between at 53.6%. Looking from the angle that schools were not very helpful by supplying information, respondents in Xi'an were about twice as likely (13.49%) to answer 'most likely not' and 'definitely not', whereas only 6.9% and 7.73% respondents from Nanjing and Lanzhou reported negative feeling about their universities in this matter.

Later students were asked a similar question, "Are student clearly informed by teachers or advisors about career opportunities after graduation?" (Q55) and once more location as shown to be significant (p. = 0.00216) through analysis (Table 6.14).

TABLE 6.14

Location by Q55 Do teachers or advisors inform students about opportunities

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
Location	Nanjing	50	75	228	83	12	448 37.1%
	Xi'an	32	38	189	106	20	385 31.8%
	Lanzhou	36	62	166	99	13	376 31.1%
	Column Total	118 9.8	175 14.5	583 48.2	288 23.8	45 3.7	1209 100.0%

Chi-Square	Value	DF	Significance
Pearson	24.15713	8	.00216
Likelihood Ratio	24.97741	8	.00157
Mantel-Haenszel test for linear association	4.30289	1	.03805

Number of Missing Observations: 7

When moving down from the institutional level, to that of individuals imparting the desired information, the response pattern remained much the same as in Q43. Nanjing (27.84%) and Lanzhou (25.98%) were more apt to consider teachers and advisors as beneficial in acquiring information, compared to Xi'an (18.18%). However, in the category of 'possibly', Nanjing increased to 50.89%, up 3 points, whereas both Xi'an and Lanzhou became more decisive, with Xi'an down 8 points to 49.09% and Lanzhou down

9 at 44.14%. More respondents at all three locations were doubtful that they would receive useful career information from teachers or advisors. There were almost one-fifth more

responses in the categories of 'most likely not' and 'definitely not' from Xi'an (32.72%) and Lanzhou (29.77%), while Nanjing showed only a 15% increase to 21.19%.

As to the extent to which students had real or assumed freedom to choose academic or career paths, location appeared to have limited influence. Across geographical lines, 68.3% of all students responded to the question, "If you were offered a job in a locale where you would have to move away from your parents to work would you accept the position if it interested you?" (Q50), with 'definitely' and 'most likely.' Only 10 percent were inclined to answer 'most likely not' and 'definitely not', with the rest undecided (21.7%). When analyzed as a factor in this decision, geography had low co-relation to the process of selecting interesting employment and relocating away from their parents (p. = 0.40075). Question 52 had a slightly higher co-relation (p. = 0.09631), but still not sufficient to classify location as a significant factor in the process of accepting a position in a larger urban center which meant moving some distance from their parents.

Compared to Q50 with its interest factor, students were slightly less eager to commit themselves to move just to be in a larger center (61.7%), indecision increased 5.5 point to 27.2% and those who would 'most likely not' or 'definitely not' accept jobs under such conditions were about the same at 11.2%. Location did, however, in Question 56 prove to be a strong contributing factor (p. = 0.00000) in the formation of expectations when viewing possibilities of more favourable residence opportunities afforded by their university education (Table 6.15). In answer to the question, "Does the education you have received offer greater opportunity for you to live where you would like in China?", respondents in Nanjing, over all,

had the most positive impression in this matter, 53.01 % answered positively (definitely or most likely), 34.89% were unsure (possibly), and only 12% were negative (most likely not or definitely not). At the other end of the spectrum, Xi'an respondents had the least optimistic outlook (33.24%) in this concern, only 33.24 % answered positively (definitely or most likely), 44.93% were uncertain (possibly), and high of 21.89% were negative (most likely not or definitely not).

TABLE 6.15

Location by (Q56) Does your university education enable choose your residence?

		definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Total
Location	Nanjing	105	132	156	47	7	447 37.0%
	Xi'an	59	69	173	68	16	385 31.9%
	Lanzhou	88	80	134	54	20	376 31.1%
Column Total		252 20.9	281 23.3	463 38.3	169 14.0	43 3.6	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	43.92949	8	.00000
Likelihood Ratio	45.02139	8	.00000
Mantel-Haenszel test for linear association	8.14049	1	.00433

Number of Missing Observations: 8

In the situation for Lanzhou, in all answer categories respondents hovered right around the average, 44.67% answered positively (definitely or most likely), 35.63% were ambivalent (possibly), and 19.66% were negative (most likely not or definitely not).

6.6 Parental Input

As to whether or not students were appraised of their mothers desires for their careers (Q33a), geography proved not to be a significant factor (p. = 0.101). Across geographical lines 54.7% claimed not to know what their mothers had in mind regarding this question.

TABLE 6.16

Location by (Q33b) Career Mothers Want Students to Enter

```
           Occupations (Socio-economic Index for Occupation for PRC)
                 |    1|     2|     3|     4|     5|     8| Total
           ------+-----+------+------+------+------+------+
           Nanjing| 112|    21|    8|     7|    12|     2| 162
Locations        |    |      |     |      |      |      |      37.2%
           ------+-----+------+------+------+------+------+
           Xi'an  | 116|    14|    7|      |     8|     1| 146
                 |    |      |     |      |      |      |      33.6%
           ------+-----+------+------+------+------+------+
           Lanzhou|  84|    22|    8|     9|     4|      | 127
                 |    |      |     |      |      |      |      29.2%
           ------+-----+------+------+------+------+------+
           Column  312    57    23    16    24     3    435
           Total   71.7  13.1   5.3   3.7   5.5    .7  100.0%
```

Chi-Square	Value	DF	Significance
Pearson	18.84984	10	.04221
Likelihood Ratio	24.17025	10	.00716
Mantel-Haenszel test for linear association	.69979	1	.40286

Number of Missing Observations: 781

Despite the fact that 64.27% of the population of this study did not claim to know the hopes of their mothers with regard to their careers, it is still important that we report the responses of the 35.73% that were able to tell of their mothers specific desires. In Table 6.16, we find almost 80% (79.45%) of the Xi'an available responses were indicating that mother wanted their children to enter professions that were within the Intellectual category (1). This amount was 16% greater than those respondents reported in Lanzhou and 10% more than their Nanjing counterparts, and verified by a statistical significance of p. = 0.0422. Lanzhou students'

response showed that their mothers' choices for them were first Leading Cadre (2) (17.3), the Business\Entrepreneur (3) (6.2%) and the Officer worker (4) (7.0%) categories. Nanjing ranked in between Xi'an and Lanzhou on every category except the Skilled Worker (5) category, where they were highest at 7.0%.

The bottom categories of the index, Factory\Unskilled Workers (6), Peasant\Farmer (7), Military (8) and Housewife (9), were either never chosen or there were so few responses in these categories (<5) that we will not report those findings here.

As was with the case of the mother's specific desires, we found no significant difference (p. = 0.36957) between the three locations when we analyzed the responses to the question "Do you know what career plans your father would like you to have? (Q36). (However, it is notable that 51.5% of all respondents said they knew their father's desires.)

6.7 Summary of Results

When location was taken into consideration, Nanjing responses regarding desired occupation ranked the highest overall on the index, choosing the two top categories, Intellectual (1) and Leading Cadre (2). Lanzhou followed a similar pattern, but also there was a greater proportion of other careers that students aspired to, and Business\Entrepreneur (3) ranked second. Xi'an respondents seemed to break with the other two locations by choosing Business\Entrepreneur (3) as their first desire, followed by the Intellectual (2) category. So there appears to be a direct geographical co-relation confirming the idea of center-periphery model.

The situation is rather different as far as expectations of reality are concerned, for here we find that Xi'an responses are higher on the index than those of the other locations. This could be an indication of a trend in the shift away from a high valuation of intellectual category jobs (which used to be relatively high pay, security, and status), toward the entrepreneurial category (where one could expect to be rewarded more in line with one's effort). That is to say, that the prized position that the intellectual category has held in the past, because of its ability to connect its holders with influential individuals and therefore relatively lucrative circumstances, was challenged by the leading cadre category (2) under the ascension of the communist regime, and now by the once spurned business\entrepreneur category (3) of professions.

Just less than half of all respondents had definitely planned on attending graduate school, and about one quarter had planned not to attend. Here, Xi'an respondents were far more likely to have positive plans in this regard than either the coast or deep hinterland. However, those students in the center, at Xi'an, and the hinterland, at Lanzhou were between 15-20% more likely to want to change their major, if they were admitted to a graduate program. Not even 10% thought it likely that they would attend graduate school abroad, and as well, only 25% had an optimistic view pertaining to the opportunities afforded by their major in relation to post-graduate school acceptance, and these trends were not influenced by geographical location of the school.

Across geographical lines, over half of all participants expected to use their education in their future occupations, and less than 10% were negative in this regard. However, when it came

to considering whether one would accept a position only slightly related to one's major, it was Xi'an respondents that proved the most flexible, though even Lanzhou respondents were more so than their Nanjing counterparts. This could have been due to the fact those in the interior and hinterland expected that such a stance would be necessary, while on the coast it was probably not.

Related to this was the idea of whether it would be difficult to find employment after graduation. Nanjing students were less optimistic than those students at the other two locations in this matter, probably due to the new competitive economic and social atmosphere on the coast. Though when we become more specific and refer to 'satisfying' jobs, students at all locations were clearly more pessimistic, with great indecision on the coast, turning to an increasingly negative outlook as one moved west.

When students were asked to consider their chances of finding employment compared with students of other majors, Nanjing students were by far the least likely to be able to decide whether or not they would have better chances than those studying in other majors. Lanzhou students were the most mature in this matter and were very able to say whether their employment opportunities compared with graduates from other majors were better or worse.

Throughout the analysis, it appears that Lanzhou respondents seem to be the most mature in the decision making process, that is consistently fewer students from that location answered 'possibly' compared to students at the other locations.

In all responses more than half could state whether or not the universities were at all helpful

purveyors of career information, but again Nanjing and Xi'an seem to be at opposing viewpoints, Nanjing positive and Xi'an negative in this case. The configuration remained similar when considering the role of teachers and advisors as bearers of career information, only more negative.

In Nanjing and Lanzhou, students were generally more optimistic about their opportunities than students in Xi'an. This was particularly true when students were asked to consider whether a university education would enable them to have greater freedom to live where the would like.

In line with most other national studies, the more industrialized center, Nanjing, closer to the geo-political center, showed clear higher aspirations and expectations in most respects. Unexpectedly, however, Lanzhou, long considered one of China's Siberia, and therefore considered on the extreme periphery, was closer in many respects than Xi'an. Xi'an respondents seemed more apt to choose the newer, or more lately acceptable Business\Entrepreneur (3) category, though it had been expected that Nanjing student who were only four hours from Shanghai, would have chosen this more often. It was also very evident that the location of the universities had greater influence over student expectations and aspirations than did the size of their place of permanent residence or their home province[2].

To make a connection with Zhang's 1987 study of Beijing students, unlike the Beijing case, there seems to be no strong attraction to hold these university students in their parent's locale. Just under three quarters of all respondents were very positive about any move to a larger

urban center, which as we have said before would be a step up the social ladder for the individual in question and their parents.

Geography, if the number of statistically significant cross-tabulations is any indication, would seem to be far more important to the overall development of students expectations and aspirations than was the case for family background.

Notes:

1.   It is commonly acknowledged in China that the further one's location from Beijing the political center, the less draw and influence, politically, one tends to encounter.

There is an ancient saying that is often quoted and typifies this concept. It is attributed to some peasant in a remote place in China.
"The Emperor lives in Beijing. What is that to me?"

2.   When tests were run to check the statistical significance of place of permanent residence (i.e., metrocenter, city, county town or village) and home province as influences in the make up of expectations and aspirations regarding future careers, there were no co-relations, except when home province was analyzed for its influence over career expectations. These findings, however, were not statistically strong, and there were many cells (90%) in the table that had fewer than five responses (because 85% of the respondents were from the three target provinces), so we decided not to include that table.

CHAPTER VII

ADMINISTRATIVE LEVEL OF INSTITUTIONS

Do the academic and career aspirations or expectations of students differ between universities under the three different levels of government administration? If a difference exists, what is the pattern of the difference?

We expected that differences in universities under different levels of governmental administration would be reflected in students' aspirations by educational and occupational choice. It was expected that students from schools of higher level administrative levels would aspire to continue their education and obtain more prestigious occupations. It was also expected that students from municipal level institutions would reflect a desire to remain closer to that municipality, and that these students would be less likely to aspire to further higher education opportunities, as well as higher level career goals.

As we have mentioned before, the nine universities that were involved in this study were drawn from three different levels of government. Those under the national level (I) of administration, or the State Education Commission (SEdC) (Zhongguo guojia jaoyu weiyuanhui), Nanjing University, Shaanxi Normal University in Xi'an and Lanzhou University

are institutions that have more resources at their disposal, better facilities, and therefore a higher level of prestige, all of which tend to draw students of higher calibre. It is possible to find students at these types of institutions coming from all parts of the nation as it is part of the national enrolment process and policy that the best students, from poorer regions, should be given opportunity to study in national level institutions. However, as we have already seen most of the students in this study come from the province in which they are studying. From the results of the national entrance exams, the top ranking universities have the first opportunity to choose the best candidates nation wide.

At the provincial level (II), educational commissions (jiaoyu weiyuanhui) also manage institutions within their geographical sphere, and in this study those are Nanjing Normal University under the Jiangsu Provincial Education Commission, Northwest University in Xi'an under the Shaanxi Provincial Education Commission and Northwest Normal University in Lanzhou under the Gansu Provincial Education Commission. These universities have fewer resources, lower prestige and generally students who are at a moderately lower level in the national unified exam results. Students at this level come only from the province in question and are more likely to be from the rural areas of those provinces than is the case at either of the other two levels.

Each municipality (III) involved with this study also has their own higher education institutions that they manage through municipal education bureaus (jiaoyu ju). Jinling Vocational University is managed by Nanjing city, Xi'an United University was under the Xi'an municipal government, and Gansu United University was managed by the Lanzhou municipality. These

institutions relatively new and they enroll students mainly from their own municipality. Table

7.0 shows the number of students and institutions at each level nationwide.

TABLE 7.0

Institutional Level by Number of Institutions and National Enrolment

Level		No. of Instit.	Enrolment
National I		354	889,797
Provincial II		607	1,090,406
Municipal III		114	63,459
Totals		1075	2,043,662

(Source: Educational Statistics Yearbook of China 1991-1992, p. 22) [1]

7.1 ADMINISTRATIVE LEVEL OF UNIVERSITIES

We had expected a much lower proportion of females at the provincial level institutions due

to the fact that more of the student population was from rural areas, where fewer females are

expected to attend university or college. Table 7.1, however, shows us that there was an

increasing proportion of females as one moves down to the lower level institutions, but the

difference between the national level (40.7%) and the municipal level (42.0%) was only 1.3%,

with the provincial just in the middle (41.2%). These figures are considerably above the

national statistics for that period (33.3%).

TABLE 7.1

Administrative Level by (Q9) Gender

```
                |male       female
                |     1   |      2   | Row Total
LEVEL      ---------+---------+---------+
        I       |   201   |   138   |   339
       Nat.     |  59.3   |  40.7   |    28.0%
                +---------+---------+
       II       |   281   |   197   |   478
      Prov.     |  58.8   |  41.2   |    39.4%
                +---------+---------+
      III       |   229   |   166   |   395
    Municip.    |  58.0   |  42.0   |    32.6%
                +---------+---------+
     Column         711       501      1212
     Total          58.7      41.3     100.0%
```

Number of Missing Observations: 4

7.2 Students' Occupational Expectations and Aspirations

Clearly from Table 7.2 we can see that better than 90% of all respondents across the three

levels expected occupations within top half of the index (1-4) and less than 10% from all levels

were expecting to work in the lower four categories. (We were not able to comment, from a

statistical point of view, as to whether this was significant since slightly more than a third of

the cells contain fewer than five responses under the lower occupational categories. However,

the descriptive value remains.)

TABLE 7.2

Administrative Level by (Q23) Students' Expected Occupations

```
                  Expected Occupation
                 |                                                              Row
                 |    1|     2|     3|     4|     5|     6|     7|     8| Total
LEVEL      -------+------+------+------+------+------+------+------+------+
   I       |   194|    56|    33|    17|     4|     1|     1|     5|   311
           |  62.4|  18.0|  10.6|   5.5|   1.3|    .3|    .3|   1.6|   27.7%
           +------+------+------+------+------+------+------+------+
   II      |   340|    42|    24|    20|    11|     1|      |      |   438
           |  77.6|   9.6|   5.5|   4.6|   2.5|    .2|      |      |   39.0%
           +------+------+------+------+------+------+------+------+
   III     |   166|    82|    37|    55|    27|     1|     3|     2|   373
           |  44.5|  22.0|   9.9|  14.7|   7.2|    .3|    .8|    .5|   33.2%
           +------+------+------+------+------+------+------+------+
  Column       700    180     94     92     42      3      4      7   1122
  Total       62.4   16.0    8.4    8.2    3.7     .3     .4     .6  100.0%
```

Number of Missing Observations: 94

Levels I and II were markedly higher in choosing the Intellectual (1) category by between 18% and 33%, respectively. In other words, the municipal level (III) was almost one-fifth lower in the average response rate in this category. This third level's students were, however, the most likely (22.0%) to expect to receive job assignments in the Leading Cadre (2) category, compared with Level I students at 18.0% and Level II at 9.6%. Levels I and III were almost the same in the response rate of just 1 or 2% over the average of 8.4%, when expecting to be involved in Business\Entrepreneurial (3) type of work, while Level II was about 3% under the average. As was assumed, in the categories of Office Worker (4) and Skilled Labourer (5), the municipal level (III) was the group to respond most positively (22.2% combined) to these categories, with the national (I) and provincial (II) responding to these categories only one-third as much (6.8 and 7.4%).

TABLE 7.3

Administrative Level by (Q31) Students' Desired Occupations

```
        Desired Occupation
        |                                                              Row
        |   1|    2|    3|    4|    5|    6|    7|    8| Total
LEVEL   ----+-----+-----+-----+-----+-----+-----+-----+-----+
   I    | 182|   45|   47|    9|    6|    1|    1|   16|  307
        | 59.3| 14.7| 15.3|  2.9|  2.0|   .3|   .3|  5.2|  27.3%
        +-----+-----+-----+-----+-----+-----+-----+-----+
   II   | 300|   37|   53|   20|   14|    3|    2|   20|  449
        | 66.8|  8.2| 11.8|  4.5|  3.1|   .7|   .4|  4.5|  39.9%
        +-----+-----+-----+-----+-----+-----+-----+-----+
   III  | 208|   51|   43|   26|   19|    |    |   23|  370
        | 56.2| 13.8| 11.6|  7.0|  5.1|    |    |  6.2|  32.9%
        +-----+-----+-----+-----+-----+-----+-----+-----+
 Column   690   133   143    55    39     4     3    59  1126
 Total    61.3  11.8  12.7   4.9   3.5    .4    .3   5.2 100.0%
```

Number of Missing Observations: 90

The desired occupation (Table 7.3) responses were wider in scope than expected occupations, in that they stretched further into the lower half of the index designed for this study. In particular, we found that on average about 5% more from each level would choose positions within the military (8) if they had the freedom to do so. There was also increases in the numbers who would choose Business\Entrepreneur (3) positions in Levels I by 4.7%, II by 6.3% and III by 1.7%.

Another phenomenon observed was that although Level III responses about desired occupations showed an expected increase (12%) over expectations with regard to the Intellectual category (1), both Levels I and II showed decreased response rates (down 3.1% and 10.6%) for this same category in the desired occupation question.

7.3 Parental Aspirations for Students

The higher the level of the university, the more likely it is that students would have a

knowledge of their mothers' desires regarding the student's future occupation (Table 7.4).

Even then, at Level I institutions, only 50% of respondents knew what their mothers had hoped

they would do for work. Level II respondents were only slightly less knowledgable at 48%.

The least likely to respond positively to this question were the Level III students, at between

10 and 12% below the other levels. Statistically, this is significant (p. = 0.00173).

The fact that the Level III respondents were not only the least likely to know their mothers'

thoughts on the students' future careers, and that these same respondents had the lowest level

of career expectations, would lead one to ask, "Is there a link between a low level of

knowledge of parental desires regarding students careers and low career aspirations on the part

of students?"

TABLE 7.4

Administrative Level by (Q33A) Students' knowledge of mothers' desires

```
               Q33A
                    |yes        no
                 |    1    |    2    | Row Total
LEVEL           ---------+---------+---------+
        I        |   169   |   169   |   338
                 |   50.0  |   50.0  |    28.0%
                 +---------+---------+
        II       |   228   |   247   |   475
                 |   48.0  |   52.0  |    39.4%
                 +---------+---------+
        III      |   150   |   244   |   394
                 |   38.1  |   61.9  |    32.6%
                 +---------+---------+
        Column       547       660      1207
        Total        45.3      54.7     100.0%
```

Chi-Square	Value	DF	Significance
Pearson	12.71875	2	.00173
Likelihood Ratio	12.80972	2	.00165
Mantel-Haenszel test	10.88690	1	.00097

Number of Missing Observations: 9

In spite of the high number of students who said they had knowledge of their mothers' desires,

only 36% were able to articulate exactly what that desire translated into on the occupational index in Q33 (Table 7.5). Level III students, who were less likely to know their mothers' wishes, were also the ones most likely to have mothers with the lowest aspirations. That is, they indicated that their mothers were more likely to choose careers lower down the occupational index than mothers in either Levels I or II. According to Level 1 students their mothers' were more likely to want their sons and daughter in politically related and business type professions. Because mothers' aspirations for their children tended to be in the upper half of the occupational index, there were 27.8% of the cells in this table that had minimal response rates.

TABLE 7.5

Administrative Level by (Q33b) Careers Mothers Wanted for Students

		Occupational Categories						
LEVEL		1	2	3	4	5	8	Row Total
I		91	22	11	1	6		131
		69.5	16.8	8.4	.8	4.6		30.1%
II		135	22	5	10	4	1	177
		76.3	12.4	2.8	5.6	2.3	.6	40.7%
III		86	13	7	5	14	2	127
		67.7	10.2	5.5	3.9	11.0	1.6	29.2%
Column		312	57	23	16	24	3	435
Total		71.7	13.1	5.3	3.7	5.5	.7	100.0%

Chi-Square	Value	DF	Significance
Pearson	25.44281	10	.00457
Likelihood Ratio	26.57649	10	.00304
Mantel-Haenszel test for linear association	4.82378	1	.02807

Minimum Expected Frequency - .876
Cells with Expected Frequency < 5 - 5 OF 18 (27.8%)
Number of Missing Observations: 781

While it was statistically significant that students at different levels of institution knew their mothers' desires regarding the students' future careers, even with the same response rate with

reference to the fathers' desires, it was proven (Table 7.6) that simply by knowing a student's institutional level could not help you predict whether or not a student was aware of their fathers' desires for their career (p. = 0.22618).

However, we will mention that students at Levels I and II (53%+) were knowledgable of their fathers' desires, while Level III students were only slightly less knowledgable (48.0%).

TABLE 7.6

Administrative Level by (Q36) Students' Knowledge of fathers' desires

	Q36 yes 1	no 2	Row Total
LEVEL			
I	181	158	339
	53.4	46.6	28.1%
II	253	223	476
	53.2	46.8	39.4%
III	188	204	392
	48.0	52.0	32.5%
Column	622	585	1207
Total	51.5	48.5	100.0%

Chi-Square	Value	DF	Significance
Pearson	2.97287	2	.22618
Likelihood Ratio	2.97253	2	.22622
Mantel-Haenszel test for linear association	2.26514	1	.13231

Number of Missing Observations: 9

7.4 Students' views of future occupations

As it may be remembered, there was a relationship between parental occupation and the expectation of whether or not a student would use their education in the future. Table 7.7 shows us that the relationship between administrative level and the same expectation, just mentioned, is at best marginal (p. = 0.05133). Neither was there a clear pattern or trend

between levels among responses that would help us to interpret the data. Across levels, 57.2%

of students responded positively, 34.5% were undecided, and on average only 8.3% thought

they might not or would not use their education in their work.

TABLE 7.7

Administrative Level by (Q48) Students' use of higher education in occupation

LEVEL	Q48 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	119 / 35.2	68 / 20.1	124 / 36.7	24 / 7.1	3 / .9	338 / 28.0%
II	197 / 41.5	90 / 18.9	140 / 29.5	35 / 7.4	13 / 2.7	475 / 39.3%
III	147 / 37.2	70 / 17.7	153 / 38.7	18 / 4.6	7 / 1.8	395 / 32.7%
Column Total	463 / 38.3	228 / 18.9	417 / 34.5	77 / 6.4	23 / 1.9	1208 / 100.0%

Chi-Square	Value	DF	Significance
Pearson	15.42863	8	.05133
Likelihood Ratio	15.95157	8	.04308
Mantel-Haenszel test for linear association	.06525	1	.79839

Number of Missing Observations: 8

Likewise, in response to Question 49, "Would you accept a job only slightly related to your

present training?," the responses from the three levels were very close to each other, which did

not indicate any relationship between Level of Administration and the student views on this

question (Table 7.8). One-third (33.0%) of all levels saw it as likely that they would accept

positions only remotely related to their education, 41.1% were unsure, and 26.0% tended to

think that they would not accept such positions. Statistically, there was no significant value

to this relationship (p. = 0.11718).

TABLE 7.8

Administrative Level by (Q49) Acceptance of a job only slightly related to Students' Education

LEVEL	Q49 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	65 19.1	52 15.3	145 42.6	70 20.6	8 2.4	340 28.1%
II	95 20.0	50 10.5	189 39.7	123 25.8	19 4.0	476 39.3%
III	94 23.8	43 10.9	164 41.5	79 20.0	15 3.8	395 32.6%
Column Total	254 21.0	145 12.0	498 41.1	272 22.5	42 3.5	1211 100.0%

Chi-Square	Value	DF	Significance
Pearson	12.84814	8	.11718
Likelihood Ratio	12.68048	8	.12333
Mantel-Haenszel test for linear association	.16920	1	.68082

Number of Missing Observations: 5

TABLE 7.9

Administrative Level by (Q51) Will finding employment be difficult?

LEVEL	Q51 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	24 7.1	19 5.6	100 29.6	127 37.6	68 20.1	338 28.1%
II	29 6.2	22 4.7	123 26.1	181 38.4	116 24.6	471 39.2%
III	35 8.9	26 6.6	130 33.2	127 32.4	74 18.9	392 32.6%
Column Total	88 7.3	67 5.6	353 29.4	435 36.2	258 21.5	1201 100.0%

Chi-Square	Value	DF	Significance
Pearson	13.46298	8	.09688
Likelihood Ratio	13.41662	8	.09830
Mantel-Haenszel test for linear association	2.67811	1	.10174

Number of Missing Observations: 15

It is not surprising then, that few (12.9%) respondents envisioned much difficulty finding employment after graduation (Q51). In fact, we found that 57.7% were expecting few, if any, obstacles to locating work. However, almost a third (29.4%) of all students were uncertain about the degree of difficulty that they would encounter. Once again, Table 7.9 shows there was not significant statistical value (p. = 0.09688) to this relationship.

TABLE 7.10

Administrative Level by (Q53) Will finding a satisfying job be difficult?

LEVEL		Q53 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
	I	85 24.9	65 19.1	148 43.4	33 9.7	10 2.9	341 28.2%
	II	138 29.2	93 19.7	194 41.1	37 7.8	10 2.1	472 39.1%
	III	111 28.1	59 14.9	170 43.0	39 9.9	16 4.1	395 32.7%
Column Total		334 27.6	217 18.0	512 42.4	109 9.0	36 3.0	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	8.62774	8	.37467
Likelihood Ratio	8.74628	8	.36415
Mantel-Haenszel test for linear association	.01420	1	.90516

Number of Missing Observations: 8

Table 7.10 showed the response rates from all three levels were very close to the average totals for each response. It is still interesting to note that only 12% of the students were rather hopeful about finding satisfying work, and 45.6% of all respondents were more inclined to see difficulties ahead. There was, though, a large group (42.4%) of students who were ambivalent about the prospects. As most of the other questions in this section, there was a lack of statistical value to show any relation between administrative level and students' views of

locating a fulfilling position (p. = 0.37467).

TABLE 7.11

Administrative Level by (Q54) Will finding satisfying work, compared to other majors, be difficult?

LEVEL	Q54	definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I		31	62	139	96	12	340
		9.1	18.2	40.9	28.2	3.5	28.1%
II		55	74	203	111	31	474
		11.6	15.6	42.8	23.4	6.5	39.2%
III		42	73	167	89	24	395
		10.6	18.5	42.3	22.5	6.1	32.7%
Column Total		128 10.6	209 17.3	509 42.1	296 24.5	67 5.5	1209 100.0%

Chi-Square	Value	DF	Significance
Pearson	8.94058	8	.34733
Likelihood Ratio	9.22283	8	.32385
Mantel-Haenszel test for linear association	.26662	1	.60561

Number of Missing Observations: 7

Repeatedly, we have seen, when it comes to students' views of future occupations, that their perceptions are very similar from one administrative level to another, and Table 7.11 bears out this same tendency. When asked to compare their level of difficulty in finding satisfying work with students of other majors, the largest group (42.1%) were those who were undecided about this matter. At the positive end, 27.9% reported that they felt they would have less trouble than those of other majors, and at the negative, 30% foresaw more difficulty than their counterparts. While Level III appeared to be slightly more optimistic in this respect, once more, there was no significant relationship between the concept under examination and Question 54.

7.5 Students' Aspirations and Expectations about Education

There appeared to be little difference between the National (I) and Provincial (II) levels' response rates regarding their aspirations for education, in that about 65% of respondents from these two level desired to attain post-graduate degrees, and only approximately 27.5% reported that they would be satisfied with an undergraduate degree (Table 7.12). The municipal level (III) respondents were at least twice as inclined, as those from other levels, to be satisfied with just attending some higher education institution (1.3 %), or obtaining a college certificate (3.8%). Level III was also more likely (41.3%) to find it satisfying to only earn an undergraduate degree by 9% over the average in this response category. They were also significantly lower (49.4%) than Levels I and II by about 15%, or about 10% below the average response, when it came to the post-graduate degree category. In this case, the level of administrative level of the university proved to be significant in its influence on students academic aspirations (p. = 0.00000)

TABLE 7.12

Administrative Level by (Q29) Students' highest desired level of education

	Q29 some col or univ 1	college grad. 2	univ. gr ad. 3	post-gra d.dgree 4	other 5	Row Total
LEVEL						
I	1 .3	4 1.2	92 27.1	221 65.0	22 6.5	340 28.1%
II	2 .4	4 .8	136 28.6	307 64.6	26 5.5	475 39.3%
III	5 1.3	15 3.8	163 41.3	195 49.4	17 4.3	395 32.6%
Column Total	8 .7	23 1.9	391 32.3	723 59.8	65 5.4	1210 100.0%

Chi-Square	Value	DF	Significance
Pearson	41.40205	8	.00000
Likelihood Ratio	40.20539	8	.00000
Mantel-Haenszel test	28.48681	1	.00000

Realism would seem to be a word that would accurately describe the students' responses in relation to their expected highest level of educational attainment (Table 7.13). In the post-graduate degree category, all three levels' expectation responses are about 20% lower than their aspirations for education. Levels I and II, gained this response change in the university graduate category on an average of about 24% or more. Level III only increased by about 10% in this same category, but made its biggest increase (15%) where its respondents reported they expected only to acquire college certificates. We were able to do more than to merely describe this situation, because though there was a small minimum expected frequency (.559) with the first cross tabulation, once we collapsed the 'middle school grad'.(1) response into 'some college or university' (2) category, the minimum expected frequency increased to 6.424 and the degree of freedom to 8 in the Pearson test, which in effect made the significance figure valid (p. = 0.00000).

TABLE 7.13

Administrative Level by (Q30) Students' highest expected level of educational attainment

LEVEL		Q30 some col or univ 2	college grad. 3	univ. gr ad. 4	post-gra d.dgree 5	other 6	Row Total
1		4 1.2	18 5.4	147 43.8	156 46.4	11 3.3	336 27.9%
2		3 .6	21 4.4	257 54.2	183 38.6	10 2.1	474 39.4%
3		16 4.1	74 18.8	202 51.4	97 24.7	4 1.0	393 32.7%
Column Total		23 1.9	113 9.4	606 50.4	436 36.2	25 2.1	1203 100.0%

Chi-Square	Value	DF	Significance
Pearson	103.74810	8	.00000
Likelihood Ratio	99.88497	8	.00000
Mantel-Haenszel test for linear association	72.04976	1	.00000

Minimum Expected Frequency -   6.424
Number of Missing Observations: 13

7.6 Students' Visions for Graduate School

Responding to the question, "If you continue your education past graduation would you like to go to graduate school in China?" (Q41), students did not appear to be influenced by the level of administration of the institutions (p. = 0.40420) according to Table 7.14. Therefore, we will only describe the average response from all levels for each category.

59.9% of respondents from all levels were clear that they aspired to study in graduate school if it were possible to do so, and a mere 13.8% had little or no inclination in this direction. Slightly less than one-third (26.3%) were rather reticent about the matter at the time of the survey, answering that they would 'possibly' like to.

TABLE 7.14

Administrative Level by (Q41) Students' desire for grad school in China?

LEVEL		Q41 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I		56	136	95	39	10	336
		16.7	40.5	28.3	11.6	3.0	28.0%
II		102	195	111	55	13	476
		21.4	41.0	23.3	11.6	2.7	39.6%
III		66	165	110	35	14	390
		16.9	42.3	28.2	9.0	3.6	32.4%
Column Total		224	496	316	129	37	1202
		18.6	41.3	26.3	10.7	3.1	100.0

Chi-Square	Value	DF	Significance
Pearson	8.30561	8	.40420
Likelihood Ratio	8.34078	8	.40091
Mantel-Haenszel test for linear association	.18777	1	.66477

Number of Missing Observations: 14

Although aspirations about graduate school were not significantly influenced by the factor of institutional administrative level, on the other hand, the expectations in this respect were (p. = 0.0000). Table 7.15 reveals that though the expectations are not exactly geared to the notion that the higher the level of institution, the higher the expectations, still there is a co-relation between the lowest level and the lowest expectations. Affirmative responses (19.7%) from municipal level institutions (III) were more than 10% below either the same response rates of Levels I (30.5%) or II (33.6%). This left an overall average of 28.2% who were expecting to go to graduate school. Respondents who were not likely to, or did not plan on graduate school in Levels I (20.5%) and II (19.9%) were about 5% under the average negative response.

TABLE 7.15

Administrative Level by (Q45) Students' plans for Grad school in China

LEVEL	Q45 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	43 12.7	60 17.8	166 49.1	57 16.9	12 3.6	338 28.2%
II	48 10.2	110 23.4	219 46.5	74 15.7	20 4.2	471 39.3%
III	22 5.6	55 14.1	184 47.1	97 24.8	33 8.4	391 32.6%
Column Total	113 9.4	225 18.8	569 47.4	228 19.0	65 5.4	1200 100.0%

Chi-Square	Value	DF	Significance
Pearson	40.96271	8	.00000
Likelihood Ratio	40.64476	8	.00000
Mantel-Haenszel test for linear association	25.25008	1	.00000

Minimum Expected Frequency - 18.308
Number of Missing Observations: 16

Level III students (33.2%) responded well above the average in this negative category by almost 10%. Just under 50% of all responses at each level were unable to make a clear decision at that time. This table also revealed that about 20% of all students at each of the levels had reconciled themselves to the fact that though they would like to attend graduate school, but that there was as yet insufficient reason for them to confidently make plans for post-graduate work.

The largest group of students, more than half, across administrative levels, did not expect to go abroad for graduate studies (59.8%), practically another third (32.7%) had not made any plans for or against, and less than a tenth (7.7%) had made plans to study abroad, according to Table 7.16.

TABLE 7.16

Administrative Level by (Q46) Student's plans for graduate school outside of China

LEVEL	Q46 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	7 / 2.1	16 / 4.7	113 / 33.2	131 / 38.5	73 / 21.5	340 / 28.2%
II	14 / 3.0	22 / 4.6	166 / 35.0	164 / 34.6	108 / 22.8	474 / 39.4%
III	12 / 3.1	18 / 4.6	115 / 29.5	139 / 35.6	106 / 27.2	390 / 32.4%
Column Total	33 / 2.7	56 / 4.7	394 / 32.7	434 / 36.0	287 / 23.8	1204 / 100.0%

Chi-Square	Value	DF	Significance
Pearson	6.58095	8	.58244
Likelihood Ratio	6.59580	8	.58080
Mantel-Haenszel test for linear association	.93916	1	.33249

Minimum Expected Frequency - 9.319
Number of Missing Observations: 12

From the statistical analysis, we found that the level of administration that the students' home institutions were managed by played no significant role in the development of this expectation (p. = 0.58244).

Another cross tabulation, Table 7.17, proved that the relationship between administration level and students' aspiration for participation in graduate research in the same field was not statistically significant, when this study was undertaken (p. = 0.16766).

TABLE 7.17

Administrative Level by (Q42) Students' desire to do graduate research in same field

LEVEL	Q42 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
I	49 14.5	107 31.6	85 25.1	72 21.2	26 7.7	339 28.1%
II	88 18.5	131 27.5	125 26.3	103 21.6	29 6.1	476 39.5%
III	62 15.9	96 24.6	92 23.6	105 26.9	35 9.0	390 32.4%
Column Total	199 16.5	334 27.7	302 25.1	280 23.2	90 7.5	1205 100.0%

Chi-Square	Value	DF	Significance
Pearson	11.65831	8	.16711
Likelihood Ratio	11.56112	8	.17189
Mantel-Haenszel test for linear association	2.18853	1	.13904

Minimum Expected Frequency - 25.320
Number of Missing Observations: 11

Not differing much from level to level, a substantial number of all students (44.2%), participating in this study, were rather inclined to want to do research in the same discipline that they were the enrolled in. The second largest group (30.7%) were students who were not

inclined to continue in the same major if they were to continue on to graduate school. In this matter, students were the least undecided (25.1%) of all the questions in this section of the analysis, indicating that possibly the major they were studying was somewhat influential in the make up of aspirations. (In the next chapter we will explore this question more.)

A quick review of the previously discussed cross tabulations will reveal that most of the statistically establishable relationships are between the factor under question and the expectations that students had about future academic or occupational participation by the students. Aspirations were not, as far as we could detect, influenced by the institutes' administrative level.

In Table 7.18 is the typical example of responses that this researcher had expected from the influence of the factor of administrative level. As one moves up through the levels it is easy to detect a diminishing degree of pessimism about the possibilities that students' majors provide them. More exactly, 43.6% of the municipal level (III) respondents had a serious doubt about their chances for enrolment in graduate school, which was reduced to 32.4% among provincial level (II) respondents, and shrunk even further to only 25.5% among respondents at the national level (I). Looking at the same issue from the positive angle, again, only 18.1% of students from Level III responded by saying they saw few, or no limitations within their programs that would hinder their acceptance in graduate school, while 6% more responded in this way from Level II (24.1%), and the most optimistic students were from Level I (31.2%). In spite of these clear difference over the levels, there was also a great similarity in the area of indecision, in that from all levels 41.8% of the students were unsure

in this concern.

TABLE 7.18

Administrative Level by (Q47) Does your program limit graduate opportunities?

```
         Q47
         |definite Most lik Possibly most lik definite
         |ly       ely               ely not  ly not    Row
         |      1 |      2 |      3 |      4 |      5 | Total
LEVEL    ---------+--------+--------+--------+--------+
   I     |     47 |     39 |    146 |     67 |     38 |   337
         |   13.9 |   11.6 |   43.3 |   19.9 |   11.3 |  28.3%
         +--------+--------+--------+--------+--------+
   II    |     76 |     75 |    202 |     71 |     41 |   465
         |   16.3 |   16.1 |   43.4 |   15.3 |    8.8 |  39.1%
         +--------+--------+--------+--------+--------+
   III   |    109 |     60 |    149 |     39 |     31 |   388
         |   28.1 |   15.5 |   38.4 |   10.1 |    8.0 |  32.6%
         +--------+--------+--------+--------+--------+
 Column       232      174      497      177      110    1190
 Total       19.5     14.6     41.8     14.9      9.2   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	41.06726	8	.00000
Likelihood Ratio	40.35171	8	.00000
Mantel-Haenszel test for linear association	30.74123	1	.00000

Minimum Expected Frequency - 31.151
Number of Missing Observations: 26

7.7 Students' Views on Career Information

Uncertainty about the helpfulness of their universities, concerning career information, pervaded all three levels of institutions (52.1%), but seemed to increase as one descends through the levels (Table 7.19). From a positive perspective, 44.3% of Level 1 students felt their institutions provided adequate information, while there were 38.4% at Level II and 34.0% at Level III. And too, at the national level (I) only 7.4% said the university was most likely not to inform students of career options. At the provincial level (II) this was negative at 8.8%, and 11.5% among the municipal level (III) respondents.

This clear differentiation between the levels, though in some categories the differences are as much as 10%, was still insufficient to be of value statistically (p. = 0.13239).

TABLE 7.19

Administrative Level by (Q43) Do universities inform students about career options?

```
               Q43
               |definite Most lik Possibly most lik definite
               |ly      ely               ely not ly not   Row
               |    1   |    2   |    3   |    4   |    5   | Total
LEVEL          --------+--------+--------+--------+--------+
       1       |    83  |    67  |   164  |    25  |        |    339
               |  24.5  |  19.8  |  48.4  |   7.4  |        |   28.0%
               +--------+--------+--------+--------+--------+
       II      |   103  |    80  |   251  |    39  |     3  |    476
               |  21.6  |  16.8  |  52.7  |   8.2  |    .6  |   39.3%
               +--------+--------+--------+--------+--------+
       III     |    80  |    54  |   216  |    41  |     4  |    395
               |  20.3  |  13.7  |  54.7  |  10.4  |   1.0  |   32.6%
               +--------+--------+--------+--------+--------+
       Column      266      201      631      105        7     1210
       Total       22.0     16.6     52.1      8.7       .6    100.0%
```

```
        Chi-Square                Value          DF          Significance
----------------------          ---------        ----        ------------
Pearson                         12.44597          8             .13239
Likelihood Ratio                14.14009          8             .07819
Mantel-Haenszel test for         7.75999          1             .00534
    linear association
```

Minimum Expected Frequency -   1.961
Cells with Expected Frequency < 5 - 3 OF 15 (20.0%)

Number of Missing Observations: 6

Table 7.20 shows that in general students were more negative about the role of teachers and advisors, as information channels, than they were about the institutions, and there was a distinct relationship between this perception and the level of institution students attended (p. < 0.01142).

At the municipal level (III) institutions, students had the least amount of indecision (44.9%) and were the most sceptical (31.9%) about the helpfulness of teachers or tutors as informants about career opportunities. The expectations of the national level (I) were much more positive

with 29.4% viewing teachers or tutors in a somewhat more optimistic light as valuable

informants. However, this level was also the most indecisive about the matter (50.6%), which

left 20% of national level respondents with a negative opinion about these individuals.

TABLE 7.20

Administrative Level by (Q55) Do teachers or advisers clearly
inform students about career opportunities?

```
           Q55
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not  ly not   Row
           |     1 |      2 |      3 |      4 |      5 | Total
LEVEL      --------+--------+--------+--------+--------+--------+
      I    |    37 |    63 |   172 |    62 |     6 |   340
           |  10.9 |  18.5 |  50.6 |  18.2 |   1.8 |   28.1%
           +--------+--------+--------+--------+--------+
     II    |    44 |    57 |   233 |   120 |    19 |   473
           |   9.3 |  12.1 |  49.3 |  25.4 |   4.0 |   39.1%
           +--------+--------+--------+--------+--------+
    III    |    37 |    55 |   178 |   106 |    20 |   396
           |   9.3 |  13.9 |  44.9 |  26.8 |   5.1 |   32.8%
           +--------+--------+--------+--------+--------+
  Column     118     175     583     288      45     1209
   Total      9.8    14.5    48.2    23.8     3.7   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	19.72708	8	.01142
Likelihood Ratio	20.51985	8	.00854
Mantel-Haenszel test for linear association	9.82693	1	.00172

Minimum Expected Frequency -   12.655

Number of Missing Observations: 7

7.8 Summary of Results

Respondents from all three levels tended to expect to be involved with occupations from the

upper half of the occupation index. Level I and II students were most likely to think they

would be working in the Intellectual category (I), Level III anticipated they would be heavily

employed in political positions (2), Level I were above the average frequency for expecting

involvement in the business world, and Level III institutions' respondents were the most prone

to expect positions in office type jobs (4).

A surprising larger number of students wished to be involved with the military category of the index, than those who expected to be involved with this category. And the same could be said of the Business\Entrepreneur (3) category, but to a slightly lesser extent for all three levels. The two top levels (I & II) actually desired less to be in category I occupations than they had reported expecting, while Level III was just the opposite.

The higher the level of administration the greater the probability that students were apprised of their mothers and fathers desires for them, as far as occupations were concerned, but it appears that mothers' desires were more likely to be known in the higher level institutions.

Expectations, in relation to future occupations were found not to be influenced by the administration level factor. All these questions were marked by a solid third of the students who were undecided, or who lacked 'career maturity.' The seemingly large numbers of respondents that registered their answers within the undecided category in a number of questions are not so startling when one considers the changing situation in China. From shortly after the inception of the Peoples' Republic of China, 1949, until the experimentation with a "socialist style market economy," students were not encouraged to take personal responsibility for decisions that would affect their lives. Therefore, it was not surprising that students who had been given little responsibility for their personal lives, even in small matters, should have difficulties when requested to make decisions about the major career and academic paths that could set the direction for their entire lives.

Those students in higher levels had the highest academic aspirations, while student from the low level institutions had much lower academic desires. Expectations were somewhat lower and more realistic across the levels.

Students' ideas about graduate education as reported in the questionnaire showed a great majority desired to attend graduate school, but it was at the higher levels that higher expectations were reported regarding graduate school. Not level specific, less than 10% expected to ever study for a post-graduate degree in a foreign country. Just less than half of all students said that they would stay with the same major if they were enrolled in graduate school.

Students from the higher level institutions were more optimistic about their program not being a hinderance to graduate enrolment, while those at the municipal level were pessimistic.

As many as half of all respondents did not know what to expect regarding the helpfulness of their universities as informants of career opportunities. In this matter, Level I students were positive and Level III students were more likely to be negative. When considering the role of teachers and tutors as bearers of career information, Level III students tended to be more mature decision makers, but also more negative about the role of teachers and tutors. Level I students were much more positive about their teachers and tutors in the role as informants, but this group was by far the most indecisive.

The formation of expectations was, far more than aspirations, shown to be influenced by the administrative level of the institutions students attended through statistical analysis than aspirations were.

In light of the Center-Periphery theory, the three administrative levels, National (I), Provincial (II) and Municipal (III) tended to function as factors in the way we had expected. National level universities seemed to have somewhat "center" or "core" characteristics to them, for they are generally more closely aligned with the political center, which may provide recognized, if implicit benefits, to those enrolled in them. Municipal level universities seem to have somewhat "periphery" characteristics to them for they are generally far from the political center, and are often a last resort in hope of some chance at social mobility. When students are estimating possible reality, there is clear differences between the three levels, in that the higher the level, the higher the expectation, and the lower the level, the lower the expectation. Aspirations tended not to be so closely related to this factor of administrative levels.

Notes:

1.   These figures for the total number of institutes must be seen as only close approximations, since there are some discrepancies between different volumes of the yearbooks. For example, the Educational Statistics Yearbook of China we have cited in the text gave a total number of higher education institutions in the nation as 1075 with 2,043,662 students for the year 1992 (1991-2:22). However, the next volume, 1993, gives statistics for a number of years and states that in 1992 there were only 1053 in this regular institutions of higher education category with 2,278,564 enrolled (1993:4,5).

CHAPTER VIII

MAJOR FIELD OF STUDY

Do post-secondary Humanities students differ with regard to career aspirations and expectations from students of similar family backgrounds who are in Science programs? This is the main question that will be dealt with in this chapter.

It is expected that students would report that the different influences they experienced at university, depending on whether they were enrolled in Humanities or Sciences, shaped their choice of future careers. It is expected that humanities and science students might report differences in their experiences in acquiring career-related instruction, and in whether or not career information, which might be useful to them, could be expected from their schools. We also expected that Humanities and Science students might report differences in timing, concerning when they made educational related decisions.

As was mentioned in the literature review, simply to be in the field of humanities would seem to put more restrictions on future opportunities than would be the case for students in the

sciences. With China's longstanding emphasis on policies to develop into an industrial nation, there is little wonder that science carries high prestige for individuals who are involved with it. In times of political upheaval, the humanities have most often come under suspicion for their susceptibility to so-called, "political or spiritual corruption." Moreover, with the opening to the West, the drive for modernization, and the more relaxed economic climate, the value of the sciences has increased because of the prestige given to scientists by the government and their market value in terms of jobs in industry and foreign business. In addition, humanities related occupations are viewed by the Chinese as being less monetarily rewarding, and unable to offer the degree of social mobility that they once did.

As a result, programs in the sciences are in high demand and are able to draw the best students. The universities' admission committees also have discretion to choose students who they think will go as far as possible in post-graduate study or in the professional world, since this will bring honour to the institution. Sometimes this situation has left women students at a disadvantage to their male counterparts in the admissions process and in the post-graduation job assignment procedure. Since women have a responsibility for child bearing, employers are somewhat reluctant to hire them under the new conditions of the market economy, because of the potential need for maternity leave, and the revival of sexual prejudice against women that has been a part of the Chinese tradition.

8.1 Major Field of Study

We had supposed that females would make up a lesser percentage of science students as

compared to humanities students at Chinese universities. Table 8.1 confirms this assumption by showing that, females held 13.5% fewer places in the sciences (33.7%) than in the humanities (47.2%), and those in science (33.7%) had only half of the number of positions that males in science (66.3%) had.

TABLE 8.1

Major Field by (Q9) Gender

```
            Q9
            |male      female
            |
            |    1  |     2  | Row Total
Q5A      ---------+--------+--------+
         1  |  364  |   325  |   689
humanities  |  52.8 |  47.2  |   56.8%
            +--------+--------+
         2  |  347  |   176  |   523
science     |  66.3 |  33.7  |   43.2%
            +--------+--------+
        Column  711     501     1212
        Total   58.7    41.3    100.0%

Number of Missing Observations:   4
```

8.2 Students' Occupational Expectations and Aspirations

When we examined students' occupational expectations, there were 37.5% of the cells, in the lower half of the index, that had such a low frequency of response that we were not able to validate the cross-tabulation statistically. Once we collapsed the Unskilled worker (6), the Peasant\farmer (7), the Military (8) and the Housewife (9) categories into one category, re-labelled (6) as in Table 8.2, we find that there is significant (p. = 0.00000) relationship between field of study and expected occupation.

Humanities students had the highest expectations (66.9%) in the category of Intellectual (1),

which was 10% more likely to be chosen by them than by Science students (56.5%). In most

other categories there is only a 1 to 3 percent difference, with Science students generally

having just fractionally higher expectations in the rest of the upper half of the index. However,

TABLE 8.2

Major Field by (Q23) Students' Expected Occupation

		Expected Occupation (Index of Occupations for PRC)						Row
Q5A		1	2	3	4	5	6 - 9	Total
humanities	1	425	99	45	54	2	10	635
		66.9	15.6	7.1	8.5	.3	1.6	56.6%
science	2	275	81	49	38	40	4	487
		56.5	16.6	10.1	7.8	8.2	.8	43.4%
Column		700	180	94	92	42	14	1122
Total		62.4	16.0	8.4	8.2	3.7	1.2	100.0%

Chi-Square	Value	DF	Significance
Pearson	55.28776	5	.00000
Likelihood Ratio	62.38391	5	.00000
Mantel-Haenszel test for linear association	19.30896	1	.00001

Minimum Expected Frequency -   6.077
Number of Missing Observations: 94

in the lower half of the index (now collapsed into one category), though the response is less

than for any one of the remaining higher categories, the Humanities students were twice as

likely (1.6%) to choose those occupations, many of which were in the military category. In

the final analysis, humanities students tended to have slightly higher expectations according

to the index employed in this study.

Even more than with expectations, Table 8.3 shows that Humanities respondents were more

likely (37.1%) to desire to be employed in Intellectual (1) related work than their Science

counterparts (24.8%). Moreover, about half of both of these groups responded that they expected to be employed in work in this first category and were more likely to desire work in lower ranked occupations. In the main, Science students were even more prone to choose these other categories, than was the case for Humanities, except in the office worker (4) and combined lower index (6-9) categories, where humanities were 5.5% and 0.2% greater. The divergence in expectations and aspirations between humanities and science students sets humanities students largely in the intellectual (1) category, while the science students are more evenly spread across the first three categories, intellectual (1), leading cadre (3) and business (3).

TABLE 8.3

Major Field of Study by (Q31) Students' Desired Occupation

Q5A		Desired Occupations (Occupational Index)						Row Total
		1	2	3	4	5	6 - 9	
humanities	1	135	72	74	34	10	39	364
		37.1	19.8	20.3	9.3	2.7	10.7	58.5%
science	2	64	60	69	9	29	27	258
		24.8	23.3	26.7	3.5	11.2	10.5	41.5%
Column Total		199	132	143	43	39	4	622
		32.0	21.2	23.0	6.9	6.3	.6	100.0%

Chi-Square	Value	DF	Significance
Pearson	35.53831	5	.00000
Likelihood Ratio	36.35952	5	.00000
Mantel-Haenszel test for linear association	5.63116	1	.01764

Minimum Expected Frequency - 16.177
Number of Missing Observations: 594

Again, it is notable that there is about a 10% increase in the students who desire occupations

in the lower half of the index than those who expected to work in those categories. One reason for this may be that while category 1 occupations have undisputed prestige and social value, yet in the climate of economic transformation, these occupations are generally relatively low paying.

8.3 Students' Views of Future Occupations

Like the factor of school administrative level, Table 8.4 indicates that major the field of study does not have a significant (p. = 0.16477) relationship with student's views as to whether or not they would utilize their university training in their future work. So though there is a minor shift toward a more negative view on behalf of the Science students it would be statistically invalid to say that one could predict this outcome by reason of a student's major.

TABLE 8.4

Major Field of Study by (Q48) Use of university education in occupation

Q5A		Q48 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
humanities	1	279 40.8	131 19.2	225 32.9	39 5.7	10 1.5	684 56.6%
science	2	184 35.1	97 18.5	192 36.6	38 7.3	13 2.5	524 43.4%
Column Total		463 38.3	228 18.9	417 34.5	77 6.4	23 1.9	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	6.50040	4	.16477
Likelihood Ratio	6.48590	4	.16568
Mantel-Haenszel test for linear association	6.34830	1	.01175

Minimum Expected Frequency - 9.977
Number of Missing Observations: 8

In general, a slim majority of student in both fields tended to be positive about the usefulness of their university training with reference to future work, that is on average 57.2%. A mere 8.3% hold a negative outlook, while a full third remain unable to articulate their expectations in this regard.

TABLE 8.5

Major Field of Study by (Q49) Acceptance of Jobs only slightly related

```
           Q49
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not  ly not    Row
           |     1   |     2  |     3  |     4  |     5  | Total
Q5A        ---------+--------+--------+--------+--------+
         1 |   140  |    69  |   290  |   162  |    25  |   686
humanities |  20.4  |  10.1  |  42.3  |  23.6  |   3.6  |  56.6%
           +--------+--------+--------+--------+--------+
         2 |   114  |    76  |   208  |   110  |    17  |   525
science    |  21.7  |  14.5  |  39.6  |  21.0  |   3.2  |  43.4%
           +--------+--------+--------+--------+--------+
    Column     254      145      498      272       42     1211
     Total     21.0     12.0     41.1     22.5      3.5   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	6.67978	4	.15381
Likelihood Ratio	6.63550	4	.15645
Mantel-Haenszel test for linear association	2.59882	1	.10694

Minimum Expected Frequency -   18.208
Number of Missing Observations: 5

With this rather optimistic view of being able to utilize their educational preparation, it is not unexpected to find that all students, regardless of their field, are rather ambivalent about wanting to accept positions that would not give them opportunity to put into practice what they had learned. In Table 8.5, we find that Science respondents were rather more likely (36.2%) to expect that they would accept such positions compared to Humanities students (30.5%).

From another perspective, fewer students in number (Humanities - 27.2% and Science - 24.2%), were firm in their ideas that they would not accept such positions. However, the

largest single response was from those students in both groups who said they did not know whether they would accept or decline such posts. In spite of the differences in response rate between the students from each field there proved to be no correlation (p. = 0.15381) between field of study and their expectation about whether they would accept jobs only slightly related to their education.

TABLE 8.6

Major Field of Study by (Q51) Do students expect finding employment difficult or not?

Q5A		Q51 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
humanities	1	53	33	189	261	147	683
		7.8	4.8	27.7	38.2	21.5	56.9%
science	2	35	34	164	174	111	518
		6.8	6.6	31.7	33.6	21.4	43.1%
Column Total		88	67	353	435	258	1201
		7.3	5.6	29.4	36.2	21.5	100.0%

Chi-Square	Value	DF	Significance
Pearson	5.32239	4	.25579
Likelihood Ratio	5.31200	4	.25676
Mantel-Haenszel test for linear association	.49549	1	.48149

Minimum Expected Frequency - 28.898
Number of Missing Observations: 15

Though students from both fields tended to be unsure whether they would accept work rather unrelated to their training, they were considerably more certain that they would not have difficulty finding employment (Table 8.6). In fact, on average only 12.9% imagined any kind of difficulty, compared to 55% who felt there would be little or no problem with their search for a place in the work world. Here a little less than a third (29.4%) of all respondents

continued to linger over this question, even though the majority were fairly optimistic about their chance in the job market. As we can see from the significance rating (p. = 0.25579) in this table, again, there is no association between the fields and the expectation of difficulty in the job search.

TABLE 8.7

Major Field of Study by (Q53) Will it be difficult finding a satisfying job after graduation?

Q5A		Q53 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
humanities	1	197 / 28.8	122 / 17.9	279 / 40.8	61 / 8.9	24 / 3.5	683 / 56.5%
science	2	137 / 26.1	95 / 18.1	233 / 44.4	48 / 9.1	12 / 2.3	525 / 43.5%
Column Total		334 / 27.6	217 / 18.0	512 / 42.4	109 / 9.0	36 / 3.0	1208 / 100.0%

Chi-Square	Value	DF	Significance
Pearson	3.21052	4	.52323
Likelihood Ratio	3.25058	4	.51680
Mantel-Haenszel test for linear association	.23390	1	.62864

Minimum Expected Frequency - 15.646
Number of Missing Observations: 8

Two questions remain in this section, (Q53) "Do you think it will be difficult to find employment in the job of your choice after graduation?" (Table 8.7) and (Q54) "Do you think it will be less difficult for students in your program to find satisfying employment than for students of other majors?" (Table 8.8). To the first question, the substantial number (45.6%) of students were pessimistic about locating satisfying work, yet for the second question, the comparison with other majors, there is a substantial drop to 30.0% in this negative category,

and with the undecided group remaining the same between groups (42.0%). This in effect meant a more than doubling of the optimistic respondents to 27.9%, from the 12.0% in the first question. The significance is slightly different, but it remains impossible to establish any correlation (p. = 0.52323 and p. = 0.55615, respectively) between the major field of study and these two expectations concerning future employment.

TABLE 8.8

Major Field of Study by (Q54) Will students in your program have less difficulty finding satisfying jobs compared to students of other majors?

Q5A		Q54 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
humanities	1	76 11.1	110 16.1	291 42.6	172 25.2	34 5.0	683 56.5%
science	2	52 9.9	99 18.8	218 41.4	124 23.6	33 6.3	526 43.5%
Column Total		128 10.6	209 17.3	509 42.1	296 24.5	67 5.5	1209 100.0%

Chi-Square	Value	DF	Significance
Pearson	3.01004	4	.55615
Likelihood Ratio	2.99927	4	.55795
Mantel-Haenszel test for linear association	.01571	1	.90026

Minimum Expected Frequency - 29.150
Number of Missing Observations: 7

8.4 Students' Expectations and Aspirations for Educational Attainment

As we have stated earlier, the vast majority (approx. 85%) of students in China's graduate schools are enrolled in Science related majors. Therefore, it is well expected when Table 8.9 reveals that practically 8% more students from the Science (64.1%) desire to complete graduate

school than did their Humanities counterparts (56.4%). If anything the aspirations of the

Humanities students are overly optimistic, when one considers the present situation in graduate

school. By an almost equal margin, Humanities students were more likely to be satisfied with

completing the programs they were in. In the first, second and fifth levels of attainment, both

groups are virtually identical in response to these categories at just about 8%.

So in the end, Science students' aspirations were higher, enough so as to result in a clear

relationship (p. = 0.02717) between the field of study and the highest desired level of

education.

TABLE 8.9

Major Field of Study by (Q29) Students' highest desired level of education

Q5A		Q29 some col or univ 1	college grad. 2	univ. gr ad. 3	post-gra d.dgree 4	other 5	Row Total
humanities	1	5 .7	10 1.5	246 35.9	387 56.4	38 5.5	686 56.7%
science	2	3 .6	13 2.5	145 27.7	336 64.1	27 5.2	524 43.3%
Column Total		8 .7	23 1.9	391 32.3	723 59.8	65 5.4	1210 100.0%

Chi-Square	Value	DF	Significance
Pearson	10.94683	4	.02717
Likelihood Ratio	11.00195	4	.02654
Mantel-Haenszel test for linear association	2.83741	1	.09209

Minimum Expected Frequency - 3.464
Cells with Expected Frequency < 5 - 2 OF 10 (20.0%)
Number of Missing Observations: 6

Expectations for educational attainment were down graded quite a lot for both groups of

respondents from their aspirations levels. Table 8.10 show that though the Science students

were higher in their aspirations, their actual expectations were somewhat lower than their

Humanities counterparts. For example, 56.4% of Humanities students were aspiring to enter graduate school, but only 37.1% of that same group were expecting to be enrolled. By contrast, as 64.1% of science students were aspiring to enter graduate school, while 35.1% were actually expecting to reach this level. Approximately half of both groups expected that undergraduate degrees would be their final academic attainment, and about one-tenth held out any hope for short cycle college graduation[1]. Though the field of study factor was correlated to the respondents' educational aspirations, it was not to the educational expectations (p. = 0.80751). (Even when the 'middle school graduate' category was combined with 'some college or university', and the minimum expected frequency increased to 9.961, the new cross-tabulation failed (p. = 0.68309) to find a sufficient level of significance.)

TABLE 8.10

Major Field of Study by (Q30) Students' highest expected level of education

Q5A		Q30 middle s ch.grad 1	some col or univ 2	college grad. 3	univ. gr ad. 4	post-gra d.dgree 5	other 6	Row Total
humanities	1	1 .1	11 1.6	61 8.9	339 49.7	253 37.1	17 2.5	682 56.7
science	2	1 .2	10 1.9	52 10.0	267 51.2	183 35.1	8 1.5	521 43.3
Column Total		2 .2	21 1.7	113 9.4	606 50.4	436 36.2	25 2.1	1203 100.0

Chi-Square	Value	DF	Significance
Pearson	2.29150	5	.80751
Likelihood Ratio	2.32936	5	.80195
Mantel-Haenszel test for linear association	1.72208	1	.18943

Minimum Expected Frequency - .866
Cells with Expected Frequency < 5 - 2 OF 12 (16.7%)
Number of Missing Observations: 13

8.5 Students' Ideas on Graduate Education

A student's field of study had no relationship to the development of their aspirations for graduate school in China, according to Table 8.11 (p. = 0.24751). The aspirations of respondents from both fields were not much different, averaging 59.9% rather positive, 26.3% in the "I don't know." stage and only 13.8% with a slightly negative attitude towards going to graduate school in their motherland.

TABLE 8.11

Major Field of Study by (Q41) Students' desires for graduate education in China

```
           Q41
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not  ly not    Row
           |      1  |     2  |     3  |     4  |     5  | Total
Q5A        --------+--------+--------+--------+--------+--------+
         1 |   118  |   275  |   182  |    83  |    23  |   681
humanities |  17.3  |  40.4  |  26.7  |  12.2  |   3.4  |  56.7%
           +--------+--------+--------+--------+--------+
         2 |   106  |   221  |   134  |    46  |    14  |   521
science    |  20.3  |  42.4  |  25.7  |   8.8  |   2.7  |  43.3%
           +--------+--------+--------+--------+--------+
    Column     224      496      316      129       37     1202
    Total      18.6     41.3     26.3     10.7      3.1    100.0%

    Chi-Square              Value         DF         Significance
    ------------------      --------      ----       ------------
Pearson                     5.41269        4            .24751
Likelihood Ratio           5.46635        4            .24270
Mantel-Haenszel test for   4.80046        1            .02845
    linear association

Minimum Expected Frequency -   16.037
Number of Missing Observations:   14
```

Once we looked at expectations, we found that there was no association between the field of study and the expectation of graduate school (p. = 0.38460) as shown in Table 8.12. There was, on the part of both groups of respondents, a dramatic shift towards indecision, almost doubling to 47.4%, probably indicating their own recognition that their chances of actually entering graduate school are almost as remote as had been their earlier chance to enter

university. There was also almost a doubling of the percentage of negative responses to 24.4%, which was just slightly less than the combined view of respondents that were indeed expecting (28.2%) to attend graduate school in China. So there is some slippage from positive aspirations to definitely more indecisive and even increased negative expectations about graduate education in China.

TABLE 8.12

Major Field of Study by (Q45) Students' expectations for graduate school in China

```
                Q45
                |definite Most lik Possibly most lik definite
                |ly       ely               ely not  ly not    Row
                |     1 |     2 |     3 |     4 |     5 | Total
Q5A       --------+--------+--------+--------+--------+--------+
            1 |    57 |   125 |   325 |   139 |    34 |   680
humanities    |   8.4 |  18.4 |  47.8 |  20.4 |   5.0 |  56.7
              +--------+--------+--------+--------+--------+
            2 |    56 |   100 |   244 |    89 |    31 |   520
science       |  10.8 |  19.2 |  46.9 |  17.1 |   6.0 |  43.3
              +--------+--------+--------+--------+--------+
       Column     113     225     569     228      65    1200
       Total      9.4    18.8    47.4    19.0     5.4   100.0
```

Chi-Square	Value	DF	Significance
Pearson	4.16140	4	.38460
Likelihood Ratio	4.15844	4	.38499
Mantel-Haenszel test for linear association	1.50591	1	.21976

Minimum Expected Frequency -   28.167
Number of Missing Observations: 16

Though there was no correlation between field of study and expectations about graduate school in China, Table 8.13 indicated that there was an association between major field of study and the expectations to study at the post graduate level abroad (p. = 0.00056).

Comparing these two groups, we find that the Humanities students were more inclined (63.4%),

than Science students (55.3%) not to plan or expect to engage in graduate studies in a foreign country. On the other hand, Science students were just slightly more prone to expect to be admitted to a foreign graduate program, with Science student responses at 8.6% and Humanities students at 6.4%. Roughly a third of all students remained unsure of what they expected.

TABLE 8.13

Major Field of Study by (Q46) Plans for graduate school outside China

```
          Q46
          |definite Most  lik Possibly most  lik definite
          |ly       ely               ely not  ly not    Row
          |    1  |    2  |    3  |    4  |    5  | Total
Q5A       ---------+--------+--------+--------+--------+
        1 |   22  |   22  |  206  |  246  |  187  |   683
humanities|  3.2  |  3.2  | 30.2  | 36.0  | 27.4  |  56.7%
          +--------+--------+--------+--------+--------+
        2 |   11  |   34  |  188  |  188  |  100  |   521
 science  |  2.1  |  6.5  | 36.1  | 36.1  | 19.2  |  43.3%
          +--------+--------+--------+--------+--------+
   Column     33      56     394     434     287     1204
   Total      2.7     4.7    32.7    36.0    23.8    100.0%
```

Chi-Square	Value	DF	Significance
Pearson	19.74452	4	.00056
Likelihood Ratio	19.85503	4	.00053
Mantel-Haenszel test for linear association	9.61629	1	.00193

Minimum Expected Frequency - 14.280
Number of Missing Observations: 12

Thus in expectations for graduate school in China and abroad, the Science students, were slightly more positive according to the data. However, it would appear, considering the fact that the vast bulk of graduate programs are science, that Humanities students were being optimistic in their expectations relative to the actual opportunities.

Between the major field of study and students' desire to do graduate work in the same field

(Q42), we fail to establish any association (p. = 0.97439). At every response category, both fields of study were almost identical, generally leaning toward (44.2%) remaining in the same major if admitted into a graduate program, a quarter not knowing whether they would or not, and 30.7% of all students preferring not to continue in the same major.

TABLE 8.14

Major Field of Study by (Q42) Students' desires to do graduate research in the same field

```
              Q42
              |definite Most lik Possibly most lik definite
              |ly       ely               ely not  ly not   Row
              |    1   |    2   |    3   |    4   |    5   | Total
Q5A           --------+--------+--------+--------+--------+--------+
          1   |   113  |   188  |   169  |   159  |    54  |   683
 humanities   |  16.5  |  27.5  |  24.7  |  23.3  |   7.9  |   56.7%
              +--------+--------+--------+--------+--------+
          2   |    86  |   146  |   133  |   121  |    36  |   522
 science      |  16.5  |  28.0  |  25.5  |  23.2  |   6.9  |   43.3%
              +--------+--------+--------+--------+--------+
      Column       199      334      302      280       90     1205
      Total        16.5     27.7     25.1     23.2      7.5    100.0%
```

Chi-Square	Value	DF	Significance
Pearson	.49085	4	.97439
Likelihood Ratio	.49351	4	.97413
Mantel-Haenszel test for linear association	.12247	1	.72637

Minimum Expected Frequency -   38.988
Number of Missing Observations: 11

Table 8.15 also indicates that there is no significant correlation between the major field and Question 47, "Does your program limit graduate school opportunities?" (p. = 0.67137). Whereas there was a large cluster of both Humanities and Science students (41.8%) who were uncertain about whether they thought their academic programs would act as limiting factors when being considered as an applicant for graduate school, just over a third (34.1%) thought that they would be a hinderance, and only 24.1% felt that their majors would have little or no

affect on whether or not they would be accepted as a graduate student.

TABLE 8.15

Major Field of Study by (Q47) Does your program limit graduate school opportunities?

```
           Q47
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not  ly not   Row
           |     1   |     2 |      3  |     4 | |     5 | Total
Q5A        ---------+--------+---------+-------+---------+
         1 |   133  |   91  |   291   |   99  |   60  |   674
humanities |   19.7 |  13.5 |   43.2  |  14.7 |   8.9 |   56.6%
           +--------+-------+---------+-------+-------+
         2 |    99  |   83  |   206   |   78  |   50  |   516
science    |   19.2 |  16.1 |   39.9  |  15.1 |   9.7 |   43.4%
           +--------+-------+---------+-------+-------+
    Column    232      174     497      177     110     1190
     Total    19.5     14.6    41.8     14.9     9.2     100.0%
```

Chi-Square	Value	DF	Significance
Pearson	2.35172	4	.67137
Likelihood Ratio	2.34515	4	.67256
Mantel-Haenszel test for linear association	.00549	1	.94095

Minimum Expected Frequency -   47.697
Number of Missing Observations: 26

It is rather odd that the two groups responded in so much the same way to each category, since it is clear that a program in Science is an asset to those who are seriously considering graduate school. It appears that Humanities students tend to hold unrealistic expectations about their major's social value, and the availability of student places at the graduate level.

The other anomaly we had not anticipated was that administrative level appeared to have more influence over students' views of their major than the major itself (See Table 7.18 and explanation.).

8.6   Students' Impression of the Availability of Career Information

Across fields of study students tended to agree with each response category, when asked

whether they expected their universities to be forthcoming with helpful career information. First, it is clear that students are for the most part unaware (52.1%) of their universities' practices in relaying whatever information was available.

TABLE 8.16

Major Field of Study by (Q43) Do universities inform students about career options?

```
           Q43
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not  ly not   Row
           |    1    |    2   |    3  |    4   |    5   | Total
Q5A        --------+--------+--------+--------+--------+
         1 |   141  |   123  |   356 |    62  |     4  |   686
humanities |  20.6  |  17.9  |  51.9 |   9.0  |    .6  |  56.7%
           +--------+--------+--------+--------+--------+
         2 |   125  |    78  |   275 |    43  |     3  |   524
science    |  23.9  |  14.9  |  52.5 |   8.2  |    .6  |  43.3%
           +--------+--------+--------+--------+--------+
    Column    266      201      631     105       7     1210
    Total     22.0     16.6     52.1     8.7      .6    100.0%
```

Chi-Square	Value	DF	Significance
Pearson	3.38723	4	.49523
Likelihood Ratio	3.39597	4	.49387
Mantel-Haenszel test for linear association	.64307	1	.42260

Minimum Expected Frequency - 3.031
Cells with Expected Frequency < 5 - 2 OF 10 (20.0%)
Number of Missing Observations: 6

38.6% felt that their institutions would inform graduates of career choices available, and 9.4% of all respondents thought it was not likely. As is apparent from Table 8.16, there was no relationship established between the major field and this expectation regarding career information (p. = 0.49523). Even if the category "definitely not" were deleted or collapsed into "most likely not," this would not have sufficiently increased the significance of this item, because the percentages of each category were so similar in both major fields of study.

When we examine at a more personal level the expected clarity of career information, that is

the expected role of teachers and advisors (Q55), Table 8.17 shows that, though statistical

significance is lacking (p. = 0.30462), there was a slight difference between the humanities and

TABLE 8.17

Major Field of Study by (Q55) Do teachers or advisors clearly inform students?

```
            Q55
            |definite Most lik Possibly most lik definite
            |ly       ely               ely not  ly not    Row
            |     1 |      2 |      3 |      4 |      5 | Total
Q5A         --------+--------+--------+--------+--------+
          1 |    73 |    101 |    333 |    149 |     28 |   684
humanities  |  10.7 |   14.8 |   48.7 |   21.8 |    4.1 |   56.6%
            +--------+--------+--------+--------+--------+
          2 |    45 |     74 |    250 |    139 |     17 |   525
science     |   8.6 |   14.1 |   47.6 |   26.5 |    3.2 |   43.4%
            +--------+--------+--------+--------+--------+
     Column    118      175      583      288       45    1209
     Total      9.8     14.5     48.2     23.8      3.7   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	4.83532	4	.30462
Likelihood Ratio	4.83923	4	.30419
Mantel-Haenszel test for linear association	1.98694	1	.15866

Minimum Expected Frequency - 19.541
Number of Missing Observations: 7

science respondents. Humanities responses (25.5%) that indicated teachers and advisors were

expected to clearly communicate career opportunities were somewhat higher than responses

from Science students (22.7%). Likewise, in the undecided category, Humanities students

(48.7%) chose it only one percent more often than Science students (47.6%). On the negative

end, over a quarter of Science respondents (28.7%) were inclined not to expect teachers or

advisors to help clarify what opportunities existed for their careers after graduation, which was

just 2.6% more than the same Humanities group (25.9%).

So we find that the Humanities students tended to be slightly more positive than the Science

students, while just a little less than half of all students remained undecided. When these responses are seen in comparison with those of general expectations about information distribution, it is clear by the difference in the averages for each categorical answer on this level that the view of teachers and advisors was substantially more negative (18%), less undecided (3.9%) and less positive (14.3%).

In the end, we are left with the impression that students' views of how well their universities and teachers or advisors will communicate career opportunities, is something of a mystery to about half of the students, and that the institutional method of communication is more likely to clarify opportunities or be accurate than that of individual teachers or supervisors.

8.7 Students' inclinations regarding moving away from parents

In the cross tabulation, Table 8.18, there was found to be no statistical significance (p.= 0.60488) between the students' majors and their inclination to stay near or relocate away from their parents. Averaging the responses of both majors for all answers (they were always within one or two percent), it is clear the majority (68.3%) would likely accept an interesting job even if it meant geographical separation from their parents, a low of 21.7% were uncertain of what they would do and only 10% of all respondents were not inclined to move under these special circumstances.

TABLE 8.18

Major Field of Study by (Q50) Would you accept an interesting job
if it meant that you would have to move away from your parents?

```
           Q50
           |definite Most lik Possibly most lik definite
           |ly       ely               ely not ly not   Row
           |    1  |    2  |    3  |    4  |    5  | Total
Q5A        --------+-------+-------+--------+-------+--------+
         1 |  332  |  137  |  151  |   53  |   10  |  683
humanities |  48.6 |  20.1 |  22.1 |  7.8  |  1.5  |  56.6%
           +-------+-------+-------+--------+-------+--------+
         2 |  256  |   98  |  111  |   44  |   14  |  523
 science   |  48.9 |  18.7 |  21.2 |  8.4  |  2.7  |  43.4%
           +-------+-------+-------+--------+-------+--------+
    Column    588     235     262      97      24     1206
    Total     48.8    19.5    21.7     8.0     2.0   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	2.72482	4	.60488
Likelihood Ratio	2.70000	4	.60922
Mantel-Haenszel test for linear association	.34048	1	.55955

Minimum Expected Frequency - 10.408
Number of Missing Observations: 10

When students' responses were examined to see if they would move for the sake of being able

to reside in a larger urban center, Table 8.19 reveals that there was a somewhat smaller chance

(p. = 0.65922) of that happening than for the sake of being employed in an interesting job.

On the part of all respondents, there remained a definite tendency (61.7%) to be inclined to

move towards a larger center, with the benefits it could bring, even if it meant family

separation, while fewer students were uncertain about what they would do (27.2%). Once

again a small proportion of students (11.2%) said they would not be interested in moving in

spite of the perks of a more developed urban center.

Both Science and Humanities students seem to be slightly more apt to move for interesting jobs

rather than moving simply for the benefits offered by a larger urban center. Both groups are

apparently rather mature about this matter and only a small group was definitely intent on staying close to their parents.

TABLE 8.19

Major Field of Study by (Q52) Would you accept a job in a larger center
if it meant moving away from your parents?

Q5A	Q52 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
1 humanities	329 48.2	101 14.8	178 26.1	56 8.2	18 2.6	682 56.5%
2 science	231 43.9	84 16.0	150 28.5	48 9.1	13 2.5	526 43.5%
Column Total	560 46.4	185 15.3	328 27.2	104 8.6	31 2.6	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	2.41889	4	.65922
Likelihood Ratio	2.42006	4	.65900
Mantel-Haenszel test for linear association	1.47710	1	.22423

Minimum Expected Frequency -   13.498
Number of Missing Observations: 8

8.8   Students' Impressions of the Impact of Socio-Psychological and Structural Factors

8.8.1   Significant others

Students from both major fields were asked to estimate the importance of the influences of significant others when it came to making decisions about which institution of higher education to attend, or whether one should go directly to work, and select their future career. For the most part the significant others tended to have the same amount of influence over decisions,

whether they were Humanities or Science majors, except in regards to two categories of significant others.

'Parents', as an influence, were seen by students as the second most important factor in their career decisions, yet, it generated the most significant difference (p. = 0.04275) between Humanities and Science students. Through Table 8.20 we find that Science students were more likely to consider parents as 'not a factor' or as 'minor factor' (21.4%) in influencing their academic and career decisions, compared to Humanities students at 15.1% in these same two categories. A full third of both groups see parents as a moderate factor. It is the Humanities students that were more likely to see their parents as an 'important factor' or the 'most important factor' (47.7%), compared to Science students (42.3%).

TABLE 8.20

Major Field of Study by (Q40C) Parents as a factor in decision making

Q5A	Q40C not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
1 humanities	48 7.3	51 7.8	245 37.2	242 36.8	72 10.9	658 56.7%
2 science	61 12.2	45 9.0	184 36.7	159 31.7	53 10.6	502 43.3%
Column Total	109 9.4	96 8.3	429 37.0	401 34.6	125 10.8	1160 100.0%

Chi-Square	Value	DF	Significance
Pearson	9.86579	4	.04275
Likelihood Ratio	9.79311	4	.04406
Mantel-Haenszel test for linear association	6.97711	1	.00826

Minimum Expected Frequency - 41.545
Number of Missing Observations: 56

Secondly, students thought that they, themselves, were the most important factor in their decision making. Statistical analysis as in Table 8.21 showed that this was not the same in both major fields of study, though the difference was marginal (p. = 0.5446). In terms of frequency of response, 91.8% of Humanities students saw their own input as an 'important factor' or 'the most important factor', with the Science students just slightly behind at 87.2%. Quite interestingly, 3.3% of Humanities students and 5.7% of Science students saw themselves as a 'minor factor' or 'not a factor.' This latter response would almost be unimaginable in most western countries.

TABLE 8.21

Major Field of Study by (Q40E) 'Myself' as a factor in decision making

```
             Q40E
             |not a fa minor fa a factor importan most imp
             |ctor     ctor              t factor ort.      Row
             |    0  |     1  |     2  |     3  |     4  | Total
Q5A          ----+--------+--------+--------+--------+--------+
          1  |   14  |    8  |   33  |  141  |  478  |   674
humanities   |  2.1  |  1.2  |  4.9  | 20.9  | 70.9  |  56.9%
             +--------+--------+--------+--------+--------+
          2  |   17  |   12  |   36  |  119  |  326  |   510
science      |  3.3  |  2.4  |  7.1  | 23.3  | 63.9  |  43.1%
             +--------+--------+--------+--------+--------+
    Column       31      20      69     260     804    1184
    Total        2.6     1.7     5.8    22.0    67.9   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	9.28045	4	.05446
Likelihood Ratio	9.21102	4	.05604
Mantel-Haenszel test for linear association	8.63949	1	.00329

Minimum Expected Frequency - 8.615
Number of Missing Observations: 32

The level of influence of other 'significant others' mentioned in Q40 were not found to be different enough between the two majors to be considered statistically significant. Students from both fields generally agreed on these levels. Table 8.22 arranges the people, who the students viewed as influential in helping them make decisions, in the order in which students

placed their significance.

The steep incline that is created by this table clearly shows students' impressions of which significant others have direct influence on their decision making. We find as we have just shown that students saw themselves as the dominant factor (67.9%), their 'Parents', 'Father' and 'Mother' factors were a distant second place, securing the position as somewhere

TABLE 8.22

Q40 Significant others that help students decide on career and academic paths

Q40	not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
Self	31 2.6	20 1.7	69 5.8	260 22.0	804 67.9	1184 100.0%
Parents	109 9.4	96 8.3	429 37.0	401 34.6	125 10.8	1160 100.0%
Father	116 9.9	118 10.1	428 36.7	392 33.6	113 9.7	1167 100.0%
Mother	136 11.7	130 11.1	462 39.6	353 30.2	86 7.4	1167 100.0%
Friends	314 27.0	337 28.9	376 32.3	119 10.2	19 1.6	1165 100.0%
Teachers	403 34.6	308 26.4	318 27.3	109 9.4	27 2.3	1165 100.0%
Others	656 56.8	255 22.1	193 16.7	37 3.2	14 1.2	1155 100.0%
Grand-Parents	766 66.6	192 16.7	137 11.9	43 3.7	13 1.1	1151 100.0%

between 'a factor' or 'an important factor' (70.6%). 'Friends' took third place having 61.2% of their response in 'a factor' and 'a minor factor' categories; teachers obtained fourth place with 61.0% in 'a minor factor' and 'not a factor' categories, and Others and Grandparents took the last place with 78.9% and 83.3%, respectively, in the categories of 'minor factor' and 'not

a factor.'

Compared to the West, where peer influence tends to gradually replace parental influence in the late teens and early twenties, the 'Parents' factor remains quite strong for the students involved in this study. As we shall see in Chapter 9, peer influence is seen as of even less value when considered in relation to the structural factors, such as cost and geographic location.

Considering the number of cross-tabulations that were run and that only 12.5% of the tests showed a significant influence by the students' major fields of study, we can safely assume that the students' major field of study did not greatly affect their view of the influence of significant others.

8.8.2 Structural and Social-psychological Factors

Again students from both major fields were asked to estimate the importance of the level of influence of both structural and social-psychological factors, when it came to making decisions about which institution of higher education to attend, or whether one should go directly to work, also regarding their choice of future occupation. In general the level of influence of significant structural factors tended to be close for Humanities or Science majors, except with regard to two significant elements.

TABLE 8.23

Humanities or Science by (Q34G) Importance of Students' own interests as factors helping direct choice of study or work

```
               Q34G
               |not a fa minor fa a factor importan most imp
               |ctor    ctor           t factor ort.      Row
               |     0 |      1 |      2 |      3 |      4 | Total
Q5A            -------+--------+--------+--------+--------+
          1    |   33 |   41  |  143  |   251  |  197  |  665
humanities     |  5.0 |  6.2  | 21.5  |  37.7  | 29.6  | 56.7
               +------+-------+-------+--------+-------+
          2    |   37 |   42  |  127  |   179  |  122  |  507
science        |  7.3 |  8.3  | 25.0  |  35.3  | 24.1  | 43.3
               +------+-------+-------+--------+-------+
      Column      70     83     270      430     319    1172
      Total      6.0    7.1    23.0     36.7    27.2   100.0
```

Chi-Square	Value	DF	Significance
Pearson	9.75476	4	.04477
Likelihood Ratio	9.73628	4	.04511
Mantel-Haenszel test for linear association	9.55663	1	.00199

Minimum Expected Frequency - 30.282
Number of Missing Observations: 44

First, Humanities students were quite secure in their assertion that their own interests or desires were an 'important factor' or the 'most important factor' (67.3%), while Science students' responses for the same categories were somewhat less (59.4%). Science students were more undecided and more negative in this regard, as we can see from Table 8.23 ($p. = 0.04477$). The results for this question (Q34), indicating that students saw themselves as the dominant element in their decision making, was confirmation of earlier results, because of the consistency between the results. However, as in the earlier examined question (Q40), major field of study was not found to be statistically significant.

TABLE 8.24

Major Field of Study by (Q34A) Cost as a factor

```
         Q34A
         |not a fa minor fa a factor importan most imp
         |ctor     ctor             t factor ort.     Row
         |    0  |    1  |    2  |    3  |    4  | Total
QSA      --------+--------+--------+--------+--------+--------+
         1 |   240 |   140 |   134 |   106 |    38 |   658
humanities |  36.5 |  21.3 |  20.4 |  16.1 |   5.8 |  56.8
           +--------+--------+--------+--------+--------+--------+
         2 |   147 |   135 |   119 |    74 |    25 |   500
science    |  29.4 |  27.0 |  23.8 |  14.8 |   5.0  |  43.2
           +--------+--------+--------+--------+--------+--------+
   Column     387     275     253     180      63    1158
    Total    33.4    23.7    21.8    15.5     5.4   100.0
```

Chi-Square	Value	DF	Significance
Pearson	10.33505	4	.03515
Likelihood Ratio	10.34573	4	.03499
Mantel-Haenszel test for linear association	.57254	1	.44925

Minimum Expected Frequency -   27.202
Number of Missing Observations: 58

The second and only other element that was seen as significantly different (p. = 0.03515) by the students from the two major fields of study was 'cost.' Humanities students were more likely to consider cost as 'not a factor' (36.5%) than Science students (29.4%), while Science students were more likely to see it as more of a minor factor (27.0%) than was the case for Humanities students (21.3%). In general then, all students tended to give a low estimation of the level of influence due to cost, but Humanities students were definitely most likely to see it as not influential at all. As we stated earlier, Science students, as a group, tend to include a higher percentage of rural students for whom financial considerations in education remain a problem due to the generally low level of economic resources in rural areas.

TABLE 8.25

Q34 Structural and Social-Psychological Factors

	not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
Future Job	83 7.1	67 5.7	195 16.6	479 40.8	350 29.8	1174 100.0
Student Interest	70 6.0	83 7.1	270 23.0	430 36.7	319 27.2	1172 100.0
Nat'l Exam	155 13.3	111 9.5	270 23.2	401 34.5	227 19.5	1164 100.0
Parents Influ.	89 7.6	134 11.5	344 29.5	453 38.9	146 12.5	1166 100.0%
Geog. Locat.	383 32.9	186 16.0	263 22.6	254 21.8	78 6.7	1164 100.0%
Cost	387 33.4	275 23.7	253 21.8	180 15.5	63 5.4	1158 100.0%
Teachers	261 22.5	242 20.9	421 36.4	211 18.2	23 2.0	1158 100.0%
Program Length	500 43.3	267 23.1	222 19.2	131 11.3	35 3.0	1155 100.0%
Grand- Parents	766 66.5	187 16.2	128 11.1	50 4.3	21 1.8	1152 100.0%
Friends Plans	739 63.9	214 18.5	153 13.2	38 3.3	13 1.1	1157 100.0%

The level of influence of the other eight factors mentioned in Q34 were not found to be different enough between the two majors to be considered statistically significant. Still, we should note that students did generally agree on these levels which we will briefly mention here. Table 8.25 arranges the other factors, which the students viewed as influential in helping them make decisions, in the order in which students placed those factors.

There is not such a steep clean incline as that created by Table 8.22, but still Table 8.25 definitely shows students' impressions of what significant factors are having a direct influence

on their decision making. We find that students saw consideration of 'Future job' as the dominant factor (70.6%), the 'student's interest' factor was in a close second place, between 'an important factor' and the 'most important factor' (63.9%), the 'National Examination' and 'Parental' influence took third place having 57.7% and 68.4% (respectively) of their response in 'an important factor' and 'a factor' categories. Geography, location, cost, teachers, program length, grandparents and friends were ranked overall in this order and all tended to be viewed as minimal or non-factors in their decision making process.

8.9 Summary of Results

In the main, the major field of study factor proved to be moderately influential in that it was seen as statistically significant in approximately a third of the cross tabulation tests.

Humanities students tended to have higher occupational expectations, according to the occupational index, particularly targeting category 1. They were likely to have higher occupational aspirations as well, though oddly enough, they ranked lower than expectations. The same held true for Science students, except that they generally ranked lower in both aspirations and expectations. This phenomenon may be a signal that there is a shift in social values under the influence of the world economy, especially with the desire for business related occupations, and military related occupations (in many cities of China large computer firms, construction companies, other companies are owned and operated by the military).

All respondents, regardless of their major, tended to be unsure about the utilitarian value of

their university education, and yet at the same time they tended not to want to accept positions where they would not use that educational training. However, Science students were slightly more predisposed to rejecting such positions. For Science students there is a far greater likelihood that they may find a job outside of the job assignment system than Humanities students.

Both groups expected that they would encounter little or no difficulty finding employment, and in fact only a small minority acknowledged that they anticipated a hard time finding a suitable position. Likewise, both groups foresaw much more difficulty finding satisfying work. For some reason about a third of the students thought their chances were better than other majors, but most did not know what their chances were in such a comparison.

As we had expected, the majority of both majors wanted to complete graduate studies, but Science students were somewhat more likely to have such aspirations. With regard to their actual expectation, Science students were marginally lower than Humanities students.

If they could choose whether or not to go to post-graduate school in China, both groups registered a rather positive response, with more than half indicating such a desire, and only a small group against. However, when it came to their vision of the future possibilities, half were unsure as to what to expect, leaving only one quarter of respondents actually expecting to attend a post-graduate institution. Those who did expect to undertake graduate studies abroad were Science students, but the bulk of both groups did not foresee such a possibility. Science students tended to be realistic compared to the rather over-optimistic Humanities

students.

A considerable proportion of all respondents were likely to say that they would be disposed to continuing in the same major, if and when they were admitted to a graduate program. Most students were unsure if their major would limit the possibility of graduate school. This seems odd, since we were under the impression that in China it was clear that an undergraduate degree would be an asset in attempting to go to post-graduate school.

Students from both majors generally appeared to have little knowledge of how to access career information prior to graduation either from their universities, or their teachers and advisors, but those who did know felt the institution did a somewhat better job than teachers or advisors. Again this was unexpected, but could be due to the fact that students are usually assigned an advisor\tutor in their first year and should have a good idea, by the end of that time, whether they effectively communicate needed information to the student.

Unlike Zhang's 1987 study of Beijing high school students, only a very small portion of all respondents in this present study were not predisposed to moving away from their parents. The majority said that they were quite willing to set up residence away from their parents' locale, if it meant getting an interesting job or moving to a larger urban center. This may reflect the status of the cities in this study, which are much smaller in size and less modern in culture in comparison with cities such as Beijing, Shanghai or Guangzhou.

Humanities students were more inclined than Science students to see themselves as an

important factor or the most important factor influencing their academic or career plans. Science students were inclined to have a slightly lower estimation of the importance of their own input. Science students were more likely to consider 'parental' input into their decision making as relatively less important than the Humanities students, and yet both groups clearly saw 'parental influence' as a moderate to important factor. There was more agreement between the students of the different major fields on the level of influence which the remaining significant others exerted: Self, Parents, Father, Mother, Friends, Teachers, Others and Grandparents.

Structural and social-psychological related influences received similar response rates, in that out of ten factors, students from different majors differed significantly on only two. As with significant others, 'self interest' was seen as an important factor, but not quite as important when brought into comparison with the other social and economic factors. Self was viewed as a more important factor for Humanities students than those in Science, who were more likely to be unsure and negative about it. Consideration of future was the only factor seen as more important than self interests. 'Cost' ranked as sixth out of ten by all students, but was seen as more important by Science over Humanities students. The complete student-ranked combined list of structural and socio-psychological factors was as follows: Future Job, Self, National Exams, Parents, Geographical Location, Cost, Teachers, Program Length, Grandparents and Friends' plans.

On the international scene and in China, as well, there seems to be a link between program of study and ones educational and occupational aspirations and expectations. Though we know

that field of study acts as a sorting mechanism and may be a strong predictor of aspirations and expectations, this has not proven to be the case in this study. Humanities students did not seem to have downgraded their aspirations or expectations. Rather they were at the same level or higher than that of the Science students, whose field is much more in demand and can open many more doors of opportunity.

Notes:

1. It should be noted that students at the municipal level institutions are in 2-3 year certificate programs, not degree programs.

CHAPTER IX

GENDER

Are the academic and career aspirations and expectations of males and females in China's universities and colleges different? If a difference exists what is the pattern of the difference? In the students' view, do others in the social network affect the career plans of men and women differently? Is the situation different for men and women in different geographical locations or over the length of the academic program? These are the main questions that will be dealt with in Chapter Nine.

It was expected that male students would tend to have relatively higher aspirations, in terms of further education and future occupations, than their female counterparts. It was expected that both female and male students would report significant input from parents or guardians concerning career planning. Yet it was expected that there might be an even stronger influence of parents or guardians over what female students planned to do after university.

As we noted in the literature review, in many studies gender seemed to affect aspirations. Merely being female would seem to place greater limitations on future opportunities than would be the case for males. Traditionally, women were expected by society to marry young,

raise children, and take care of the home, and this was and remains true in rural areas, where the vast majority of the population lives. Traditional higher education programs in China allowed no women to take entrance examinations, or to enter any formal institutions of higher education. Modern higher education started in 1895, but women were allowed to enter government universities only in 1919. By 1932, female participation had risen to 10% and by 1945 to 19%. However, most women students in the Nationalist period came from middle and upper class families.

On the other hand, families traditionally aspired to have at least one of their male children be educated at the highest level, and write the Imperial exams that opened the door to prestigious careers in government, and ensured social and economic mobility for the family as a whole. This aspiration has continued, especially in rural areas, in spite of the many other changes that have taken place in education.

Under the Communist government, there was a considerable leap forward for females in terms of their participation in higher education with the representation rising to 27% in 1958 and 33% in 1976. The policies established by the regime openly encouraged female participation. Yet, these policies did not have great success in changing the general attitude towards women and their traditional social role, especially in the rural areas where social values have extremely deep roots. As we mentioned in the literature review, under the economic reforms there has been a resurgence of some unhealthy attitudes and practices towards women, which can not help but complicate womens' choices regarding further education and careers. At the institutional level, females are often discriminated against in the enrolment process because,

after their programs are complete, it is the responsibility of the institutional administration to match graduates with employers, which has proved increasingly difficult to do for women in the late 1980's and early 1990's.

Males have continued to have greater encouragement from society to enter higher education, graduate school and prestigious occupations. While this may also be true to a degree for females from parents from more well-off social backgrounds, those from rural areas are not so encouraged. Women are also regularly reminded that, since it is considered a disgrace for a male to have a wife who is more highly educated, or has a better profession or salary, than he, they would be gaining on one hand but losing on another.

9. Gender

As we have mentioned in earlier discussions, the high proportion of females represented in this study was a surprise, because at 41.3% it surpassed national participation rate of 33.7% in 1992 by nearly 8%. See Table 9.1.

TABLE 9.1

Gender by Frequency of Participation

Gender	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1	711	58.5	58.7	58.7
Female	2	501	41.2	41.3	100.0
	.	4	.2		Missing
	Total	1216	100.0	100.0	

Valid cases 1216   Missing cases 4

Table 9.2 shows how there was a wide variation in male-female participation by geographical location, Nanjing 58/42%, a 16 point difference, Xi'an 53/47%, a 6 point difference and Lanzhou 66/34%, a 32 point difference. The high male representation in Lanzhou most probably indicates a heavy rural based enrolment in this hinterland region.

And as we saw from Table 8.1, Humanities had an almost 50/50 male-female ratio, while Science was closer to 66/34, so the fact that our sample was made up of one half humanities students served to elevate female representation above national levels.

Another reason for the rather high proportion of females in this study was the one third representation by normal schools, and Table 9.2 shows the relatively high female representation in the three normal universities. But even within this type of institution there is a wide variation, as far as gender ratios are concerned. For example, Shaanxi Teachers University had a ratio of 50.8/49.2 percent, only a 1.8 point difference between genders, Northwest Teachers U. had a 59.8/40.2 ratio, a 19.6 point difference and the largest difference, 22.4 points, was at Nanjing Normal U with a 61.2/38.8 ratio. When averaged, the normal universities' womens' participation rate was 42.7%, slightly above the already high study average of 41.3%.

At comprehensive institutions the differences were even greater. Northwest University had a ratio of 53.7/46.3 percent, only a 7.4 point difference between genders, Nanjing University had a 61.5/38.5% ratio, a 23.0 point difference and the largest difference, 36.8 points, was at Lanzhou University with a 68.4/31.6 ratio. When averaged the comprehensive universities' female participation rate was 38.8%, slightly below the study average.

TABLE 9.2

SCHOOL by (Q9) GENDER

```
                 Q9
                 |male      female
                 |                      Row
                 |   1  |     2  | Total
SCHOOL        ---------+--------+--------+
       Nanjing U.   |   67  |    42  |   109
                    |   61.5 |   38.5 |   9.0%
                    +--------+--------+
       Nanjing      |  115  |    73  |   188
       Teachers U.  |   61.2 |   38.8 |  15.5%
                    +--------+--------+
       Jinling Voc. |   79  |    73  |   152
              U.    |   52.0 |   48.0 |  12.5%
       -------------+--------+--------+
       Shaanxi      |   67  |    65  |   132
       Teachers U.  |   50.8 |   49.2 |  10.9%
                    +--------+--------+
       Northwest    |   65  |    56  |   121
              U.    |   53.7 |   46.3 |  10.0%
                    +--------+--------+
       Xi'an United |   72  |    63  |   135
              U.    |   53.3 |   46.7 |  11.1%
       -------------+--------+--------+
       Lanzhou U.   |   67  |    31  |    98
                    |   68.4 |   31.6 |   8.1%
                    +--------+--------+
       Northwest    |  101  |    68  |   169
       Teachers U.  |   59.8 |   40.2 |  13.9%
                    +--------+--------+
       Gansu United |   78  |    30  |   108
              U.    |   72.2 |   27.8 |   8.9%
       -------------+--------+--------+
            Column     711      501     1212
            Total      58.7     41.3   100.0%
```

Number of Missing Observations: 4

At municipal level universities the variation between institutions were without question the greatest. Jinling Vocational University had a ratio of 52/48%, only a 4 point difference between genders, Xi'an United University had a 53.3/46.7% ratio, a 7.4 point difference and the largest difference, 44.4 points, was at Gansu United University with a 72.2/27.8% ratio. When averaged participation rate of women at municipal universities was 40.8%, again just slightly below the study average.

Another very interesting fact that is quite in line with Thogerson's Yantai study, is that females were more likely to expect to be admitted to university at an earlier age than their male cohorts. Table 9.3 demonstrates that there is a statistically significant difference between the genders (p. = 0.00112) in this aspect. In the combined age categories '1-5' and '6-12,' females were 6% more likely to have expected to attend university. It was during the teen years that the majority (68.8%) of male and female groups first assumed that they would be able to attend some tertiary level program. In the age period after most students had completed high school, there were more males (16.9%) than females (11.5%) who were, for the first time, expecting that they would be able to study at university. So it would seem that prior to the impact of the economic reforms on women, young girls were conforming to the focus of the school system, which is generally to get students ready to pass the national university entrance exams.

TABLE 9.3

Gender by (Q18) Age students first expected to attend university

```
                 AGE
               |  1-5 |  6-12| 13-18| 19-23| Total
Q9         ---------+------+------+------+------+
               1 |    2|   93|  462|  113|   670
    male        |   .3| 13.9| 69.0| 16.9|  59.2
               +------+------+------+------+------+
               2 |    9|   83|  317|   53|   462
    female      |  1.9| 18.0| 68.6| 11.5|  40.8
               +------+------+------+------+------+
          Column    11    176    779    166   1132
          Total    1.0   15.5   68.8   14.7  100.0
```

Chi-Square	Value	DF	Significance
Pearson	16.02103	3	.00112
Likelihood Ratio	16.28285	3	.00099
Mantel-Haenszel test for linear association	13.11197	1	.00029

Minimum Expected Frequency -   4.489
Cells with Expected Frequency < 5 - 1 OF 8 (12.5%)
Number of Missing Observations: 84

9.1 Students' Occupational Aspirations and Expectations

Just a brief look at Table 9.4 will show that females in general tended to have slightly higher expectations than did their male classmates and that the difference was statistically significant (p. = 0.0000). Females were 10.8% more likely to expect to be assigned work, or to make their own arrangements for positions, in the Intellectual category (1). This difference was made up by males in the expectation that they would be involved in the Leading Cadre (2) category, which turned out to be about 7% more likely than females' expectation for the same category. This was quite realistic, since it is men, for the most part, who dominate China's political scene. Still, when these categories were considered together as the most highly valued occupational categories, almost 80% of both female and male respondents expected to work in professions related to these two areas.

TABLE 9.4

Gender by (Q21) Expected Occupation

Expected Occupation (Index of Occupations for PRC)

Q9		1	2	3	4	5	6	7	8	Row Total
male	1	381	126	71	36	34	2	3	5	658
		57.9	19.1	10.8	5.5	5.2	.3	.5	.8	58.8%
female	2	317	54	23	56	7	1	1	2	461
		68.8	11.7	5.0	12.1	1.5	.2	.2	.4	41.2%
Column Total		698	180	94	92	41	3	4	7	1119
		62.4	16.1	8.4	8.2	3.7	.3	.4	.6	100.0%

Chi-Square	Value	DF	Significance
Pearson	50.81941	7	.00000
Likelihood Ratio	52.79827	7	.00000
Mantel-Haenszel test for linear association	5.06943	1	.02435

Minimum Expected Frequency - 1.236
Cells with Expected Frequency < 5 - 6 OF 16 (37.5%)
Number of Missing Observations: 97

Males were twice as likely to expect be employed in the business sector, and in occupations in the lower half of the occupational index. Females, as might have been expected, were more than twice as likely to be involved with office work, as can be seen in category 4. It is also noteworthy that not a single female expected to work as simply a homemaker (9), while there were males who expected to work in unskilled labourer (category 6) and peasant\farmer (category 7) types of occupations.

It was not totally unanticipated to find that only 51% of the respondents had a definite idea of what type of occupation they would like to engage in after graduation, since not long before the study, personal desires did not matter in the least to the system, and may have even been a detriment to one's future and lead to great disappointment. For those who did have an idea of what they would like to do, it is clear from Table 9.5 that, while their expectations placed

TABLE 9.5

Gender by (Q31) Desired Occupations

Desired Occupations (Index of Occupations for PRC)

Q9		1	2	3	4	5	6	7	8	Row Total
male	1	120	87	95	18	30	3	3	43	399
		30.1	21.8	23.8	4.5	7.5	.8	.8	10.8	64.4%
female	2	78	45	48	25	8	1		16	221
		35.3	20.4	21.7	11.3	3.6	.5		7.2	35.6%
Column Total		198 31.9	132 21.3	143 23.1	43 6.9	38 6.1	4 .6	3 .5	59 9.5	620 100.0%

Chi-Square	Value	DF	Significance
Pearson	18.36292	7	.01044
Likelihood Ratio	19.22842	7	.00750
Mantel-Haenszel test for linear association	3.29532	1	.06948

Minimum Expected Frequency -   1.069
Cells with Expected Frequency < 5 - 4 OF 16 (25.0%)
Number of Missing Observations: 596

most respondents (~80%) in categories 1 and 2, aspirations for the Intellectual (1) category were more than 30% less than expectations for both sexes. The second category, Leading Cadres, was desired only fractionally more (2.7%) by males than their actual rate of expectations, but for females, aspirations were almost double in this category, ranking them almost on par with males (females 21.7% and males 23.8%).

Two categories had remarkable increases in aspirations over the expectation rates, that of Business\Entrepreneur (3) and Military (8). In category three, the percentage of respondents who would choose this type of profession was a lot higher than the expectation rate, with males more than doubling, to end at 23.8%, and the females increasing four-fold to 21.7%. In category 8, probably the most surprising increases took place, though few of either gender expected a military career. For males there was a 13.5% difference between aspirations and expectations, and for females there was an 18% difference. This is quite interesting because, while there are about 3,000,000 positions within the military, obviously only a small percentage could utilize the type of training these students had received. One wonders whether those selecting military careers had been influenced by the Tiananmen events, but we do not have parallel data for an earlier period. We do know that careers in the military were popular during the Cultural Revolution (CR).

Besides the Intellectual category, the category of 'office worker'(4) was actually expected at significantly higher levels than it was desired. Not a single respondent showed any interest in category 9, the 'housewife.'

Thus, we can see that for females both the occupational aspirations and expectations are slightly inclined toward the higher end of the index as compared to their male cohorts. However, though both genders had rather high expectations, their aspirations were considerably lower and broader in nature.

9.2 Students' Views of Future Occupations

There was a great similarity, across gender lines, in regards to students' perceptions of whether or not they would use their university training in their future occupations, and so gender proved not to be a significant factor (p. = 0.47995) in the formation of this particular expectation.

TABLE 9.6

Gender by (Q48) Do you expect to use your education in your occupation?

Q9		Q48 definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Row Total
male	1	269 38.1	126 17.8	245 34.7	50 7.1	16 2.3	706 58.6
female	2	192 38.5	102 20.4	171 34.3	27 5.4	7 1.4	499 41.4
Column Total		461 38.3	228 18.9	416 34.5	77 6.4	23 1.9	1205 100.0

Chi-Square	Value	DF	Significance
Pearson	3.48636	4	.47995
Likelihood Ratio	3.54384	4	.47124
Mantel-Haenszel test for linear association	1.17159	1	.27907

Minimum Expected Frequency - 9.524
Number of Missing Observations: 11

According to Table 9.6, both were relatively optimistic (57.2%) about being employed in an occupation where they would most probably utilize their educational training. Both genders

were equally undecided, at 34.5%, and only 8.3% were at all negative about such prospects. In view of this author's observations in China, these expectations may be somewhat overly optimistic.

Though both genders were positive about the possibility of using their education at work, Table 9.7 shows it was the males who were the most likely (35.4%) to accept positions only slightly related to their study major, 6.2% greater than the females (p. = 0.00254). On the other hand females were to the same extent (6.1%) more undecided than the male respondents. When it came to gauging negative feelings, about 26% of both genders felt that they most likely or definitely could not accept such a position.

TABLE 9.7

Gender by (Q49) Would you accept a job only slightly related
to your education?

Q9		Q49 definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Row Total
male	1	153 21.6	98 13.8	274 38.7	150 21.2	33 4.7	708 58.6%
female	2	100 20.0	46 9.2	224 44.8	121 24.2	9 1.8	500 41.4%
Column Total		253 20.9	144 11.9	498 41.2	271 22.4	42 3.5	1208 100.0%

Chi-Square	Value	DF	Significance
Pearson	16.38958	4	.00254
Likelihood Ratio	17.11803	4	.00183
Mantel-Haenszel test for linear association	.61686	1	.43222

Minimum Expected Frequency - 17.384
Number of Missing Observations: 8

In a similar tone to the responses regarding using one's education, respondents were rather positive about their possibilities of finding jobs after graduation. Table 9.8 lets us know that gender is not a factor (p. = 0.12607) in the formation of expectation of level of difficulty of a job search. Even if not significantly so, unexpectedly, females (59.9%) were slightly more positive by 3.3% over males (56.1%), in that they did not expect much, if any, difficulty. The sexes were alike (29%) in the proportion of respondents who were unable to decide the level of difficulty. The male participants were slightly more likely (14.7%) to see some real difficulty, compared to females (10.5%). Even as Humanities students seemed excessively optimistic in this matter, as shown in Chapter 8, it would seem that females involved in this study seemed to be over confident, when one considers the Chinese circumstances. However, this confidence may reflect the large number of females in teacher preparation programs, who are still assigned jobs by the government, and those in urban vocational universities who normally find employment in the municipality.

TABLE 9.8

Gender by (Q51) Will it be difficult to find employment?

Q9	Q51	definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
male	1	57	46	205	238	156	702
		8.1	6.6	29.2	33.9	22.2	58.6%
female	2	31	21	147	196	101	496
		6.3	4.2	29.6	39.5	20.4	41.4%
Column Total		88 7.3	67 5.6	352 29.4	434 36.2	257 21.5	1198 100.0%

Chi-Square	Value	DF	Significance
Pearson	7.19223	4	.12607
Likelihood Ratio	7.28989	4	.12134
Mantel-Haenszel test	1.50070	1	.22056

Minimum Expected Frequency - 27.740
Number of Missing Observations: 18

Taking the questioning on expectations to a higher level, by asking about 'satisfying' employment, Table 9.9 reveals that expectations fell dramatically. Here 45.5% of respondents saw a definite or a strong likelihood that it would be difficult to find satisfying employment. There was also a greatly increased level of indecision (42.4%) on average in both gender groups, though 12% of the respondents felt there would be little or no difficulty. There was solid agreement in all response categories and no statistically significant difference due to gender (p. = 0.71685).

TABLE 9.9

Gender by (Q53) Will it be difficult to find a satisfying job after graduation?

Q9	Q53	definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
male	1	204 / 28.9	123 / 17.4	295 / 41.8	61 / 8.6	23 / 3.3	706 / 58.6%
female	2	129 / 25.9	93 / 18.6	216 / 43.3	48 / 9.6	13 / 2.6	499 / 41.4%
Column Total		333 / 27.6	216 / 17.9	511 / 42.4	109 / 9.0	36 / 3.0	1205 / 100.0%

Chi-Square	Value	DF	Significance
Pearson	2.10282	4	.71685
Likelihood Ratio	2.11276	4	.71503
Mantel-Haenszel test for linear association	.52206	1	.46996

Minimum Expected Frequency -   14.908
Number of Missing Observations: 11

Finally, we asked students about their chances of finding employment compared to students in other academic majors, Table 9.10. The high level of indecision is the same for both genders (42.2%), but that is as far as the similarities go. In sharp contrast to the earlier

agreement on the level of difficulty locating any job, when the matter is compounded by considering a satisfying position and comparison with students of other academic majors, 31.3% of males saw little or no problems, which was almost 10% higher than the situation for females. Females were more likely (33.9%) to expect a greater level of difficultly in finding satisfying occupations, which was about 6% higher than the situation for male students. Here, in this consideration gender definitely was a significant factor (p. = 0.00107), and in light of the literature reviewed earlier, it could have been expected.

TABLE 9.10

Gender by (Q54) Will it be less difficult to finding a satisfying job compared to other majors?

Q9	Q54 definite ly 1	Most lik ely 2	Possibly 3	most lik ely not 4	definite ly not 5	Row Total
1 male	95 13.4	127 17.9	293 41.4	155 21.9	38 5.4	708 58.7%
2 female	33 6.6	80 16.1	216 43.4	140 28.1	29 5.8	498 41.3%
Column Total	128 10.6	207 17.2	509 42.2	295 24.5	67 5.6	1206 100.0%

Chi-Square	Value	DF	Significance
Pearson	18.31078	4	.00107
Likelihood Ratio	19.01177	4	.00078
Mantel-Haenszel test for linear association	14.03202	1	.00018

Minimum Expected Frequency -   27.667
Number of Missing Observations: 10

9.3 Students' Aspirations and Expectations about Educational Attainment

Gender was clearly a factor in the construction of aspirations for Masters or Doctoral degrees (p. = 0.0000). Table 9.11 shows that males were more likely to aspire to earn a graduate

degree than their female classmates, with a 15% difference between male (66.1%) and female (51.0%) responses in the category of aspirations for post-graduate degrees. By an equal interval, females were more likely (41.2%) to be content with completing the program they were in or some other bachelor level program, than males, with (26%) in this category. Though practically a third of the respondents were from vocational-technical universities, we find that the responses indicating aspirations from both genders in the two bottom categories, 'some college or university' or 'college graduate,' were only 2.5% of the total, which would seem to point to a high level of academic aspirations on the part of students even at municipal level institutions.

As was mentioned at the beginning of the chapter, in the general population for a man to marry a women who is more highly qualified academically would be a social disgrace, while for a women to marry up is just fine. These university students are a very select and elite group who may be less touched by the prevalent social mores. Women in undergraduate institutions were still outnumbered by men, and thus the marriage market remains tilted in their favour. This is true in graduate school, as well, where a young women with a Ph.D. may have a better chance to meet a mate by virtue of her educational setting. This explanation may, in part, account for the seemingly high rate of females (51.0%) who continue to aspire to earn graduate degrees.

TABLE 9.11

Gender by (Q29) Highest desired level of education

```
           Q29
           |some col college  univ. gr post-gra other
           | or univ grad.    ad.      d.dgree          Row
           |   1  |    2   |    3   |    4   |    5  | Total
  Q9       --------+--------+--------+--------+--------+
        1  |    3  |   16   |  184   |  467   |   37  |  707
  male     |   .4  |  2.3   | 26.0   | 66.1   |  5.2  | 58.6%
           +--------+--------+--------+--------+--------+
        2  |    5  |    6   |  206   |  255   |   28  |  500
 female    |  1.0  |  1.2   | 41.2   | 51.0   |  5.6  | 41.4%
           +--------+--------+--------+--------+--------+
   Column       8      22      390      722      65    1207
   Total        .7     1.8     32.3     59.8      5.4  100.0%
```

Chi-Square	Value	DF	Significance
Pearson	35.32037	4	.00000
Likelihood Ratio	35.21340	4	.00000
Mantel-Haenszel test for linear association	15.05634	1	.00010

Minimum Expected Frequency -   3.314
Cells with Expected Frequency < 5 - 2 OF 10 (20.0%)
Number of Missing Observations: 9

When brought back to reality and the expectation of what most probably will happen, the gap found in aspirations between male and female narrows considerably, as seen in Table 9.12. Males still retain higher ranking levels than females by 7% in the category of expecting to earn post graduate degrees, and over all are just slightly more inclined toward the higher end of the scale altogether. Overall, there is a general slippage down the scale away from the expectation of graduate studies, and tendency to expect an undergraduate degree or a college diploma.

It is clear that with educational expectations for graduate study, gender does make a difference (p. = 0.00088).

TABLE 9.12

Gender by (Q30) Highest expected level of education

	Q30 middle s ch.grad 1	some col or univ 2	college grad. 3	univ. gr ad. 4	post-gra d.dgree 5	other 6	Row Total
Q9							
male 1	2 .3	8 1.1	55 7.8	337 48.1	285 40.7	14 2.0	701 58.4
female 2		13 2.6	58 11.6	269 53.8	149 29.8	11 2.2	500 41.6
Column Total	2 .2	21 1.7	113 9.4	606 50.5	434 36.1	25 2.1	1201 100.0

Chi-Square	Value	DF	Significance
Pearson	20.82174	5	.00088
Likelihood Ratio	21.60720	5	.00062
Mantel-Haenszel test for linear association	13.99438	1	.00018

Minimum Expected Frequency - .833
Cells with Expected Frequency < 5 - 2 OF 12 (16.7%)
Number of Missing Observations: 15

This data shows that males are more apt to have higher aspirations and expectations regarding post-graduate work, and that the gap of aspirations is even greater than for expectations. In both genders there may be a lack of realism in their expectations regarding post-graduate degrees, since a very small proportion of university graduates are actually admitted, compared to the number of those who said they expected to complete such degrees.

9.4 Students' Plans for Graduate School

When deliberating about whether or not they would like to attend graduate school in China, the reply of those who were not inclined to want to or definitely did not want to attend, was virtually the same for both genders (13.7%). Table 9.13 reveals that female students (31.5%)

TABLE 9.13

Gender by (Q41) Would you like to attend graduate school in China?

```
          Q41
          |definite Most lik Possibly most lik definite
          |ly       ely               ely not  ly not   Row
          |       1 |      2 |      3 |      4 |      5 | Total
  Q9     --------+--------+--------+--------+--------+--------+
        1 |   147 |   298 |   160 |    71 |    27 |  703
    male    |  20.9 |  42.4 |  22.8 |  10.1 |   3.8 |  58.6%
          +--------+--------+--------+--------+--------+
        2 |    77 |   196 |   156 |    57 |    10 |  496
    female  |  15.5 |  39.5 |  31.5 |  11.5 |   2.0 |  41.4%
          +--------+--------+--------+--------+--------+
     Column    224     494     316     128      37   1199
     Total     18.7    41.2    26.4    10.7     3.1  100.0%
```

Chi-Square	Value	DF	Significance
Pearson	17.10085	4	.00185
Likelihood Ratio	17.23856	4	.00174
Mantel-Haenszel test for linear association	3.73712	1	.05322

Minimum Expected Frequency -   15.306
Number of Missing Observations: 17

tended to be more unsure about this matter than males (22.8%), though both groups were slightly more decisive here than in other questions. Males (63.3%) were more prone to want to attend graduate school in China, yet females in the category of 'definitely' or 'most likely' were the majority (55.0%) of their gender group. These points verify gender as a significant factor (p. = 0.00185).

We can observe a distinct difference between aspirations and expectations with respect to graduate studies in China. Table 9.14 is another clear example of expectation ranking notably lower than aspirations, and here gender also makes a difference in what a university student expects to achieve (p. = 00271). The largest cluster in either gender group is the undecided category, where responses of both groups were nearing the half way mark (47.5%). For the female respondents, those who were planning to attend graduate school at home (23.2%) were

TABLE 9.14

Gender by (Q45) Do you plan to attend graduate school in China?

```
          Q45
          |definite Most lik Possibly most lik definite
          |ly      ely               ely not  ly not   Row
          |     1  |     2  |     3  |     4  |     5  | Total
Q9        ---------+--------+--------+--------+--------+
       1  |    74  |   147  |   331  |   119  |    29  |   700
  male    |  10.6  |  21.0  |  47.3  |  17.0  |   4.1  |  58.4%
          +--------+--------+--------+--------+--------+
       2  |    39  |    76  |   238  |   109  |    36  |   498
  female  |   7.8  |  15.3  |  47.8  |  21.9  |   7.2  |  41.6%
          +--------+--------+--------+--------+--------+
  Column      113      223      569      228       65    1198
  Total       9.4     18.6     47.5     19.0      5.4   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	16.24051	4	.00271
Likelihood Ratio	16.26419	4	.00268
Mantel-Haenszel test for linear association	14.95405	1	.00011

Minimum Expected Frequency -   27.020
Number of Missing Observations: 18

considerably fewer than their same-sex peers, who were not inclined to do so (29.1%). The inverse was true for the male participants (31.6%), who were tending more toward graduate school in China than females, and were also a larger group than their same-sex peers (21.1%), who were not planning on graduate school in China.

At least twice as many students of both genders were probably not, or definitely not planning to attend graduate school outside of China, compared to those indicated by the responses to the question that focused on graduate school in China. In Table 9.15, we find that females were the largest group (62.2%) least likely to plan to be graduate students outside their native country, while the male students were slightly less (58%) leaning in this direction. Introducing the element of location of the program, increased the decisiveness of students to 32.6% on average, indicating a somewhat mature sense of reality, which may have been influenced by the slim chances of actually ever going abroad to study. In contrast, males were almost twice

as likely (9.1%) to be making such plans as their female (5.0%) classmates.

TABLE 9.15

Gender by (Q46) Do you plan to attend graduate school outside of China?

```
              Q46
             |definite Most lik Possibly most lik definite
             |ly       ely               ely not  ly not    Row
             |    1   |    2   |    3    |    4   |    5   | Total
Q9          ---------+--------+---------+--------+--------+
          1  |   25  |   39  |   231  |   265  |   143  |   703
   male      |  3.6  |  5.5  |  32.9  |  37.7  |  20.3  |  58.5%
             +--------+--------+---------+--------+--------+
          2  |    8  |   17  |   161  |   169  |   143  |   498
   female    |  1.6  |  3.4  |  32.3  |  33.9  |  28.7  |  41.5%
             +--------+--------+---------+--------+--------+
   Column        33      56      392      434      286      1201
   Total         2.7     4.7     32.6     36.1     23.8     100.0%
```

Chi-Square	Value	DF	Significance
Pearson	16.62825	4	.00228
Likelihood Ratio	16.88859	4	.00203
Mantel-Haenszel test for linear association	11.34668	1	.00076

Minimum Expected Frequency - 13.684
Number of Missing Observations: 15

Once more gender proved to be a significant factor in generating academic expectations (p. = 0.00228), and again it was in the favour of male respondents, though all participants were fairly realistic in their attitudes.

On the question of whether or not students, if enrolled in a graduate program, preferred to continue in the same academic stream, Table 9.16 shows that males' responses tend to be more positive about this than female responses, but this seems to be marginally significant (p. = 0.05235). The low average rate of the undecided category (25%) is an indication students have probably contemplated this more than other questions. The most predisposed to a continuation in the same field of study were the male respondents at 46.7%, while the females

followed at 40.9%. The females led the negative response with 33.2%, compared to the males at 29%.

TABLE 9.16

Gender by (Q42) Would you like to do post-graduate research in the same field?

```
              Q42
              |definite Most lik Possibly most lik definite
              |ly       ely               ely not  ly not   Row
              |      1 |      2 |      3 |      4 |      5 | Total
Q9            ---------+--------+--------+--------+--------+--------+
          1   |   129  |   200  |   172  |   147  |    57  |   705
   male       |   18.3 |   28.4 |   24.4 |   20.9 |    8.1 |   58.7%
              +--------+--------+--------+--------+--------+
          2   |    69  |   134  |   129  |   133  |    32  |   497
   female     |   13.9 |   27.0 |   26.0 |   26.8 |    6.4 |   41.3%
              +--------+--------+--------+--------+--------+
       Column     198      334      301      280       89     1202
        Total     16.5     27.8     25.0     23.3      7.4   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	9.37649	4	.05235
Likelihood Ratio	9.40590	4	.05172
Mantel-Haenszel test for linear association	3.40103	1	.06516

Minimum Expected Frequency -   36.799
Number of Missing Observations: 14

One reason for the more decisive response to this question may be that not all of the students, as mentioned in the literature review, were likely to have been enrolled in the major that they had selected when first applying for university. Thus, they may have been less than enthralled with the idea of continuing on with a major that was not their choice in undergraduate school.

9.5 Students' Inclinations about Future residence

It turned out that gender proved not to be statistically significant (p. = 0.27976) when students were asked to consider whether an interesting position would influence whether or not they would move away from their parents' locales. Table 9.18 sets it out unquestionably that both genders were rather inclined (68.1%) to be drawn by the prospect of an interesting position, even if it meant separation from the family. Only slightly more than one fifth of either gender were undecided, which is a rather low level compared to many of the other questions that were asked in the questionnaire. Those who did report that they would be rather unwilling, or would refuse to move, were the smallest group, an average of 10.1% for both genders. Compared to other issues raised, students were relatively certain about this matter and tended to be open to moving for an interesting position.

TABLE 9.18

Gender by (Q50) Would accept an interesting job
if it meant moving away from your parents?

Q9		Q50 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
male	1	359	134	146	51	16	706
		50.8	19.0	20.7	7.2	2.3	58.7%
female	2	226	101	116	46	8	497
		45.5	20.3	23.3	9.3	1.6	41.3%
Column Total		585	235	262	97	24	1203
		48.6	19.5	21.8	8.1	2.0	100.0%

Chi-Square	Value	DF	Significance
Pearson	5.07426	4	.27976
Likelihood Ratio	5.07696	4	.27949
Mantel-Haenszel test for linear association	2.48442	1	.11498

Minimum Expected Frequency - 9.915
Number of Missing Observations: 13

TABLE 9.19

Gender by (Q52) Would you accept a job in a larger center
if it meant moving away from your parents?

Q9		Q52 definitely 1	Most likely 2	Possibly 3	most likely not 4	definitely not 5	Row Total
male	1	325 45.9	105 14.8	198 28.0	58 8.2	22 3.1	708 58.8%
female	2	232 46.7	80 16.1	130 26.2	46 9.3	9 1.8	497 41.2%
Column Total		557 46.2	185 15.4	328 27.2	104 8.6	31 2.6	1205 100.0%

Chi-Square	Value	DF	Significance
Pearson	2.98462	4	.56040
Likelihood Ratio	3.06334	4	.54728
Mantel-Haenszel test for linear association	.42180	1	.51604

Minimum Expected Frequency - 12.786
Number of Missing Observations: 11

There was even greater similarity between the genders on the issue of whether or not they would move away from their parents' locality for the reason of gaining residence in a better urban environment. A very similar response between male and female respondents is shown in Table 9.19, verifying the earlier findings that gender did not have a strong correlation with this set of questions (p. = 0.56040). The largest cross-gender group were those who were tending to view the prospect of an enhanced urban residence with enthusiasm (61.6%), which was somewhat less than the same expectation with the 'interesting job factor' (7% less.). However, there was an increase in the indecision category, 27.2%, or 5.4% over the response level found in the same category in the previous question. Those who said they would not likely move, or definitely not move, were one percent higher in this category, compared to the question involving the 'interesting job' factor.

This tendency to be inclined to move, either for the stronger 'interesting job' or the 'larger urban center,' was attributed by one Chinese scholar, as related to the fact that in these changing times students want to break the power parents hold over them. By moving they imagine that they are securing opportunities that may not exist for them at their present locations.

9.6 Structural and Socio-Psychological Factors

As we have seen thus far, gender has proved to be a significant factor in many issues around university students' academic and career aspirations. To the question, "How important are the following people in helping you decide to choose among university, college or going directly

TABLE 9.20

Gender by (Q40A) Mother as factor to help in decision making

Q9		Q40A not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	92 13.6	88 13.0	252 37.3	197 29.1	47 7.0	676 58.1%
female	2	44 9.0	42 8.6	209 42.8	155 31.8	38 7.8	488 41.9%
	Column Total	136 11.7	130 11.2	461 39.6	352 30.2	85 7.3	1164 100.0%

Chi-Square	Value	DF	Significance
Pearson	13.17261	4	.01046
Likelihood Ratio	13.44359	4	.00930
Mantel-Haenszel test for linear association	7.78975	1	.00525

Minimum Expected Frequency - 35.636
Number of Missing Observations: 52

to work, and your future career?" (Q40), students were asked to rank each of the following:

Self, Parents, Fathers, Mothers, Friends, Teachers, Others and Grandparents. We will set out

the relevant tables indicating their relative significance, and then comment on the rank order,

with special reference to gender.

How students saw their mothers' level of influence in their decision making process is set out

in Table 9.20. There is some correlation here between gender and the perception of a mother's

contribution (p. = 0.01046). 39.6% of females and 36.1% of males saw their mothers'

influence as important, while 42.8% of females and 37.5% of males saw it as a factor. By

contrast 26.6% of males and 17.6% of females felt that their mothers' input was a small factor

or none at all. The general impression that one is left with is that a large group from both

genders saw their mothers' input as moderately to relatively important as a factor, but males

were most likely to discount their mothers' influence.

TABLE 9.21

Gender by (Q40B) Father as factor to help in decision making

Q9	Q40B	not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	81	69	251	211	66	678
		11.9	10.2	37.0	31.1	9.7	58.2%
female	2	35	49	175	180	47	486
		7.2	10.1	36.0	37.0	9.7	41.8%
Column Total		116 10.0	118 10.1	426 36.6	391 33.6	113 9.7	1164 100.0%

Chi-Square	Value	DF	Significance
Pearson	9.42882	4	.05123
Likelihood Ratio	9.64514	4	.04685
Mantel-Haenszel test for linear association	5.70585	1	.01691

Minimum Expected Frequency -   47.180
Number of Missing Observations: 52

Compared with that of mothers, fathers' input was generally viewed as being moderately more important. Table 9.21 shows that once again females tended to deem their fathers' input as important at 46.7%, compared to their male cohorts at 40.8%. Just over a third (36.6%) of both groups assessed their fathers' input as being a moderate factor. Males were again the most likely to view their fathers' input as minimal or even totally insignificant (22.1%), while for females this category was 17.3%. Though there was a trend to see the fathers' input in slightly more important terms, still there was a marginally significant difference between the gender groups (p. = 0.05123).

TABLE 9.22

Gender by (Q40C) Parents as factor to help in decision making

```
            Q40C
            |not a fa minor fa a factor importan most imp
            |ctor     ctor             t factor ort.        Row
            |    0 |      1 |      2 |      3 |      4 |   Total
Q9          --------+--------+--------+--------+--------+
        1   |    80 |    59 |   259 |   208 |    65 |    671
   male     |  11.9 |   8.8 |  38.6 |  31.0 |   9.7 |   58.0%
            +--------+--------+--------+--------+--------+
        2   |    29 |    37 |   170 |   190 |    60 |    486
 female     |   6.0 |   7.6 |  35.0 |  39.1 |  12.3 |   42.0%
            +--------+--------+--------+--------+--------+
     Column     109      96     429     398     125    1157
     Total       9.4     8.3    37.1    34.4    10.8   100.0%
```

Chi-Square	Value	DF	Significance
Pearson	19.29448	4	.00069
Likelihood Ratio	19.81130	4	.00054
Mantel-Haenszel test for linear association	17.16268	1	.00003

Minimum Expected Frequency -   40.325
Number of Missing Observations: 59

Table 9.22, indicates the combined influence of mothers and fathers. Again, the female students were more liable to see this influence as greater (51.4%) than males (40.7%). An average of 37.1% of all respondents saw this combined category as simply a moderate factor,

the same level of response as for the consideration of the father as a single factor (36.6%). The most likely to see this combined factor as minimally or not influential were the male students (20.7%), but this meant that the relative importance of each factor grew slightly when the factors were combined. This increase was also true about female responses, in that fewer responses were registered in these two lowest response categories (13.6%), a lower rate than either for mother or father factors singularly.

Though gender made a difference as to how students would respond to this question (p. = 0.00069), there was a common shift towards seeing combined parental influence as more important than that of mother or father separately.

With both gender groups (p. = 0.474541), there is a marked low valuation of the importance of teachers' input. Table 9.23 shows a similar response between male and female, where only 11.7% were convinced that their teachers' input was a rather important or most important factor in the decision making process. 27.3% of all respondents saw this input as moderately important, while the largest group, 61.0%, viewed it as a minor factor or less. Thus, we see the remnant of what would have been at one time an important relationship in high school almost disappearing as students discover themselves at university.[1] There seems to be no significant difference between genders in this point.

TABLE 9.23

Gender by (Q40D) Teachers as factor to help in decision making

Q9		Q40D not a fa ctor 0	minor fa ctor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	245 36.2	170 25.1	183 27.1	60 8.9	18 2.7	676 58.2%
female	2	157 32.3	137 28.2	134 27.6	49 10.1	9 1.9	486 41.8%
Column Total		402 34.6	307 26.4	317 27.3	109 9.4	27 2.3	1162 100.0%

Chi-Square	Value	DF	Significance
Pearson	3.52218	4	.47451
Likelihood Ratio	3.54234	4	.47147
Mantel-Haenszel test for linear association	.47194	1	.49210

Minimum Expected Frequency - 11.293
Number of Missing Observations: 54

TABLE 9.24

Gender by (Q40E) 'Myself' as a factor in decision making

Q9		Q40E not a fa ctor 0	minor fa ctor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	23 3.3	12 1.7	32 4.6	133 19.3	489 71.0	689 58.3%
female	2	8 1.6	8 1.6	37 7.5	126 25.6	313 63.6	492 41.7%
Column Total		31 2.6	20 1.7	69 5.8	259 21.9	802 67.9	1181 100.0%

Chi-Square	Value	DF	Significance
Pearson	14.78322	4	.00517
Likelihood Ratio	14.85332	4	.00502
Mantel-Haenszel test for linear association	.86566	1	.35216

Minimum Expected Frequency - 8.332
Number of Missing Observations: 35

Students' own input seemed to be overwhelmingly the most important factor, as we see in Table 9.24, with 71% of males and 63.6% of females choosing this category. The bulk of the remaining responses were in the 'important factor' category, with females at 25.6% and males at 19.3%. These two categories for both groups encompass nearly 90% of all responses.

The other factors examined in Question 40, proved not to be statistically significant: friends (p. = 0.20506), grandparents (p. = 0.39588), and others (p. = 0.13062). As previously shown in Table 8.22, the influence of these significant persons ranked as follows: students, parents, father, mother, friends, teachers, others, and grand-parents. Only with the top four positions did gender make a significant difference in view of each factor's relative importance. The four lower positions ranked by participants did not yield any significant difference according to gender.

With regards to a full range of other factors that might influence students' academic and career decisions, participating students were asked to consider the relative importance of a range of social, economic, and other factors (Q34). In Table 9.25, we find that six out of the ten factors were found to be statistically significant (p. < 0.05). According to Table 8.25, the following is the rank order that arose from the results from this survey question: Future Job*, Students' Interests, National Exam*, Parents*, Geographical Location, Cost*, Teachers*, Program Length, Grand-Parents and Friends plans*. Here we will only describe and explain those factors that showed some correlation (*) with students' gender, because the other factors are viewed in very much the same way regardless of gender.

TABLE 9.25

Gender by (Q34) Structural and Socio-Psychological Factors

Cost

Q9		not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	184 27.4	155 23.1	166 24.7	120 17.9	46 6.9	671 58.1%
female	2	203 41.9	119 24.6	85 17.6	60 12.4	17 3.5	484 41.9%
Column Total		387 33.5	274 23.7	251 21.7	180 15.6	63 5.5	1155 100.0%

(p. = 0.00000)
Number of Missing Observations: 61

Friends' plans

male	1	389 58.1	137 20.4	111 16.6	25 3.7	8 1.2	670 58.1%
female	2	347 71.7	77 15.9	42 8.7	13 2.7	5 1.0	484 41.9%
Column Total		736 63.8	214 18.5	153 13.3	38 3.3	13 1.1	1154 100.0%

(p. = 0.00004)
Number of Missing Observations: 62

Future job

male	1	55 8.1	44 6.4	106 15.5	258 37.8	220 32.2	683 58.3%
female	2	28 5.7	22 4.5	89 18.2	220 45.1	129 26.4	488 41.7%
Column Total		83 7.1	66 5.6	195 16.7	478 40.8	349 29.8	1171 100.0%

(p. = 0.01583)
Number of Missing Observations: 45

Parents

male	1	64 9.5	86 12.7	197 29.1	247 36.5	82 12.1	676 58.1%
female	2	25 5.1	48 9.9	146 30.0	204 41.9	64 13.1	487 41.9%
Column Total		89 7.7	134 11.5	343 29.5	451 38.8	146 12.6	1163 100.0%

(p. = 0.02287)
Number of Missing Observations: 53

National college exam

male	1	108 16.0	72 10.7	146 21.6	221 32.7	128 19.0	675 58.1%
female	2	46 9.5	39 8.0	123 25.3	179 36.8	99 20.4	486 41.9%
Column Total		154 13.3	111 9.6	269 23.2	400 34.5	227 19.6	1161 100.0%

(p. = 0.00594)
Number of Missing Observations: 55

Gender by Q34 (con't)

Length of academic program

		not a factor 0	minor factor 1	a factor 2	importan t factor 3	most imp ort. 4	Row Total
male	1	291 43.6	153 22.9	129 19.3	73 10.9	22 3.3	668 58.0%
female	2	207 42.8	114 23.6	93 19.2	57 11.8	13 2.7	484 42.0%
Column Total		498 43.2	267 23.2	222 19.3	130 11.3	35 3.0	1152 100.0%

(p. = 0.96156)
Number of Missing Observations: 64

Your interests

		0	1	2	3	4	Row Total
male	1	46 6.8	46 6.8	148 21.8	257 37.8	183 26.9	680 58.2%
female	2	24 4.9	36 7.4	121 24.7	172 35.2	136 27.8	489 41.8%
Column Total		70 6.0	82 7.0	269 23.0	429 36.7	319 27.3	1169 100.0%

(p. = 0.47842)
Number of Missing Observations: 47

Your teachers advice

		0	1	2	3	4	Row Total
male	1	168 25.1	148 22.1	239 35.7	102 15.2	13 1.9	670 58.0%
female	2	91 18.8	94 19.4	181 37.3	109 22.5	10 2.1	485 42.0%
Column Total		259 22.4	242 21.0	420 36.4	211 18.3	23 2.0	1155 100.0%

(p. = 0.00637)
Number of Missing Observations: 61

Grand-parents

		0	1	2	3	4	Row Total
male	1	436 65.5	105 15.8	73 11.0	35 5.3	17 2.6	666 58.0%
female	2	327 67.7	82 17.0	55 11.4	15 3.1	4 .8	483 42.0%
Column Total		763 66.4	187 16.3	128 11.1	50 4.4	21 1.8	1149 100.0%

(p. = 0.09024)
Number of Missing Observations: 67

Geographic location

		0	1	2	3	4	Row Total
male	1	226 33.5	109 16.2	137 20.3	151 22.4	51 7.6	674 58.1%
female	2	157 32.2	76 15.6	125 25.7	103 21.1	26 5.3	487 41.9%
Column Total		383 33.0	185 15.9	262 22.6	254 21.9	77 6.6	1161 100.0%

(p. = 0.19231)
Number of Missing Observations: 55

Taking all these factors into consideration, the influence of future job was viewed by an average of 70.6% of all respondents as 'important' or 'the most important' factor. Males were somewhat more apt to see it as the most important factor (32.2%), whereas females were more apt to see it as simply 'an important factor' (45.1%). Though both groups clearly saw this factor as the most important in helping them make academic and career decisions, there was some inclination for males to see it as that much more important.

While 'students' own interests' were viewed by respondents to be the most important factor when compared with other significant individuals, when seen in a wider context of other types of factors it decreased in importance and fell to second place. Both male and female respondents agreed on this placement, and its relative importance in their decision making.

The national examination, which can and often is the decisive factor in dictating the direction that individuals will take in life, was ranked as the third most important factor, just behind 'students' interests.' Females were more likely to see the exam as 'an important' or even the 'most important factor' (57.2%), though males were only a little less likely (51.7%) to do so. About 23.2% from each group viewed it as a moderate factor, but the males were most inclined to see it as a relatively unimportant or a non-factor (26.7%), compared to females (17.5%). It is easy to see why this factor ranked high in the students' assessment of the role of these factors, because of the tremendous weight it carries. It is, however, difficult to see why the males were more likely to see this element as a non-factor. It could be that the higher the total score obtained by females, the greater are the chances of being able to overcome the gender biases that may exist within the selection process, for both academic and career positions.

Though 'parents' as a category had ranked second in the comparison with significant others, in the larger comparison with other factors, it slipped to fourth position. The preponderance of respondents saw 'parents' influence as 'a factor' or an 'important factor', but females were slightly more likely (71.9%), than males (65.6%), to have chosen these two categories. As often has been the case, the males were more prone (22.2%) to see this factor as minor or not a factor at all. There seems to be a trend in this cross tabulation that indicates the females are about 7% more likely to see parental influence as relatively important than males.

'Cost' was placed sixth in the overall ranking of the full range of factors, after geographic location. The gender difference in this analysis was probably one of the clearest. 66.5% of all females said that the cost of education was not a factor, or at least not much of a factor in deciding whether to go to university or graduate school or to work, whereas 50.5% of males responded in this same category. This gap of 16% between the genders narrowed to approximately 7% in the moderate factor category (24.7% -male and 17.6% - females), and about the same gap existed in the 'important' and 'most important factor' categories (24.8% - male and 15.9% - female), indicating clearly that males were substantially more inclined to see cost as a relatively important influence. One possible explanation for this phenomenon, is that many more of the males are from the countryside, while females tend to be more often from urban families.

When teachers' influence was assessed along with other significant individuals, there was no significant difference between the students responses by gender, but once re-assessed in the light of the larger context there was more of a divergence of view in this matter. As we near

the bottom of the rank order, neither had a meaningful representation in the 'most important' category, with both genders reporting about 2.0%. For the females, there was a 60% response in the category of 'a factor' and 'an important factor', and a 38% response rate in the category of 'minor factor' or 'not a factor'. For the males it was almost a 50\50 split for these same categories. There was a trend towards an overall increase in the importance of the teachers' input when taken into comparison with factors besides significant others, and this was especially true for the female respondents.

The factor from Question 34 that was ranked the lowest of all was the influence of 'friends plans.' 10% had reported this as 'important' or 'the most important' factor, 32% as 'a factor,' and there was about 27% in each of 'a minor factor' and 'not a factor' when assessed in relation to the other significant others (See Table 9.25). Yet once its influence was re-evaluated in conjunction with other types of factors, the estimated value decreased considerably. In this second evaluation, from both gender groups only 4.4% were inclined to see it as 'important' or as the 'most important' factor. Considering it as simply a factor were 16.6% of the males, and about half as many females at 8.7%. The largest response groups, were those from each gender which regarded it as having a minor influence or none at all, that was 87.6% female and 78.5 male. So both female and male students deemed themselves to be least swayed by their peers among all the factors mentioned in Question 34.

9.7   Summary of Results

Considering the general societal attitude toward women the level of aspirations and

expectations are somewhat unanticipated and may need some explanation.

Both gender groups had relatively high end aspirations and expectations on the occupational index, that is to say 80% of all respondents expected occupations in the top two categories. More males expected to be involved in business than was the case for women, who were far more likely to expect office type (clerical and office positions) jobs. Half of the respondents did not have clear occupational aspirations, and those who did, often aspired to lower ranked occupations, according to our index, than they were expecting. Many females wanted to drop from category 1 (intellectual) to category 2 (leading cadre). Many also aspired to business (3) and military (8) type of jobs, which meant fewer aspiring to be in category 1 and 4 (office worker). There were no women who aspired or expected to be in category 9 (housewife).

Most of both genders were fairly optimistic that they would find jobs where they could utilize their education, and they thought that they would not have difficulty finding work. Males were prone to accept work only slightly related to their major field. Whether or not they would be able to locate satisfying jobs was not a settled issue with either gender. Males were less likely to see any difficulty in finding a job, when comparing themselves with those in other majors.

More males aspired to post-graduate degrees than females, but nearly half of the females were still hoping for such opportunities. The expectations of both groups were substantially lower than their aspirations. 60% of all respondents had hopes for graduate school in China, with males occupying a large part of this group, and many females being undecided. Again, expectations were closer to reality, with only one quarter of the females and one third of males

were expecting to attend graduate school. The numbers planning on graduate work diminish with the narrowing conditions of 'outside China,' leaving only 10% of males seriously considering such an option and females even less so.

Male students tended to be more positive about continuing on with their major, if admitted to a graduate program. The low rate of those who would have continued on was probably due in part to the fact that half of the respondents did not know whether their program of study would be an asset or a hindrance when applying for graduate school.

With regard to significant others, female students were more positive about the importance of their mother's role in the decision making process, while males considered it much less important. Mothers' influence was in a moderate to relatively important category. The same could be said about fathers as a factor, but fathers' influence ranked slightly higher. The combination of these two factors into 'parents' led to an increase in the students' view of the importance of parental input.

Teachers' input was viewed as relatively unimportant by most male and female students. Students estimation of their own importance seemed to have replaced that of their teachers.

When the significant others are ranked together with other types of factors (ie. social and economic), the ranked positions of the significant others tends to shift, but not always in predictable ways. In light of the other factors, the consideration of the possible future occupation ranked high and was more likely to be seen by males as the most important factor

in the decision making process. In this wider arena of comparison, the level of importance of students' own input decreased significantly. The national level entrance exam continued to be viewed, at least by females, as very important in the process. Parental influence, in this comparison, also decreased substantially, but females continued to view this input as more important than the males viewed it. Females were more apt to view the cost of education as relatively unimportant compared to their male classmates. Teachers' level of influence, in the estimation of female respondents, grew in importance. Peer influence was rated as minor to almost non-existent, and that, too, by females more than males.

By virtue of their gender, males were expected to outrank females in expectations and aspirations, due to their closeness to the center of the power structure which is generally controlled by males, and is more open to male aspirants. However, we have seen from the examination of these factors that this was not always the case for university students. Within the current background of evolving opportunities and limitations, and the specific constraints imposed by gender, students make enrolment decisions in light of their perception of the costs and benefits of selecting specific occupational or academic opportunities.

As on the international stage, this select group of students tended to have relatively high occupational expectations, according to the occupational index, regardless of gender. Females tended not to expect that they would be involved with politically oriented occupations, which are in a sphere usually dominated by males. Nevertheless, a significant number of these female students did aspire to such positions. Likewise, a number of females would have chosen occupation within the business sphere, if it were possible. It would seem that societal

expectations and values throw a large net of constraints over students of both genders, but the largest impact is upon the females, causing them, though equally successful and capable as males, to confine their expectations to a much narrower field of occupations.

Contrary to the common knowledge that female university graduates, in China, have considerably greater uncertainty in the job market than do males, females persisted in being quite optimistic about work opportunities in line with their major. Though it is likely that these women were well aware of systemic discrimination in favour of males at all levels of the occupational structure, the shift towards a market type economy may have been giving them a renewed sense of hope.

Both genders tended to be realistic in their expectations about the severely limited opportunities for graduate school, but a large group, mostly males, still wished to go on to be involved with graduate level research. The indecision reported by the females was probably partly due to the fact that they had a knowledge that the schools tended to prefer male candidates because of their relative ease of placement in the job assignment system. Also, many of the graduate programs were science programs largely occupied by males. The main reason may still be the possible penalty of placing oneself outside the marriage market due to being over-qualified educationally.

The students' appraisal of the influence of significant others in the decision making process of students was definitely gender based. Females tended to remain more traditional in their attitudes, in that they viewed their mothers' and the combined influence of parents' input as

much more important than did their male counterparts. Males, on the other hand, were much more apt to see themselves as the prime influence in the making of their decisions. The most probable cause for this difference is that the females are most often drawn from urban and socially better situated families, where they have received more encouragement and more family input or concern regarding these matters. Unlike students in other national studies, in the estimation of these students, the influence of peers was given almost no credit for the development of their aspirations or expectations.

Considering other influential factors, females, often from more well off homes, were least influenced by the cost when it came to making career and academic decisions, compared with their male counterparts. Also, females claimed to be significantly less influenced by peers. Again, it would seem that family background, including parental occupation, would more than likely account for these differences, where finance was less of a concern and where students seemed to have spent enough time with parents to have a clear knowledge of what parents expected or wished. Males, by contrast, seemed to be somewhat more apt to be independent, and ended up viewing their own vision of their future occupations and their own ideas as the greatest influences.

Notes:

1. The teacher-student relationship is much more important at the high school level, because teachers, generally, have more potential to get students to and across the narrow "enrolment" bridge to university. This relationship is even more exaggerated in the country side, because students' parents are often peasants without social or political connections, so the teacher is seen as a last hope to push them up the academic ladder of success.

CHAPTER X

CONCLUSION

This survey study of the university students' experience in China, particularly their education and occupational aspirations and expectations, was designed to answer questions and to confirm or disconfirms certain assumptions about plans and dreams of students at this level of education.

We have tried to add to the literature on Chinese higher education and also to that body of writing that concern aspirations, on an international scale, by explaining what students would like to do academically and career-wise, and what seems to be influencing those decisions. It is this author's wish that this study may demonstrate to the Chinese authorities that allowing such studies can increase our understanding of Chinese students, and of the decision making process, and that the significance of such a study may have a positive effect in the lives of students, on those significant others who will help mould students' future life paths, and on the China's educational institutions and planning system.

We also wanted to give at least a snapshot picture of who China's university students are, for

the benefit of counsellors, university administrators and government planners, so that they might better facilitate the students to make the most appropriate decisions possible concerning graduate education and occupational roles. With the ideology of collectivism waning and the growth of individualism, the new economic climate and the changing social atmosphere point to a great probability that students will be called on to make a plethora of decisions that their parents were not required to make, regarding many areas of life, and in particular educational and occupational choices. Even students in the "liberal" 1980's had a much smaller range of occupational choices. Thus, there is good reason to encourage parents of all students to become more closely involved, at the earliest possible point, with their children's educational and occupational planning, and for national, provincial, and municipal governments to formulate policies that would encourage students to make appropriate career decisions.

10.1   FAMILY BACKGROUND

As it is in other countries, it was clear from this data that intellectual and political elites of society tend to reproduce their own kind in disproportionate level, compared to their relative proportion in society at large. The children coming from families where fathers were employed in occupations that fit into the top twenty percent of the work force ranking, were 39.4% of the student population, but probably represented less than ten percent of the national population. On the other hand, students from families where the father was a peasant\farmer, occupationally situated in the third lowest decile, were 27.8% of the students participating in this study, but represented slightly more than 80% of the national population. Considering the

tendency for reproduction and the difficult circumstances in the country side, it is truly a tremendous feat that China has been able to raise the peasant\farmer class to this level of representation at the universities.

In general, these high achieving students tended to aspire to be employed in careers that were higher than their parents, if it were at all possible, which seems to be a direct result of parental input. Perhaps the only notable exceptions to this trend were those from families in which the father was classified in the business\entrepreneur category (an occupation under intense social examination and upward valuation) because they tended to want to remain in the same occupational grouping as their fathers. All this speaking of a propensity for those who finally are admitted to higher education to be part of a drift up the social ladder for their family.

While for the purposes of this study students' family background was defined on the basis of the father's placement within the Socio-economic Index of Occupations for the PRC, this type of categorization being a standard practice for indicating familial socio-economic status, the mothers' occupations level was found to be no less important according to the data in this study. On a more conscious and verbalized level, it was the mother's desires or wishes, more often than not, that the students were able to articulate. Moreover, the influence of the fathers or mothers appeared to exert different levels of force, according to the students, depending on the question that was under consideration, but their impact on their children seemed to be even greater when considered together as a factor. It also seemed that there was a correlation between the amount of parental input and the students' levels of occupational aspirations. This

seemed to be higher in families at the upper end of the occupational index. Students from the higher occupational categories also chose the highest occupational categories, and who had a clear knowledge of their parents' desires for future careers for their sons and daughters.

Family background, in the form of parental influence also had an impact on the way students considered post-graduate education. While even children of the lowest ranking professionals, housewives, had strong desires for an opportunity to attend graduate school in China, it was children of much higher ranked mothers who aspired for the prized opportunity to study in a foreign country.

One encouraging sign that arises from the data is that while parental influence is diminishing in the eyes of students, it is replaced by their own expanding ability to analyze and make mature choices, rather than the often unhelpful or even destructive influence of peers, which we have seen was a problem at lower levels of education in China. Clearly parents, according to the respondents in this survey, still remain a valuable source (but not the prime source) of advice and information, that seems to be especially true the higher the students' parental occupational level. Such a finding does not accord with the conclusions drawn by Zhang (1987) and Hooper (1991) in their studies of high school students. They found that peer influence was increasing at the expense of parental influence. For university students in this study, parental influence on choice of study and occupation was being replaced by their own personal judgement. So, while parental input may have fallen to a less influential position, peer input remained relatively unimportant to these more mature and independent students.

This was quite different from Porter's (1980) Canadian study where peer influence grew continually.

Our assumptions that students' aspirations and expectations would be predictable based on their family background turned out to be only partially confirmed. In this era of great economic and social development occupational categories are shifting positions relative to one another. Previously unrespected categories have become highly prized because of their access to material goods. Thus, the intellectual category that reigned supreme as the number one choice for centuries, because of social prestige, political connections, and its ability attract financial benefits to the family involved, is now under challenge by other recently re-evaluated occupational categories as students' desired occupation. Our assumption that students whose fathers were classified under the intellectual (1) and leading cadre (2) categories would continue to have the highest aspirations and expectation, by that we mean to desire the same equally high levels, was disconfirmed in that their aspirations were somewhat lower; that is to say, occupations that ranked lower on the occupational index were often more desired by these students than we had expected. This, as we have said previously, was due to the changing nature of the economic situation, which also has affected the salary level of many occupations, and has left some of the formerly prized positions, such as that of professors and teachers, who continue to work for the public sector, in relative poverty.

Thus, the index that was created for this study would be modified slightly to take into account the value placed on the various occupations by the students when they responded to the query

about what occupational group they would like to gain employment. The occupational category that would undergo the biggest move is the military, since we had originally ranked it as level 8, which was the second lowest, only higher than the housewife category (9). In line with the students' choice, this category, which over the recent ten years has undertaken many different business ventures, from computer companies, building construction, hotel operation, satellite launching and leasing, and a host of other enterprises (too many to mention here), would be take the fourth position, just after the business category.

10.2 GEOGRAPHY

We have noted a polarization regarding students' family background, with the largest group, that of intellectual (1) and leading cadre (2) categories at the high end of the index, with the peasant\farmer category as the second largest group near the low end. There was a similar polarization with the students' residence permits. Nearly half (43.0%) of all students were from villages (pop. up to 10,000 approx.) on one side and on the other a full third (33.1%) held residence permits in metropolitan center (pop. over 1,000,000). The provinces in which students held their residence, for the vast majority (80.0+%), were in the same provinces as the school they were attending at the time of this survey. Therefore, when we refer to universities on the coastal region, we are also referring to students who usually are from the more modern and more industrialized 'center region' and likewise, in referring to universities in the hinterland, we are in a very real sense also referring to students who were raised in an economically less developed area, with far less opportunity, academically and occupationally.

So this sample population, in general reflects more of a rural-urban split than a clear cross section or stratification of the range of possible types of residences. Though there are student that represent every region of the country, undoubtedly the sample is more representative of the three provinces that the sample was drawn from than a reflection of the entire population. At the same time it does seem to accurately portray the three types of regions (coastal, interior, and hinterland) we were hoping to investigate.

According to the Socio-economic Index of Occupation for the People's Republic of China, students studying in the interior city of Xi'an had the highest occupational expectations, while students at the coastal city of Nanjing chose slightly lower occupations on average. Students from the periphery, Lanzhou, as expected, had the lowest levels. Nanjing students' aspirations, as again expected, were shifted significantly upward into the intellectual category (1), which is exactly as one might expect, aspirations aiming somewhat higher than expectations. In contrast, Xi'an students' career aspirations were lower than their expectations, because they desired to be involved with business related careers rather than the less than lucrative intellectually related professions that they expected.

It was probably due to the prevalent outlook at the time of this survey, that to be a professor was unprofitable and to spend the time to earn a Ph.D. was a foolish waste of time and energy, that Nanjing students could claim the distinction of having the lowest academic aspirations and expectations when compared with Xi'an and Lanzhou.

Geography also played a role in the formation of the students perceptions about the helpfulness of the universities or teacher and advisors in informing students about career and academic opportunities. Though large groups from all locations were mainly undecided about this issue, Nanjing respondents were most positive about the institution's ability, and their teachers\advisors ability to inform students. Xi'an's students, above the those at the other two locations, were the most likely to be pessimistic that these institutional and significant teachers or advisors would be of any real help.

Regardless of geographic location, clearly more than half of all students tended to express feelings that they would readily move away from parents and family if they were offered employment positions that were either interesting or were in larger urban centers than the place where their parents resided. However, students in Nanjing, studying closer to the 'center,' were more likely to feel that they actually had some ability to choose their future residence as a result of their programs.

Our assumption that the closer the universities' location was to the geo-political 'center,' the higher would be the students' expectations was not confirmed, in that we found student from the 'center,' Nanjing, choosing politically oriented career roles (category 2) instead of those intellectual in character. The most probable reason for this phenomenon is that Nanjing is quite closely linked Beijing, the national 'center,' because Nanjing is the capital of the richest and the most productive province, Jiangsu. As a result students were exposed to the need for political connections, and had seen many absorbed into the government structure. Nanjing's

students were also likely to choose new types of career paths.

The last assumption, relating to geography, that the new emerging economic conditions on the coast would lead students of that region to have a tendency to explore the full range of career opportunities, while those in the interior and the hinterland would have a narrower career role focus was not confirmed by this study. It is true that certain occupational categories were predictable for students from the coast, however, it was not true that the interior and hinterland students tended to be more restrictive in relation to the same range of career options as the coastal universities. If anything, the hinterland students' ambitions were higher than those of their interior counterparts.

10.3   ADMINISTRATIVE LEVEL

With the knowledge of the structural differences between the three levels of government that manage higher educational institutions, and that there was likely to be some impact of these differences on students enrolled in a particular institution, we sought to assess the exact nature of the difference that would be manifest in students' aspirations and expectations and to discover whether there was any discernable pattern.

Students from universities of all three administrative types were highly likely to expect to finally work within categories in the top half of the index (intellectual (1), leading cadre (2), business\entrepreneur (3), and office worker (4)). Students from the municipal levels had

notably lower expectations than respondents from the other two levels closer to the 'center.' The downward incline that is often expected from the 'center' to the 'periphery' is more clearly manifest in the examination of students' desired occupation, with national level students' aspiration overall slightly higher than that of the provincial level students, and that of the provincial students slightly higher than that of the municipal level students.

Institutional level, as defined by this study, was a significant force influencing the aspirations for further higher education. Though student from national and provincial level institutions were virtually the same, at the municipal level students were far less likely to have the same aspirations of those at the higher levels. Still, students seem to all be unrealistically high in their academic aspirations. The structural characteristic of the municipal level universities, with abilities to grant only diplomas or certificates, proved to be a clear limiting factor on the level of education that students could hope for. Students at the national level (I) tended to have the highest expectations for further education, the institutional level seemingly pushing more of them further along the educational path. Provincial level (II) respondents were in turn higher than those in the municipal (III). The same pattern could be said about students' assessment of their program's ability to aid them in being admitted to graduate school.

Our assumption that provincial institutions would have the lowest rate of female attendance, due to their usually high rural student make up, was disconfirmed by this study, in that the female participation rate was higher than either the national or the municipal level. This is possibly explained by the fact that two of the normal universities involved in this study, with

the often greater proportion of females, were under provincial administration.

Once again one of our working assumptions was only partially confirmed. While there was significant difference between students aspirations and expectations based on the influence of different institutional levels, it was not always directly correlated to the institutional level. To be more specific, the national and provincial level students were often very similar in their responses, and it was the municipal level students that were more likely to have significantly lower level responses rates in those categories most often chosen by students in the other levels.

10.4   MAJOR FIELD OF STUDY

The elevated position that science now enjoys in China, is not really a recent phenomenon as one might suppose but rather it is the result of a long process that started at the end of the last century and the desire for modern technology that would benefit China and secure it a place of leadership in a modern world. Consequently, simply to be enrolled in a science program brings prestige to one's family and tends to open many academic and occupational avenues not available to humanities students.

Strictly speaking, according to the Socio-economic Index for Occupations for the People's Republic of China, we would have to say that Humanities students maintained slightly higher levels of expectations and aspirations for prestigious occupational roles. By contrast, it was

the Science students who most often declared the highest levels of aspirations for education. These aspirations are most likely linked to the greater possibility of graduate school afforded to students in science. Science students were rightfully more optimistic about their chances of enrolment in graduate school, at home or abroad.

The way a student assessed the level of importance of the various significant others tended to follow the same rank order, in spite of their different academic fields. Humanities students

were the group that tended to feel the impact of their own input and parental input was more important in the make up of aspirations and expectations than did the science students. Particularly for parental influence, Humanities were likely to see it as important, while Science students were a little more pessimistic about its value. The other factors were rank ordered with much more agreement between the major fields. When structural and socio-psychological factors were examined together, Science students were more likely than Humanities students to view 'cost' as moderately important (it ranked 6 out of 10). It may be conceivable to explain these divergent views by restating the notion that Humanities students tend to represent the urban intellectual group, and we know from other national studies this group of parents tend to support their children for higher education. Science students are more often from peasant\farmer background and hold lower levels of education (thus are unable to talk much about what their children are learning), leaving most of the decision making up to the student. The poorer rural background of many of these science student would seem to make it easy to explain, for even the incidental costs of education have been viewed as a burden by this group.

We had assumed that students, depending on their major field of study, would have reported different impressions of the importance of structural and socio-psychological influences over their decisions regarding academic and career choices. There appeared, however, to be very little difference between their perceptions, except with regard to a few influences, 'self interest,' 'parents,' and 'cost.' The first two influences were seen as more important by Humanities students ('self interest' only marginally so) and the latter was more often considered more important by Science students.

The assumption that responses relating to career related instruction and the ways that career information was provided would be different based on whether a student was enrolled in a Science program or a Humanities program was disconfirmed by statistical analysis. Both groups of students were, for a great part, ignorant of the how, who or when of the impartation of such information, but those who did have some knowledge looked to the university and its official programs as the more able provider, rather than the informal advice of teachers and student advisors.

Through this analysis we have found that of the factors under investigation, a student's major field of study tends to play a rather minor role in comparison with the other factors. This is very different from the 1970 Canadian study by Breton, where the major field of study was considered a very important predictor of aspirations.

10.5   GENDER

As with an earlier Chinese study (Thogerson 1987), and other international studies, females tended to have slightly higher occupational aspirations and expectations than males, but like their male cohorts, their desires were for a broad range of occupation which meant some were lower on the index. In contrast, Fang's (1990) investigation of Taiwanese vocational high school students showed no discernable gender difference in occupational aspirations and expectations. Both genders were optimistic about the possibility of utilizing their university training, but in the event of that not happening, males seemed more flexible and more open

to accepting only slightly related positions. In spite of a lot of optimism about different facets of future work possibilities, women were more likely to expect to encounter difficulty finding fulfilling employment. At this level of formal training, the skills of these respondents is more than likely to be in moderate demand, and so the optimism is probably well placed.

Educational aspirations and expectations were reported almost the inverse of that for occupation, in that males held higher aspirations and expectations for graduate studies. There was a large cluster of respondents from both genders who were rather unrealistically optimistic about entering graduate school. Oddly enough females were slightly more positive about their major as an asset in helping them into graduate school.

Socio-psychological influences were generally ranked similarly by the genders, but the actual value within that ranking does show some significant differences. Predictably, males were

more likely to view their own input as more important than other factors, while the females tended to feel that parental influence, singularly or combined, played a larger role in the development of their aspirations and expectations. Peer influence was seen as one of the least influential factors when ranked with significant others.

Slightly different assessments of the role of significant others appeared when they were ranked with structural factors and these proved to be more gender specific. Though there was often great agreement between the genders in ranking factors, there were differences as well, that seemed too fall along clear lines. Males tended to be influenced by structural influences, such as concerns about the future job, and the cost of an academic program and the like. Females, on the other hand, seemed to be more moved by socio-psychological factors, such as parents and teachers.

Our assumption that males would have the higher aspirations and expectations in educational and occupational terms, was only partially confirmed. Females were inclined to have higher levels of aspirations and expectations with regard to occupational issues, while males dominated in the area of educational issues. It may just be possible, considering the social attitude towards female, that the lower educational aspirations could be a simple down grading in order to preserve or achieve a certain position in the social order.

As we had suspected, students did report significant levels of influence from parents compared to other national studies. Clearly parental influence was not replace by that of peers, as is

often the case, and it maintained a relatively high position. Within this high ranking of parental influence in this study, females gave it the greatest value overall.

10.6 LIMITATIONS OF THE STUDY

Though this inquiry has advanced the general body of knowledge concerning aspirations and expectations development of Chinese students, still a few limitations must be recognized.

First, the fact that the sample consists primarily of students from the regular university sector means that conclusions and implications of this study may not necessarily generalize to other populations. Still this research has helped to reduce the severe shortage of solid research evidence about issues in aspirations and expectations development, though comparable investigations must be carried out other levels of higher education if we are to have a fuller understanding of Chinese tertiary level students as a group, and graduate students, as compared to undergraduates.

Other limitations of the study concern the validity and reliability. The design of the questionnaire led to difficulty in determining the levels of statistical significance in some cases. One must have a mean to utilize a confidence interval to ascertain any sampling error. But with the actual data produced by most of the questions, there was no mean. Chi square gave a measure of association, in terms of independence of factors, but little indication of the intensity or the direction of the relation between two factors. Furthermore, the differences

between categorical measures of 'definitely' and 'most likely' or 'most likely not' and 'definitely not' proved to be somewhat unwieldy to report. In order to describe the results in an economical fashion, we combined the categories and reported them as either positive or negative, as each case would dictate, unless it seemed reasonable not to do so.

A final limitation concerns the Occupational Index for the People's Republic of China, which we constructed for this study. Though it is really an adaptation of earlier indexes, its long term comparability is restricted due to the changing face of Chinese society and its evolving values. And too, the questions on students' desired and expected occupations were open-ended, and we later had to place the responses into the nine occupational categories that we finally used to report the data. It would have been simpler to have the all students choose from the nine categories, which many did in the first place, rather than struggling at the data input stage, to read the cursive Chinese script of some students, and of which most fit within the intellectual category . Anyways, we could not report the results in any more specific manner than the nine categories.

10.7   IMPLICATIONS FOR ADMINISTRATORS, TEACHERS, COUNSELLORS AND PARENTS

The results from this study point to implications for Chinese universities, advisors, parents and future research. There are implications for high school and university counsellors, but more importantly for parental input. To begin with, though we lack much empirical data from the

past, there are some established facts about students attitudes about prospective further higher education and career paths. The findings in this study show university students' attitudes toward graduate education and careers, set within the context of China's social and economic transformation in the early 1990's. Since both genders had high educational and occupational expectations and aspirations, and no females involved in the study expected to remain at home as housewives, it is incumbent upon high school and university advisors and counselling offices to do their utmost to stay current in their knowledge of education and career possibilities, so that students can make wise and well-informed decisions regarding these two paths. At some time during their programs, students need to be exposed to various alternatives, and to situations where they can view occupations in a realistic setting in order to aid them in the final selection of an appropriate direction. Historically, the advisors of Chinese university students, who have had the responsibility for helping to direct the moral and academic development of students, now face another challenge, along with the institution's counselling staff, to stay abreast of new social and economic developments that would have impact upon students academic and career possibilities.

Since students saw the school authorities as the most likely to do a good job with such counselling, these authorities need to work with and aid teachers and advisors to begin career counselling and the impartation of relevant information as early as possible. Institutions at all administrative levels need to refocus the efforts associated with the old job assignment system towards imparting to the students skills for choosing suitable types of employment, locating prospective employers and presenting themselves and their talents in an acceptable manner.

This would tend to be particularly necessary for Humanities students, who tended to be slightly optimistic about the social or economic value of their major, and for females, who were often undecided about many academic and career questions (with good reason to be).

The finding that parents have a tremendous influence, in the eyes of students and statistically, over students' decision making, implies that parent's responsibility is an awesome one, as well as a privilege. Parents working in agreement and concerned enough to take sufficient time to communicate and discuss possible options with their children will act as a positive force to propel students to reach toward their highest potential in academic development and to a fulfilling career that would be suitable for their character and abilities. Parents will also ultimately be viewed as the force mainly responsible, by society, for their child's ultimate success or failure. Considering the great changes that are taking place at increasing speed, parents need to work in conjunction with the school or institutional advisors and higher education counsellors who should be capable of staying well-informed about the ever widening range of possibilities for students in both academic and career spheres.

There seemed to be increased influence when parents were seen as working in cooperative agreement with higher education institutions. It would seem the ability of the institutional authorities to gather the necessary relevant information on prospective academic or career paths would be greatly enhanced when combined with parental knowledge of their child's aptitudes, strengths and weakness, making students' more able to make appropriate and practical choices.

Further, increasing the links between parents, school and the work world at large, can serve not only the student, but the municipality, province and the nation. With China's many established personal and institutional networks, there must be avenues developed to further enhance the ability of students and their significant others to work cooperatively. If aspirations and expectations are realistic and appropriate for the current social and economic conditions, all concerned will benefit.

10.8   FUTURE RESEARCH

Future studies into aspirations and expectations of Chinese students need to include a wider range of institutions, including graduate school, TV university and correspondence university, as well as those involved with self-study. The study showed that students from institutions administered under different levels of governmental authority, were greatly influenced by this in terms of their expectations. So, one is left wondering whether graduate students and students at non-formal institutions would have different expectations and aspirations?

Since students indicated that from both the institutions and the teacher-advisors there was a distinct lack of career information, further research could investigate the perceptions held by the administrators, counsellors, and teacher-advisors have of their responsibility to guide students and suggest possible methods for usage in the future. Is there any way of combining parental knowledge of their childrens' character and abilities, along with governmental knowledge of the work world, in conjunction with the students' own desires to produce suitable

career choices? Research needs to be undertaken to determine what steps would be necessary to transform the roles of former cadres responsible for job assignment into counsellors and create programs that would enable them help students find their own employment.

As China continues to experience rapid economic growth, and students are being expected to exercise greater individual responsibility in important choices in life, and to support themselves financially, rather than relying on the government, there is a pressing need for parents and schools to ensure that the widening range of opportunities be explained clearly to students. For the time being government, educational institutions, educational counsellors, former cadres responsible for job assignment, and parents need to join to combine their efforts, not only to influence students, but to train students to make appropriate decisions, with regards to their academic futures or make suitable career plans deliberately and in a planned fashion. From the beginning of the Peoples' Republic of China until the early part of this decade, making individual decisions about such major matters was frowned on, so this relatively new phenomenon will take some training for both the students and their advisors, who grew up under very different conditions.

Appendix A.

CHINA'S POST-SECONDARY SYSTEM

Level	Institute Type	Entrance	Certification	Program Length
FORMAL				
Key	University	National Examination	Degrees, both undergraduate and graduate	4 and 5 years
Regular	University/ Professional-polytech.	National Examination	Degrees, both undergraduate and graduate	4 and 5 years
Provincial /Regional	Normal and Professional	National Examination	Degrees/diplomas	3 and 4 years
Short-cycle Vocational	Vocational University	National Examination	Diplomas Certificates	2 and 3 years

****

Level	Institute Type		Entrance	Certification	Program Length
NON-FORMAL					
University	TV University Staff University	1* 2	Provinical or Regional Examination	Diplomas/ Certificates	1 and 4 years
Spare-time Education	Evening U. Correspondance University Spare-Time U. Self-study	3 4 5	Open enrol	Diplomas/ Certificates	flexible to open

* the numbering in the lower levels are a general indication of the value given to each type of non-formal post-secondary education by society at large.

** students in TV University in certain subjects who want to receive higher certification may write national level examinations.

Appendix B.

THE CHINESE INTRODUCTION LETTER, THE QUESTIONNAIRE AND RESPONSE SHEET

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亲爱的同学：

我正在从事一项有关高等院校学生毕业后继续深造和就业前景的专题研究。此项调查的兴趣是想了解您毕业后希望从事的工作以及对继续深造和就业前景的若干想法。我希望在调查的基础上，对中国高等院校的教育情况进行更深入的比较研究。

本研究对探讨高等院校学生的学习、就业心理和形成这种就业心理的有关因素非常重要。请您给予大力协助和支持。

请您仔细推敲问卷中涉及到的每一个问题。这些问题仅作搜集资料之用并无所谓"对与错"之分。请您在答案纸上画圈选择各题答案。且不要署名。您的回答将和其他问卷一起作为本项研究的资料而进行进一步的比较分析。答卷内容将受为保密。

谢谢您的合作。

<div align="right">研究者：南京师范大学教育系

弗兰克·菲佰</div>

<div align="center">一九九二年</div>

一、您所在学校的名称（请择一画圈）

_____ 南京师范大学（1．2）   _____ 南京大学（1．1）

_____ 金陵职业大学（1．3）   _____ 陕西师范大学（2．1）

_____ 西北大学（2．2）   _____ 西安联合大学（2．3）

_____ 西北师范大学（3．2）   _____ 兰州大学（3．1）

_____ 金城大学（3．3）   _____ 其它 _____

二、您是何种类型的学生？（请择一画圈）

_____ 统配（1）

_____ 定向（2）

_____ 代培（3）

_____ 自费（4）

三、该校是否是您报考的第一志愿？

_____ 是（1）

倘若该校不是您报考的第一志愿，请问是您的第几志愿   •

_____ 第二（2）

_____ 第三（3）

_____ 第四（4）

_____ 第五（5）

_____ 没报本校（6）

四、您的主修专业是您的（请择一画圈），

_____ 第一志愿（1）

_____ 第二志愿（2）

_____ 其它（3）

_____ 不是我的志愿（4）

五、您的主修专业是（请择一画圈并作答），

_____ 文科（1）   专业 _____ •

_____ 理科（2）   专业 _____ •

六、今年是您在校学习的第几年？（请择一画圈）

_____ 第一年（1）   _____ 第四年（4）

_____ 第二年（2）   _____ 第五年（5）

_____ 第三年（3）

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七、您在何处念的高中（请择一画圈）

____ 城市(1)	____ 重点(a)	____ 普通(b)
____ 乡镇(2)	____ 重点(a)	____ 普通(b)
____ 农村(3)	____ 重点(a)	____ 普通(b)

八、您念的是普通高中还是职业高中？

、 ____ 普通高中(1)

____ 职业高中(2)

九、性别：

1、 ____ 男性；

2、 ____ 女性。

十、您多大了？

____ 16岁	____ 17岁	____ 18岁	____ 19岁
____ 20岁	____ 21岁	____ 22岁	____ 23岁

十一、您的出生地点是： _____ （省份）。

____ 大中城市(1)

____ 县城(2)

____ 乡镇(3)

____ 农村(4)

十二、考上大学之前您是城市人口，还是农村人口？ _____ （省份）

____ 大中城市（1）

____ 县城（2）

____ 乡镇（3）

____ 农村（4）

十三、您有几位兄弟姐妹？（请择一画圈）

____ 独生(0)	____ 4个(4)
____ 1个（1）	____ 其他（多于四个兄弟姐妹）。(5)
____ 2个(2)	
____ 3个 (3)	

十四、您在家说普通话还是方言？

____ 普通话(1)

____ 方言(2)

____ 少数民族语言(3) _____

十五、您是少数民族吗？

　　____ 是 (1)

　　____ 否 (2)　　　　　　请注明您的民族 _____。

十六、您信奉宗教吗？

　　____ 信 (1)　　如信奉，请注明宗教名称 _____。

　　____ 不信(2)

十七、您是否身有残疾？

　　____ 否 (1)

　　____ 是 (2)　　如您是残疾人，请注明您的身体情况 _____。

十八、当您首次决定考大学时，您的年龄是 _____ 岁？

十九、您在高中毕业后是否参加过工作？

　　____ 否 (1)

　　____ 是 (2)　　请注明您上大学之前的工作年限 _____。(.00)

二十、您在高中毕业后待业过吗？

　　____ 否 (1)

　　____ 是 (2)　　请注明待业年限 _____。(.00)

二十一、您是否准备考研究生？

　　____ 确定无疑 (1)

　　____ 可能性很大 (2)

　　____ 有一定的可能性(3)

　　____ 可能性很小 (4)　　为什么 _____

　　____ 没有可能性 (5)　　为什么 _____

二十二、以下何种情况最好地说明您家的状态？您从上小学到中学是

　　____ 与父母一起生活 (1)

　　____ 与母亲住在一起 (2)

　　____ 与父亲住在一起 (3)

　　____ 与祖父母（外祖父母）住在一起 (4)

　　____ 其他（请说明与谁一起生活）(5) _____

二十三、毕业之后您打算从事的工作是，_____。(00)

二十四、您父亲的文化程度是。

　　____ 小学或以下 (1)

　　____ 初中或以下　2)

_____ 高中毕业 (3)

_____ 中技或中专毕业 (4)

_____ 大学肆业或大专毕业 (5)

_____ 大学本科毕业 (6)

_____ 研究生毕业（硕士或博士学位）(7)

_____ 其它（请注明）_____ (8)

二十五、您母亲的文化程度是：

_____ 小学或以下 (1)

_____ 初中或以下 (2)

_____ 高中毕业 (3)

_____ 中技或中专毕业 (4)

_____ 大学肆业大专毕业 (5)

_____ 大学本科毕业 (6)

_____ 研究生毕业（硕士或博士学位）(7)

_____ 其它（请详细说明）_____ (8)

二十六、请就以下诸职业择一注明您父亲的具体工作是：

_____ 办公室工作人员（秘书、出纳、会计等等）(1)

_____ 知识分子（教授、教师、医生、工程师等等）(2)

_____ 负责干部（大型企业或公司的负责人、所长等等）(3)

_____ 技术工人（水暖工、木工、及其他技术工种工人等等）(4)

_____ 普通工人（搬运工、生产线工人、非技术工种等等）(5)

_____ 农工（农民、农场工人等等）(6)

_____ 个体户、小商贩 (7)

_____ 军职人员（战士、军官、教官等等）(8)

二十七、就以下诸职业择一注明您母亲的具体工作是：

_____ 办公室工作人员（秘书、出纳、会计等等）(1)

_____ 知识分子（教授、教师、医生、工程师等等）(2)

_____ 负责干部（大型企业或公司的负责人、所长等等）(3)

_____ 技术工人（水暖工、木工及其他技术工种工人等等）(4)

_____ 普通工人（搬运工、生产线工人、非技术工种等等）(5)

_____ 农工（农民、农场工人等等）(6)

_____ 个体户、小商贩 (7)

_____ 军职人员（战士、军官、教官等等）(8)

_____ 家庭妇女 (9)

二十八、就以下诸职择一注明您祖父的具体工作是。

     _____ 办公室工作人员（秘书、出纳、会计等等）(1)

     _____ 知识分子（教授、教师、医生、工程师等等）(2)

     _____ 负责干部（大型企业或公司的负责人、所长等等）(3)

     _____ 技术工人（水暖工、木工及其他技术工种工人等等）(4)

     _____ 普通工人（搬运工生产线工人、非技术工种等等）(5)

     _____ 农工（农民、农场工人等等）(6)

     _____ 个体户、小商贩 (7)

     _____ 军职人员（战士、军官、教官等等）(8)

二十九、您理想达到的最高教育程度是，

     _____ 大专或大学肄业(1)

     _____ 大专毕业 (2)

     _____ 大学毕业 (3)

     _____ 研究生毕业（取得硕士或博士学位）(4)

     _____ 其他 (5)（请说明）_____

三十、您自己认为您可能达到的最高教育程度是，

     _____ 中学毕业(1)

     _____ 大专或大学肄业 (2)

     _____ 大专毕业 (3)

     _____ 大学毕业 (4)

     _____ 研究生毕业（取得硕士或博士学位）(5)

     _____ 其他(6)（请注明）_____

三十一、您最喜欢的职业是_____。（00）

三十二、在考上大学之前，您对未来从事的职业曾有过哪种程度的考虑？

     _____ 非常明确 (1)

     _____ 有过的考虑但考虑不详 (2)

     _____ 考虑过但不清楚 (3)

     _____ 从未考虑过 (4)

三十三、您可知道您的毕业将望您未来从事何种工作？

     _____ 知道 (1)（请简要说明）_____（00）

_____ 不知道 (2)

三十四、请列出以下诸因素。对您上大学或直接参加工作这一决定的影响的程度。

		不作为一个因素	一个不重要的因素	一个因素	一个重要因素	最重要因素
1、	上学费用	0	1	2	3	4
2、	朋友们的计划	0	1	2	3	4
3、	未来的工作	0	1	2	3	4
4、	父母	0	1	2	3	4
5、	中学学习成绩	0	1	2	3	4
6、	学科的修业年限	0	1	2	3	4
7、	个人的兴趣	0	1	2	3	4
8、	老师的鼓励	0	1	2	3	4
9、	（外）祖父母	0	1	2	3	4
10、	居住的区域	0	1	2	3	4

三十五、您认为以下哪项说明最符合您母亲的态度。

_____ 她希望我自己作出全权的决定。(1)

_____ 她虽希望我自己拿主意。但是她对我的未来有某个人的期望。(2)

_____ 她希望帮我作出决策。(3)

_____ 她希望我能选择一个确定的职业(4)

_____ 她希望我能在家乡选择一种职业。(5)

_____ 其它(6)（请说明_____）。(00)

三十六、您是否了解您的父亲对您未来的工作有何考虑？

_____ 知道（1）（请说明）_____（00）

_____ 不知道 (2)

三十七、您认为以下哪一项最能说明您父亲的态度？

_____ 他希望我们自己决策。(1)

_____ 他虽希望我自己决定。但对我的未来他有自己的考虑。(2)

_____ 他希望能帮我作出决策。(3)

_____ 他希望我能选择一个确定的职业(4)

_____ 他希望我能在家乡选择一种职业。(5)

_____ 其他(9)（请加以说明）_____。(00)

三十八、您最要好的同性别的同学的最高受教育要求是。

_____ 中学毕业 (1)

_____ 中学毕业 (2)

_____ 中技或中专毕业 (3)

_____ 大学或大专毕业 (4)

_____ 大专毕业 (5)

_____ 大学毕业 (6)

_____ 研究生毕业（取得硕士或博士学位）(7)

_____ 其他 (8)（请注明）_____。(00)

三十九。您的最要好的异性（别）的同学的最高受教育要求是,

_____ 宁学毕业 (1)

_____ 中学毕业 (2)

_____ 中技或中专毕业 (3)

_____ 大专或大学毕业 (4)

_____ 大专毕业 (5)

_____ 大学毕业 (6)

_____ 研究生毕业（获得硕士或博士学位）(7)

_____ 其他 (8)（请加以说明）_____。(00)

四十。请注明以下各项在您作出上大学或直接参加工作的决定以及未来职业选择中所起
的影响程度。

	不作为因素	作为不重要的因素	作为一个因素	作为重要因素	没重要的因素
1、母亲	0	1	2	3	4
2、父亲	0	1	2	3	4
3、双亲	0	1	2	3	4
4、老师	0	1	2	3	4
5、自己	0	1	2	3	4
6、朋友们	0	1	2	3	4
7、（外）祖父母	0	1	2	3	4
8、其他人	0	1	2	3	4

四十一。倘若您准备考研究生，是否喜欢在国内继续深造?（念学位及从事科研）

_____ 很愿意 (1)

_____ 愿意 (2)

_____ 可能愿意 (3)

_____ 不大愿意 (4) 为什么?_____。

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———— 根本不愿意 (5) 为什么?

四十二、倘若您考研究生，是否具备继续学习您目前的专业?
———— 很愿意 (1)
———— 愿意 (2)
———— 可能愿意 (3)
———— 不愿意 (4 为什么?
———— 根本不愿意 (5) 为什么?

四十三、您认为应届大学毕业生是否可能获得有关就业方面的信息?
———— 很有可能 (1)
———— 有很大的可能 (2)
———— 有可能 (3)
———— 几乎没有可能 (4)为什么?
———— 绝对没有可能 (5) 为什么?

四十四、大学是否只对优秀学生反开大门?
———— 绝对可能 (1)
———— 有较大的可能 (2)
———— 有可能 (3)
———— 几乎不可能 (4)
———— 绝对不可能 (5)

四十五、您是否打算在国内上研究生
———— 绝对可能 (1)
———— 有较大可能 (2)
———— 有可能 (3)
———— 几乎不可能 (4)
———— 绝对不可能 (5)

四十六、您是否打算出国上研究生?
———— 绝对可能 (1)
———— 有较大可能 (2)
———— 有可能 (3)
———— 几乎不可能 (4)
———— 绝对不可能 (5)

四十七、 您是否觉得所在学校所在专业的招生计划限制了您报考研究生的机会？

    _____很有可能 （1）

    _____有较大可能 （2）

    _____有可能 （3）

    _____不大可能 （4）   为什么？_____

    _____根本不可能 （5）   为什么？_____

四十八、 您是否期待在您未来的工作中应用您目前所学到的专业知识？

    _____很有可能 （1）

    _____有较大可能 （2）

    _____有可能 （3）

    _____几乎没有可能 （4）

    _____根本不可能 （5）

    （倘若您选择1、2、4或5请加以解释）

_____

四十九、 您是否有可能接受一个很少应用您专业知识的工作？

    _____很有可能 （1）

    _____有较大可能 （2）

    _____有可能 （3）

    _____不大可能 （4）

    _____根本不可能 （5）

五十、 倘若您对某种工作感兴趣但您必须远离您的父母，您会接受这个机会吗？

    _____很有可能 （1）

    _____有较大可能 （2）

    _____有可能 （3）

    _____不大可能 （4）

    _____根本不可能 （5）

五十一、 您是否认为您毕业时很难找到就业机会？

    _____很有可能 （1）

    _____有较大可能 （2）

    _____有可能 （3）

    _____几乎没有可能 （4）

    _____根本不可能 （5）

五十二、 倘若您在某大城市能找到工作但您必须远离您的父母，您会接受这个机会吗？

_____ 很有可能　　(1)

_____ 有较大可能(2)

_____ 有可能　　(3)

_____ 不大可能　(4)

_____ 根本不可能(5)

五十三、 您是否认为您毕业时很难找到您所满意的工作？

_____ 很有可能　　(1)

_____ 有较大可能　(2)

_____ 有可能　　　(3)

_____ 几乎没有可能(4)

_____ 根本不可能　(5)

五十四、 您是否认为您会比其它专业的学生容易找到满意的工作机会？

_____ 很有可能　　(1)

_____ 有较大可能　(2)

_____ 有可能　　　(3)

_____ 几乎没有可能(4)

_____ 根本不可能　(5)

五十五、 高等院校学生是否能够从教师、班主任或辅导员那里得到明确的有关其大学毕业后的就业机会方面的信息？

_____ 很有可能　　　(1)

_____ 有较大可能　　(2)

_____ 有可能　　　　(3)

_____ 几乎没有可能(4)

_____ 根本不可能　(5)

五十六、 您是否认为自己所受到的教育会给您在中国选择您所感兴趣的工作环境提供更多的机会？

_____ 很有可能　(1)　　　　　_____ 几乎没有可能(4)

_____ 有较大可能(2)　　　　　_____ 根本不可能　(5)

_____ 有可能　　(3)

　　谢谢您的合作。倘若您有任何附加的说明，请写在此页问卷的背面。倘若您有兴趣得到一份有关此问卷调查结果的说明，请在联络纸上（另附）写清楚您的姓名和通讯住址，以便邮寄。

_11_

答　案　纸

一、　1.1　　1.2　　1.3　　2.1　　2.2　　2.3　　3.1　　3.2　　3.3 ＿＿

二、　1　　2　　3　　4

三、　1　　2　　3　　4　　5　　6　　7

四、　1　　2　　3　　4

五、　1 ＿＿＿＿＿　，　2 ＿＿＿＿＿

六、　1　　2　　3　　4　　5

七、　1 a b　　2 a b　　3 a b

八、　1　　2

九、　1　　2

十、　＿＿＿＿＿（请写出您的年龄）

十一、　1　　2　　3　　4　　＿＿＿＿＿（请写出您出生省市名称）

十二、　1　　2　　3　　4　　＿＿＿＿＿（请写出您户口省市名称）

十三、　1　　2　　3　　4　　5

十四、　1　　2　　＿＿＿＿＿（若讲少数民族语言，请写出语种）

十五、　1　　2　　＿＿＿＿＿（请注明您的种族名称）

十六、　1　　2　　＿＿＿＿＿（请注明宗教名称）

十七、　1　　2　　＿＿＿＿＿（请注明身体残疾情况）

十八、　＿＿＿＿＿（请写出您首次决定考大学时的年份）

十九、　1　　2　　＿＿＿＿＿（请注明工作年限）

二十、　1　　2　　＿＿＿＿＿（请注明待业年限）

二十一、　1　　2　　3　　4 ＿＿＿＿＿　　　　5 ＿＿＿＿＿

二十二、　1　　2　　3　　4　　5

二十三、　＿＿＿＿＿（请注明您打算从事的工作名称）

二十四、　1　　2　　3　　4　　5　　6　　7　　8 ＿＿＿＿＿

二十五、　1　　2　　3　　4　　5　　6　　7　　8 ＿＿＿＿＿

二十六、　1　　2　　3　　4　　5　　6　　7　　8

二十七、　1　　2　　3　　4　　5　　6　　7　　8　　9

二十八、　1　　2　　3　　4　　5　　6　　7　　8

二十九、　1　　2　　3　　4　　5 ＿＿＿＿＿

三十、　1　　2　　3　　4　　5　　6 ＿＿＿＿＿

三十一、　＿＿＿＿＿（请注明您最喜欢的职业名称）

3.3 ___

三十二、 1　　2　　3　　4

三十三、 1 _____ 2

三十四、 1 ____ 2 ____ 3 ____ 4 ____ 5 ____
　　　　 6 ____ 7 ____ 8 ____ 9 ____ 10 ____

三十五、 1　2　3　4　5　6 _____

三十六、 1 _____ 2

三十七、 1　2　3　4　5　6 _____

三十八、 1　2　3　4　5　6　7　8 _____

三十九、 1　2　3　4　5　6　7　8 _____

四十、 1 ____ 2 ____ 3 ____ 4 ____ 5 ____
　　　 6 ____ 7 ____ 8 ____ 9 ____ 10 ____

四十一、 1　2　3　4 _____
　　　　　　　　　　5 _____

四十二、 1　2　3　4 _____
　　　　　　　　　　5 _____

四十三、 1　2　3　4 _____
　　　　　　　　　　5 _____

四十四、 1　2　3　4　5

四十五、 1　2　3　4　5

四十六、 1　2　3　4　5

四十七、 1　2　3　4 _____
　　　　　　　　　　5 _____

四十八、 1 _____ 2 _____
　　　　 3 _____ 4 _____
　　　　 5 _____

四十九、 1　2　3　4　5

五十、 1　2　3　4　5

五十一、 1　2　3　4　5

五十二、 1　2　3　4　5

五十三、 1　2　3　4　5

五十四、 1　2　3　4　5

五十五、 1　2　3　4　5

五十六、 1　2　3　4　5

Appendix C

**THE ENGLISH TRANSLATION
OF THE INTRODUCTION LETTER,
THE QUESTIONNAIRE AND RESPONSE SHEET**

Dear Student,

I am conducting research on university students' plans for further education and careers after university. I am interested in what job you might like when you finish your present program and your feelings about your future education and career. I hope to compare the plans from student sat the other Chinese institutions with the plans students in your program have.

This study is important to our understanding of how students form aspirations and what factors are helping students to achieve their aspirations. I am asking that you help by completing this questionnaire.

It is most important that you read the questions carefully and answer as accurately as possible. There are <u>no</u> right or wrong answers. Please answer all questions. Do not put your name on the questionnaire or the answer sheet and participation is voluntary. Your answers will be used to give an overall impression of your groups' feelings about education and work. <u>All answers will be kept strictly confidential.</u>

Thank you for your cooperation.

> Research Institute: Nanjing Normal University
> Department of Education
>
> Frank Moody
> 1992

THE QUESTIONNAIRE

1. What is the name of your School? (Check one)

___ Nanjing Normal University (1.2)   ___ Nanjing University (1.1)
___ Jinling University (1.3)   ___ Shaanxi Normal University (2.1)
___ Northwest University (2.2)   ___ Xian United University (2.3)
___ Northwest Normal Univesity (3.2)   ___ Lanzhou University (3.1)
___ Jincheng University (3.3)   ___ other (0.0)

2. How were you enrolled in this university?

___ Central government tuition-waiver scholarship   (1)
___ Self-supported   (2)
___ Contract scholarship   (3)
___ Locally committed tuition-waiver scholarship   (4)

3. Was this school your first choice?

___ Yes   (1)
If no, then what number?
___ 2nd   (2)
___ 3rd   (3)
___ 4th   (4)
___ 5th   (5)
___ not chosen (6)

4. Was this major your first choice?

___ yes   (1)
If no, what number was it?
___ 2nd   (2)
___ other   (3)
___ not chosen (4)

5. What is your major area of study?

___ Humanities (1)
___ Science   (2)
List your major _____ (3)

6. What year of study is this for you?

___ 1st
___ 2nd
___ 3rd
___ 4th
___ 5th

7. Where was your last middle school?

___ city   (1)   ___ a. key   ___ b. ordinary

___ county town (2)   ___ a. key   ___ b. ordinary

___ village   (3)   ___ a. key   ___ b. ordinary

8. Did you study at a regular high school or a vocational-technical high school?

___ regular high school (1)

___ vocational-technical school (2)

9. What is your gender?

___ Male (1)

___ Female (2)

10. How old are you?

___ 16 years old   ___ 17 years old   ___ 18 years old

___ 19 years old   ___ 20 years old   ___ 21 years old

___ 22 years old   ___ 23 years old

11. What was the place of your birth? Province _____ (a)

___ metropolitan (1)

___ city   (2)

___ county town   (3)

___ village   (4)

12. For what area do you have a residence permit? Province _____(a)

___ metropolitan (1)

___ city   (2)

___ county town   (3)

___ village   (4)

13. How many brothers and/or sisters do you have? (check one)

___ None (0)

___ 1

___ 2

___ 3

___ 4

___ Other (5)   (More than four siblings)

14. What language or dialect do you speak at home?

___ Mandarin (1)

___ a dialect (2)

___ a minority language (3)

15. Do you belong to a minority group?

___ Yes (1) (please specify) _____

___ No (2)

16. Do you have any religious affiliation?

___ Yes (1) (please specify) _____

___ No (2)

17. Do you have any physical disablity?

___ No (1)

___ Yes (2) (please specify) _____

18. How old were you when you first thought you might be able to attend a post-secondary institute?   age _____

19. Do you have work experience after middle school?

___ No (1)

___ Yes (2)   If yes, how long did you work? _____ (.00)

20. Did you wait at home after middle school before entering university?

___ No (1)

___ Yes (2)   If yes, how long? _____ (.00)

21. Do you <u>intend</u> to continue on to a graduate degree? (M.A. or Ph.D.)

___ Definitely (1)

___ Most likely (2)

___ Possibly   (3)

___ Most likely not (4)   Why? _____

___ Definitely not (5)   Why? _____

22. Which of the following statements best describes your family situation during most of your academic life from elementary school to the end of high school?

___ I lived with both my mother and my father (1)

___ I lived with my mother (2)

___ I lived with my father (3)

___ I lived with my grandparents (4)

___ Other (5)   (please specify) _____

23. What occupation do you expect to have after graduation? _____

_____ (00)

24. From the following list check the <u>highest level</u> of education obtained by your <u>father</u>.

___ elementary school or less (1)

___ junior middle school (2)

___ senior middle school (3)

___ technical or vocational college (4)

___ graduate of college (5)

___ university graduate (6)

___ Post graduate degree (M.A. or Ph.D.) (7)

___ Other (please specify) _____ (8)

25. From the following list check the <u>highest level</u> of education obtained by your <u>mother</u>.

___ elementary school or less (1)

___ junior middle school (2)

___ senior middle school (3)

___ technical or vocational college (4)

___ graduate of college (5)

___ university graduate (6)

___ Post graduate degree (M.A. or Ph.D.) (7)

___ Other (please specify) _____ (8)

26. To which of these groups does the <u>prinicpal</u> occupation of your <u>father</u> belong? (check one only)

___ office worker (secretary, cashier, accountant etc.) (1)

___ intellectual (professor, teacher, doctor, engineer, etc.) (2)

___ leading cadre (manages large business, directors, etc.) (3)

___ skilled worker (plumber, carpenter, skilled, etc.) (4)

___ factory worker (labourer, production worker, non-skilled etc.) (5)

___ farmer (peasant, farmlabourer, etc.) (6)

___ businessman, self-enterprise operator (7)

___ military personnel (soldier, officer, instructor, etc.) (8)

27. To which of these groups does the <u>prinicpal</u> occupation of your <u>mother</u> belong? (check one only)

___ office worker (secretary, cashier, accountant etc.) (1)

___ intellectual (professor, teacher, doctor, engineer, etc.) (2)

___ leading cadre (manages large business, directors, etc.) (3)

___ skilled worker (plumber, carpenter, skilled, etc.) (4)

___ factory worker (labourer, production worker, non-skilled etc.) (5)

___ farmer (peasant, farmlabourer, etc.) (6)

___ businessman, self-enterprise operator (7)

___ military personnel (soldier, officer, instructor, etc.) (8)

___ housewife (9)

28. To which of these groups does the prinicpal occupation of your grandfather belong? (check one only)

___ office worker (secretary, cashier, accountant etc.) (1)

___ intellectual (professor, teacher, doctor, engineer, etc.) (2)

___ leading cadre (manages large business, directors, etc.) (3)

___ skilled worker (plumber, carpenter, skilled, etc.) (4)

___ factory worker (labourer, production worker, non-skilled etc.) (5)

___ farmer (peasant, farmlabourer, etc.) (6)

___ businessman, self-enterprise operator (7)

___ military personnel (soldier, officer, instructor, etc.) (8)

29. From the list below indicate the highest level of education you want to attain.

___ some college or university (1)

___ college graduate (2)

___ university graduate (3)

___ Post graduate degree (M.A. or Ph.D.) (4)

___ Other (5) (please specify) _____

30. From the list below indicate the highest level of education you expect to attain.

___ middle school graduate (1)

___ some college or university (2)

___ graduate of college (3)

___ university graduate (4)

___ Post graduate degree (M.A. or Ph.D.) (5)

___ Other (6) (please specify) _____

31. What occupation would you most like to have as a career? _____

_____ (0)

32. Had you decided what type of occupation you wanted before you began your present program?

___ Yes, exactly (1)

___ Yes, but not specifically a particular position (2)

___ Vaguely (3)

___ Not at all (4)

33. Do you know what career plans your mother would like you to have?

__ Yes, I do (1) (please specify)_____

__ I don't know (2)

34. How important are the following factors in helping you decide to choose among university or college and going directly to work?

	not a factor	a minor factor	a factor	an important factor	most important factor
1. the cost	0	1	2	3	4
2. friends' plans	0	1	2	3	4
3. future job	0	1	2	3	4
4. parents	0	1	2	3	4
5. national college exam	0	1	2	3	4
6. length of program	0	1	2	3	4
7. your interests	0	1	2	3	4
8. your teachers urging	0	1	2	3	4
9. grandparents	0	1	2	3	4
10. geographic location	0	1	2	3	4

35. Which statement best describes your mother's feelings about your plans?
___ She wants me to decide totally by myself (1)
___ She wants me to decide myself, but has some hopes as to what I will do (2)
___ She wants to help me decide on the career I choose (3)
___ She wants me to choose a particular career (4)
___ She wants me to choose a career that will be in my home city (5)
___ Other (6) (please specify) _____ (00)

36. Do you know what career plans your father would like you to have?

__ Yes, I do (1) (please specify)_____
__ I don't know (2)

37. Which statement best describes your father's feelings about your plans?
___ He wants me to decide totally by myself (1)
___ He wants me to decide myself, but has some hopes as to what I will do (2)
___ He wants to help me decide on the career I choose (3)
___ He wants me to choose a particular career (4)
___ He wants me to choose a career that will be in my home city (5)
___ Other (6) (please specify) _____ (00) ___

38. What are the educational expectations of your best friend of the <u>same</u> sex as you?
___ to finish some middle school (1)
___ to be a middle school graduate (2)
___ technical and vocational school above middle school level (3)
___ to finish some college or university (4)
___ to be a graduate of college (5)
___ to be a university graduate (6)
___ Post graduate degree (M.A. or Ph.D.) (7)
___ Other (8) (please specify) _____

39. From the list below indicate the <u>highest</u> level of education your best friend of the <u>opposite</u> sex <u>expects</u> to attain.
___ to finish some middle school (1)
___ to be a middle school graduate (2)
___ technical and vocational school above middle school level (3)
___ to finish some college or university (4)
___ to be a graduate of college (5)
___ to be a university graduate (6)
___ Post graduate degree (M.A. or Ph.D.) (7)
___ Other (8) (please specify) _____

40. How important are the following people in helping you decide to choose among university, college or going directly to work, and your future career?

	not a factor	a minor factor	a factor	an important factor	most important factor
1. my mother	0	1	2	3	4
2. my father	0	1	2	3	4
3. my parents	0	1	2	3	4
4. my teachers	0	1	2	3	4
5. myself	0	1	2	3	4
6. my friends	0	1	2	3	4
7. my grandparents	0	1	2	3	4
8. other _____	0	1	2	3	4

41. If you continue your education past graduation would you like to study in China? (for a degree or research)
___ Definitely (1)
___ Most likely (2)
___ Possibly (3)
___ Most likely not (4) Why? _____
___ Definitely not (5) Why? _____

42. If you continue your education past graduation would you like to do research in the same field you are in now?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4) Why? _____

___ Definitely not (5) Why? _____

43. Are students informed by the university about career options after graduation?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4) Why? _____

___ Definitely not (5) Why? _____

44. Is university only for top achieving students?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4)

___ Definitely not (5)

45. Do you plan to attend post graduate school in China?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4)

___ Definitely not (5)

46. Do you plan to attend post graduate school outside of China?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4)

___ Definitely not (5)

47. Does enrollment in your university program limit your opportunities to enter particular schools of graduate studies in your field?

___ Definitely (1)

___ Most likely (2)

___ Possibly (3)

___ Most likely not (4) Why? _____

___ Definitely not (5) Why? _____

48. Do you expect to use your present educational training in your future career or place of employment?

___ Definitely (1)
___ Most likely (2)
___ Possibly (3)
___ Most likely not (4)
___ Definitely not (5)
(If you answered 1,2,4 or 5, please explain)

_____

_____

49. Would you accept a job where you would only occasionally use your present training?

___ Definitely (1)
___ Most likely (2)
___ Possibly (3)
___ Most likely not (4)
___ Definitely not (5)

50. If you were offered a job in a locale where you would have to move away from your parents to work would you accept the position if it interested you?

___ Definitely (1)
___ Most likely (2)
___ Possibly (3)
___ Most likely not (4)
___ Definitely not (5)

51. Do you think it will be difficult to find employment when you have finished your studies?

___ Definitely (1)
___ Most likely (2)
___ Possibly (3)
___ Most likely not (4)
___ Definitely not (5)

52. If you were offered a job in a locale where you would have to move away from your parents to work would you accept the position if it were located in a city or a larger city than where your parents live?
___ Definitely   (1)
___ Most likely   (2)
___ Possibly   (3)
___ Most likely not   (4)
___ Definitely not   (5)

53. Do you think it will be difficult to find employment in a job of your choice when you have finished your studies?
___ Definitely   (1)
___ Most likely   (2)
___ Possibly   (3)
___ Most likely not   (4)
___ Definitely not   (5)

54. Do you think it will be less difficult for students in your program to find satisfying employment than for students in other programs?
___ Definitely   (1)
___ Most likely   (2)
___ Possibly   (3)
___ Most likely not   (4)
___ Definitely not   (5)

55. Are student clearly informed by teachers or advisors about career opportunities after university?
___ Definitely   (1)
___ Most likely   (2)
___ Possibly   (3)
___ Most likely not   (4)
___ Definitely not   (5)

56. Does the education you have received offer greater opportunity for you to live where you would like in China?
___ Definitely   (1)
___ Most likely   (2)
___ Possibly   (3)
___ Most likely not   (4)
___ Definitely not   (5)

Thank you for having completed this questionnaire. If you have any additional comments please use the back of this page. If you would like to receive a copy of the results of this survey, you may write your name and permanent address on the separate page provided.

THE ANSWERSHEET

Answer Sheet   (circle appropriate answers and fill in blanks)

1. 1.1   1.2   1.3   2.1   2.2   2.3   3.1   3.2   3.3

2. 1   2   3   4

3. 1   2   3   4   5   6   7

4. 1   2   3   4

5. 1   2   List your major _____ .

6. 1   2   3   4   5

7. 1 a b   2 a b   3 a b

8. 1   2

9. 1   2

10. age _____

11. 1   2   3   4   _____ Province

12. 1   2   3   4   _____ Province

13. 1   2   3   4   5

14. 1   2   _____ (dialect spoken)

15. 1   2   _____ (minority origins)

16. 1   2   _____ (religious affiliation)

17. 1   2   _____ (physical disability)

18. age _____

19. 1   2   _____ (length of work experience)

20. 1   2   _____ (length of time waiting at home)

21. 1 2 3 4 _____

          5 _____

22. 1 2 3 4 5

23. _____ (your expected occupation)

24. 1 2 3 4 5 6 7 8 _____ (father's education)

25. 1 2 3 4 5 6 7 8 _____ (mother's education)

26. 1 2 3 4 5 6 7 8

27. 1 2 3 4 5 6 7 8 9

28. 1 2 3 4 5 6 7 8

29. 1 2 3 4 5 _____

30. 1 2 3 4 5 6 _____

31. _____ (desired career)

32. 1 2 3 4

33. 1 _____   2

34. 1 ____   2 ____   3 ____   4 ___   5 ___

    6 ___   7 ____   8 ____   9 ___   10 ___

35. 1 2 3 4 5 6 _____

36. 1 _____   2

37. 1 2 3 4 5 6 _____

38. 1 2 3 4 5 6 7 _____

39. 1 2 3 4 5 6 7 8 _____

40. 1 ___   2 ___   3 ___   4 ___   5 ___

    6 ___   2 ___   3 ___   4 ___   5 ___

41. 1 2 3 4 _____

        5 _____

42. 1 2 3 4 _____

        5 _____

43. 1 2 3 4 _____

        5 _____

44. 1 2 3 4 5

45. 1 2 3 4 5

46. 1 2 3 4 5

47. 1 2 3 4 _____

        5 _____

48. 1 2 3 4 5 _____ (explain 1,2,4 or 5)

49. 1 2 3 4 5

50. 1 2 3 4 5

51. 1 2 3 4 5

52. 1 2 3 4 5

53. 1 2 3 4 5

54. 1 2 3 4 5

55. 1 2 3 4 5

56. 1 2 3 4 5

Appendix D.

THE SCHEDULE OF INTERVIEW QUESTIONS

Interview Questions

Class _____ Hum/Sci. Major _____ Year _____

Do you think that many of these students chose this school as their first choice?
What about their major?

What are the opportunities for students in your program and university to go to graduate school?

What are the chances of students choosing a particular career? Programs? Which ones cannot?

Does your school have a job assignment system for all students?

Who can choose their own job?

What are the most popular programs?

What are the least popular programs?

What do you think is the greatest influence over the student's aspirations? (list people or things)

What do you think is the least important influence in the formation of aspirations?

What do you think are your student's aspirations?

What is the effect of this particular program on the development of your student's aspirations over the four years?

Are the first year student's aspirations realistic?

If students can choose their own jobs, are they assisted by their school in any way?
    If so, how?

Are yours student's enrolled under the state plan, ding xiang, weitou peiyang, or zi fei?

Are any of your student's from the minority groups?

Did your students come directly from high school or did they wait at home first? or do some have work experience?

Do you think university is just for the top achieving students? Do your students think so?

What do you feel would be the average education level of these student's parents? or grand parents?

Do these student's parents have much influence over student's aspirations? Mother or father?

Do any of these students want to drop out of school early to go into business or so that they can study abroad and avoid the five year work requirement for graduate students before they can go abroad to study?

Do any of these students hope to study in post- graduate school?
    If yes, do you think this is realistic?

Will these students have difficulty finding jobs?

Those who would hope to study in graduate school, would they like to study in China or abroad?

Does their present major enhance or inhibit their opportunity for graduate studies?

Will these students use their present educational training in their future careers or places of employment?
    _____%

Of the students who are assigned jobs, will they generally accept their assignment if it takes them away to a city that is far from their parent's home?

Does this program offer them better opportunity than other programs to live where they would like in China?

Appendix E

SOCIO-ECONOMIC INDEX OF OCCUPATIONS FOR

THE PEOPLES' REPUBLIC OF CHINA

1   Intellectual (professor, teacher, doctor, engineer, etc.)

2   Leading cadre (manages large business, directors, etc.)

3   Businessman, self-enterprise operator

4   Office worker (secretary, cashier, accountant etc.)

5   Skilled worker (plumber, carpenter, skilled, etc.)

6   Factory worker (labourer, production worker, non-skilled etc.)

7   Farmer (peasant, farm labourer, etc.)

8   Military personnel (soldier, officer, instructor, etc.)

9   Housewife

10   Non-working

* - the numbers reflect the order of hierarchy,

   of course for the analysis the order is reversed.

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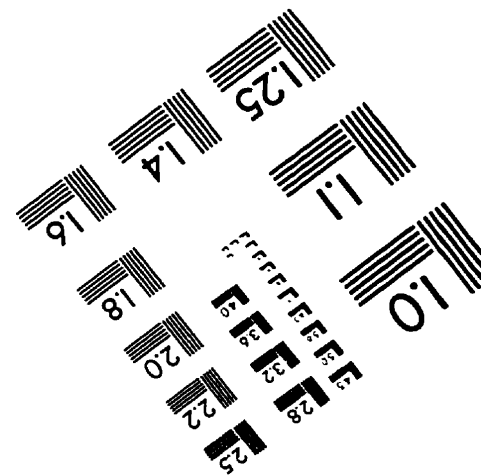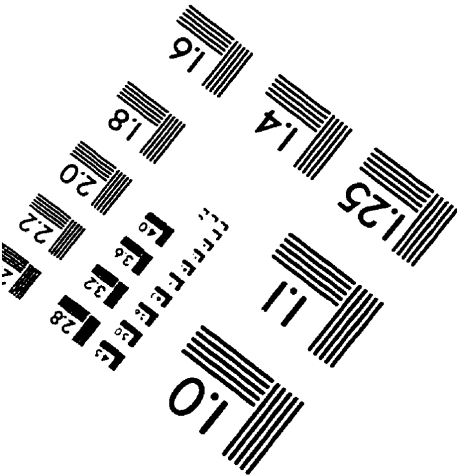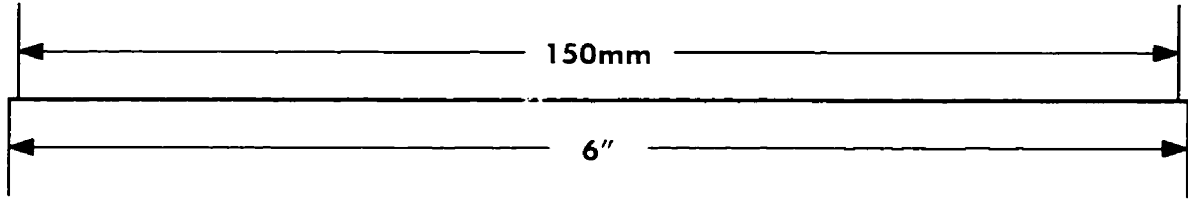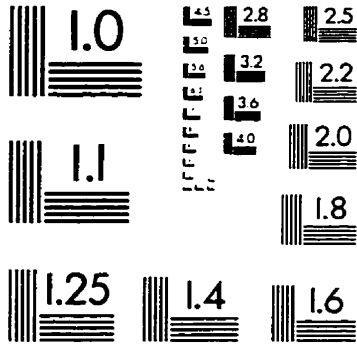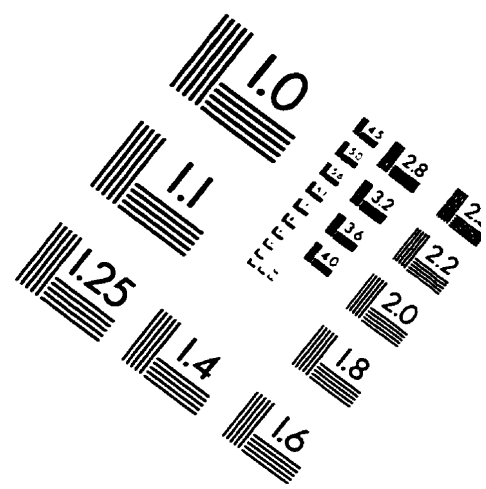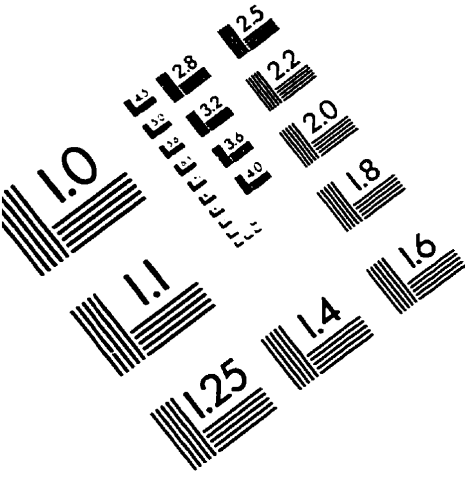
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