FERTILITY PATTERNS AMONG THE MINORITY POPULATIONS

OF CHINA: A MULTILEVEL ANALYSIS

A Dissertation

by

CHIUNG-FANG CHANG

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2003

Major Subject: Sociology

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ABSTRACT

Fertility Patterns Among the Minority Populations of China:

A Multi-level Analysis. (August 2003)

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Sociological and demographic analyses of minority fertility in the United States have suggested that the processes of socioeconomic, cultural, marital, and structural assimilation will lead to convergence in fertility. So far, little research has used the assimilation approach to study the fertility of the minority populations of China, and also, no research has taken both individual-level and group-level characteristics as predictors.

Using micro-data from the One Percent 1990 Census of China, this dissertation performs multilevel analyses, hierarchical generalized linear modeling, to examine the effects of assimilation and the one-child policy at both the individual level and the group level on minority women's fertility.

Several patterns are found in the multilevel analyses. First, the contextual characteristics of minority groups have strong correlations with fertility across thirty major minority groups in China. It suggests that community power and subculture have strong influences on women's decisions regarding their number of children. Second, the

effect of the one-child policy is positive and highly significant on minority women's fertility. However, the strong policy effect does not cover the effect of assimilation. After controlling for policy, the impact of all the assimilation predictors, at both the individual and group level, still remains statistically significant. At the individual level, minority women's educational level, occupational status, status of intermarriage, and migration status have significant and positive impacts on their fertility. At the group level, the levels of minority groups' residential segregation, educational segregation, illiteracy, intermarriage rate, and their Moslem group culture have significant and negative impacts on individual women's fertility. Third, several cross-level interactions in the rural models are not consistent with the complete models, which suggests that some indirect effects of assimilation on minority fertility may come from the urban minorities. Finally, in addition to the direct impacts of socioeconomic, marital, and cultural assimilation on minority fertility, several cross-level interactions are significant and indirectly affect women's fertility. Findings reported in this dissertation indicate a successful integration of individual and contextual variables in analyses of minority fertility. The results contribute to the understanding of the assimilation impacts on minority fertility in China.

I dedicate this dissertation to the memory of my father,
and to my mother,
my husband, Cheng-hsien,
and my sons, Samuel and Eric.

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CHAPTER I

INTRODUCTION

The study of minority fertility has a long tradition in American sociology, beginning in the 1960s with the research of T. Lynn Smith, William Petersen, Calvin Goldscheider, and Peter R. Uhlenberg. The sociology of ethnic demography has progressed enormously since that time and is currently an important and popular research area. With but few exceptions, however, American sociologists have tended to concentrate on American minority groups and relations, often neglecting the analysis of groups outside the United States. To understand the general nature of population dynamics of minority populations, it is necessary to go outside the United States so to be better able to place our analyses in a comparative framework.

Sociological and demographic analyses of minority fertility in the United States have often involved testing the social characteristics, minority group status, and cultural hypotheses, all of which are derived from the assimilation approach (Bean and Marcum 1978; Bean and Swicegood 1985; Bean and Tienda 1987; Espenshade and Ye 1994; Fischer and Marcum 1984; Forste and Tienda 1996; Goldscheider and Uhlenberg 1969; Johnson 1979; Johnson and Nishida 1980).   The testing of these hypotheses has increased our understanding of the fertility dynamics among the various minority groups in the US. In particular, they suggest that the processes of socioeconomic, cultural, and structural assimilation tend to have negative effects on fertility; that is, increasing levels

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This dissertation follows the style of *American Sociological Review*.

of socioeconomic, cultural, and structural assimilation tend to result in lower rates of fertility. It is suggested that when minorities gradually overcome cultural and structural barriers and assimilate to the mainstream culture, they thus broader their perspectives and cultures, and become less traditional. Their fertility thus becomes lower and more similar to that of the majority. In addition, studies have shown that the fertility dynamics are affected not only by individual characteristics, but also by other social, cultural, and contextual factors (Massey 1981).

In China, there are 56 nationalities, namely, the majority Han and 55 other officially identified minority nationalities. According to the most recent census count in the year 2000, China has a population of more than 1.3 billion people. With more than one-fifth of all the human beings in the world, China is the most populous country in the world. Out of a total population of 1.3 billion, 92 percent are members of the majority Han nationality; the remaining 8 percent are spread among 55 different minority nationalities (CPIRC 2001). Although a relatively small proportion of the total population, minorities in China number more than 93 million persons, which accounts amounts to more than one-third of the total US population. If the minority population of China constituted a single country, it would be the 11th most populous country in the world, larger than the roughly 70 million minority people in the US and even larger than the total population of some European or Asian countries, such as Germany, France, Vietnam, or Thailand (Poston, Chang, and Dan 2003).

As in the United States and other countries in the world, assimilation issues have existed between the majority Han people and the other minority groups in China for

thousands of years. Throughout history, the vicissitudes of time, war, migration and seizure of lands have produced many shifts of population in the border areas. Various ethnic minorities live in both mixed and separate compact communities. Some minority groups are widely scattered over the country. A permanent presence of several dozen million ethnic minority people can be found in the country's big and small cities and towns. So, with mutual influences on each other in the economy, politics and culture, they have formed close ties with the Han people. Assimilation is likely to be unavoidable for most minority group members interacting with the mainstream culture. The language, customs, and cultural differentiation of various minority groups from the Han indirectly affect the differentiation of the minority populations, their socioeconomic status, as well as their fertility behavior. Therefore, patterns of assimilation are unquestionably relevant to the fertility behavior of the ethnic minority nationalities.

The increasing socioeconomic development, urbanization, internal migration, intermarriage, and social movement all together have sped up the degree of interaction and assimilation between different regions and different ethnic populations. The cultures, values, and lifestyles of the minorities are changing rapidly as a result of assimilation. All these changing processes, along with the enforcement of national policy, have impacted population dynamics in China. There are many pressing issues related to population in China which pose particular challenges for China's government. My dissertation will address various aspects of minority fertility and their associations with ethnic relations, a topic that has so far received little attention.

To date, there has not been much research on the fertility patterns of China's minority population, compared to the abundance of western fertility analyses in race and ethnic relations. I have reviewed a lot of this literature about the fertility patterns of the minority population in China; most have either focused on specific minority populations, using field surveys to examine the relations between individual characteristics and fertility behaviors (Cai 1994; Gu and Zhao 1991; Han, Cho, Choe, and Tuan 1988; Johnson and Zhang 1991). Some others have focused at the group level to examine the effects of socioeconomic and demographic composition on the fertility patterns of different minority groups (Poston and Shu 1987; Yusuf and Byrnes 1994). Few studies have examined the effects of assimilation on the fertility of China's minorities. In particular, no one has examined the effects of characteristics of both individuals and groups on China's ethnic fertility.

My dissertation attempts to contribute to the literature on fertility and ethnic studies in a comparative perspective in three ways. First, my dissertation uses the research literature on demographic and ethnic studies of western populations as a theoretical foundation for an analysis of China's minority populations. I examine the applicability of a Western model, the assimilation hypothesis, among 30 of China's largest ethnic groups. Previous studies in the United States have shown that the process of assimilation has a negative effect on fertility. According to the assimilation perspective, increasing levels of socioeconomic, cultural, marital, and structural assimilation result in lower rates of fertility. Specifically, I examine different dimensions of assimilation effects, namely, socioeconomic assimilation, cultural

assimilation, marital assimilation, and structural assimilation, on the fertility patterns of China's minority nationalities.

Second, my dissertation attempts to fill a methodological void by using an appropriate statistical approach of multi-level analysis to examine the assimilation effects not only among minority women but also among minority groups. Fertility dynamics are affected not only by individual characteristics, but also by the characteristics of the minority groups. Therefore, in addition to the effects of assimilation on the number of children ever born among individual women in China, the effects of minority group characteristics, such as Moslem culture, levels of residential segregation, and illiteracy, on minority women's fertility will also be examined. The statistical technique of hierarchical generalized linear modeling (HGLM) will be applied in my dissertation.

Third, my dissertation attempts to examine the reduction in China's minority fertility that has occurred outside of the one-child family planning policy. One big and important difference in the fertility studies of China's minorities, compared to Western minorities, is China's unique family planning program. Since 1979, China's government has noticed its population problem and initiated a fairly coercive policy, the so called one-child policy, to achieve the one-child family norm. This well-publicized one-child policy has successfully cut down the birth rate in China from an average of more than 6 children in 1963 to an average of less than 2 children in 1990. Although the one-child family planning program has successfully reduced China's population, the overall trends hide the variability that exists from one minority group to another. One loophole that

has largely been neglected is that minority ethnic groups in China are not subjected to its one-child family policy. The one-child restriction varies by different minority populations and by their different residential locations. Some minority group members can have two children; some can have three children per couple. And within the same minority group identification, the fertility restriction for each couple may vary by their residences. For example, a Mongolian couple living in a rural area may be allowed to have more children than another Mongolian couple who live in an urban area. Therefore, to examining the western assimilation hypotheses in China's minority populations, the specific family planning policy should also be considered.

My dissertation seeks to widen the scope of discussion by considering potential assimilation effects and alternative policy implications on fertility behavior among China's minority populations. By controlling the policy effect, my dissertation will examine whether the one-child policy is the sole reason for China's fertility reduction. The effect of assimilation in fact has played an important role in reducing the fertility of the minority populations in China. My dissertation will not only enable us to learn about minority fertility in China but should also provide us with sharper insights about minority fertility patterns outside China.

There are eight chapters in my dissertation. Following this introductory chapter, Chapter II provides an historical overview of ethnic relations in China and background information about China's ethnic nationalities and minority population policy. Vignettes for each of the 30 minority nationalities will be provided in Chapter III. Chapter IV discusses the Western assimilation model and reviews literature dealing with minority

fertility in China and in the US. My reviews indicate that none of the studies that have examined the assimilation effects have done so using a multi-level perspective. Chapter V describes the data source, methods, and research hypotheses. Chapters VI and VII detail the descriptive and multi-level analyses of Hierarchical Generalized Linear Models to examine the effects of assimilation predictors on minority fertility. The final chapter summaries the effects of socioeconomic, cultural, marital, residential, and structural assimilation on the fertility patterns of China's minorities, the effects of one-child policy in China on minority fertility, and how these effects varied by different groups.

CHAPTER II

ETHNICITY AND ITS POPULATION POLICY

In this chapter, I present a profile of ethnic minority in China. This first section of this chapter provides a historical review of ethnic relations between minorities and the Han. The second section of this chapter discusses the definition of "minority nationality". The third section provides a general overview of demographic characteristics of minority population. Finally, the minority population policy is briefly discussed.

Historical Review of Ethnic Relations

Throughout history, the territory of today's China has hosted a multitude of tribes and ethnic groups (Eberhard 1982). During the Qin Dynasty (221 to 207 B.C.), Qin Shi Huang ended the Period of the Spring and Autumn (770 to 476 B.C.) and Warring States (475 to 221 B.C.), centralized the multi-national state under a feudal autocracy, and established the first empire as a united country in Chinese history. Various ethnic groups lived in remote areas, such as the Dongyis, Nanman, Baiyues, and Zhurongs; they all came under the rule of the Qin emperor. However, some rival powers remained in the northern area under the brief Qin rule. The famous Great Wall began to be construct at this time in order to keep the northern minorities, which were classified as barbarians *Xiongnu* (today's Mongolians), away from the central agricultural people. Residing along the Yellow River and protected by the Great Wall,

these agricultural peoples expanded and gradually moved to fill the country. In the continuous processes of integration with other tribes and ethnic groups, they became the majority population in the country and named themselves "*Han*" after the Han Dynasty (206 B.C. to A.D. 220) (Chen 1998; Ma 1994; Shu 1989).

In the long course of Chinese history, the Han people have developed various political, economic, and cultural contacts with other ethnic groups to become more advanced. Over the centuries, the non-Han peoples who resided in the central China were "pushed progressively into the borderlands by the Han" (Heberer 1989: 18). The Han people named their country "China" (*Zhong-Guo*), literally meaning the "middle kingdom", and considered their culture and civilization to be the center of the world. Confucianism became the dominant philosophy and permeated the social values of the Han people throughout all the succeeding Chinese dynasties. The ideology of Confucianism emphasizes the doctrine of calling a thing by its right name (*Zheng-Min-Zhu*-Yi), and it states that the orthodox tradition of thoughts and customs (such as ceremony, rules, clothing, etc.) should be followed in order to establish the social system and social order. And the so-called orthodox tradition was obviously the culture of the Han. Under this orthodox tradition and the superiority of the more civilized culture, all non-Han people were classified as "barbarians" with a lower status than Han, and the Han believed they had the right and responsibility to "educate" and to "assimilate" the non-Han barbarians. For example, starting with the Han Dynasty, the minority peoples were simply classified by the Han as the Yi (east), Rong (west), Man (south), and Di (north) barbarians (Heberer 1989:18).

In addition to the internal social values against the non-Han people, the central governments throughout all the Chinese dynasties have viewed those neighboring ethnic tribes as external treats. To keep the northern nomad tribes away from the central agricultural territories, historically, the minority policies adopted in most imperial dynasties were divided in two ways. For those strong, powerful, and prosperous dynasties, the policy of "forced assimilation" was applied to aggressively conquer the ethnic tribes. The tribes were forced to send regular tributes to the Chinese Emperor to keep the peace and to receive the official recognition and seal from Han in return. For example, the Tang Dynasty in A.D. 630 conquered the Eastern Turks living both south and north of the Gobi Desert, and in A.D. 657, the Western Turks in modern Xingjiang and Central Asia. The Tang armies conquered most of the minority regimes formerly allied to the Western Turks. After the Uygur grew stronger on the former land of the Turks, the local rulers were given the titles "Governor of Hanghai" and "Huairen Khan" by the Tang government (Ma 1994: 11).

For those dynasties without a strong military force, the "nonviolent assimilation policy" was adopted mostly via intermarriage and business trade to increase the cultural contacts via assimilation. One of the famous "political intermarriages" in the Han Dynasty was when Han Yuan Di assigned his maid, Wang Zhou Jun, to marry the leader of the northern barbarian *Xiongnu* group. This "diplomatic intermarriage" was called "*He Qin*", and was adopted to reduce the struggles and conflicts between the Han and the northern *Xiongnu*. It resulted in a long peace between the Han and the *Xiongnu* for almost sixty years. The purpose of the *"He Qin"* strategy was claimed not to

conquer or occupy the minority tribes, but rather to acculturate and assimilate these conquered, less civilized tribes with restraint and kindness (Heberer 1989).

However, some of the minority groups living close to the Han were still viewed as "outsiders," no matter how they showed their loyalty to the Han government or how much they "assimilated" to the Han culture and became "undistinguishable" from most Han. Other ethnic groups living outside the borders, who were later integrated into China through conquest, were still classified as barbarian tribes (e.g., the *Xianbei*, *Qiang*, *Nuzhan*) even after they sent regular tributes to the Chinese Emperor and received the official position, seal, and militarily protection from the Han government.

In addition to the intermarriage strategy, ethnic contact and assimilation were increased through business, trade and migration. In 139 B.C., Zhang Chan was the first person in Chinese history to break through the gate between the Han and the Northwestern minorities. He was sent by Han Wu Di on a diplomatic mission to contact the ethnic group *Darochi* in today's Xingjiang area so to unite them with the Han government and to aid in the conquering of the *Xiongnu.* Although the mission was not completed after thirteen years of effort, three waves of continued missions increased the interaction between the Han and other ethnic groups by bringing hundreds of members to the remote minority areas. The Han's famous silk products were exported to western minorities in today's Xingjiang, Ningxia provinces, and even as far as Iran, Syria, and India. And many ethnic foods, fruits, music, and arts were imported to the Han society via wholesale migration. The interaction between the Han and western minority cultures had been started. Zhang Chan's mission played an important role in Chinese

history in connecting the Han and the western minorities, and it contributed to ethnic migration and assimilation.

In fact, the Han people were not always the dominant group over the Chinese history. There were some imperial dynasties ruled by non-Han peoples, for example, the Tang, Liao, Jin, Yuan, and Qing Dynasties. The Tang Dynasty (A.D. 618 to 907), particularly, was the only dynasty created by a minority people, the Shatuo of the Turkic people (Ma 1994). In the Tang and Yuan Dynasties, minority cultures were popular and accepted by most Han. Most minorities assimilated themselves to the Han by learning Han culture and language, working for Han officials, and even marrying the Han. At the same time, the Han were more tolerant and open-minded toward minority cultures by accepting some of their customs, music, food, and learning their languages. The minorities experienced more equality and less discrimination under the majority Han culture during these two dynasties.

The minority nationalities were under closer central control in dynasties after the early Tang Dynasty. In the Yuan Dynasty, the "provincial governments" were instituted and empowered to administer areas where the minorities lived in the Northeast, Inner Mongolia, Xinjiang, Guangdong, Guangxi, Yunnan and Guizhou. Various controls (e.g. drafting of soldiers, conscripting labor, collecting taxes, and exacting tributes) brought the various localities of the minority nationalities under close central control. Centralized control was further tightened during the Ming Dynasty (1368-1644) by bringing the feudal economy among various tribal groups. In 1635, Nurhachi, a tribal chief of the Manchu, established the united state of "Later Kin",

which was renamed the "Qing" Dynasty in 1936 (Ma 1994). The Qing government further unified various Mongol groups, the Huis (Uygurs), and Tibetans. The Qing Dynasty strengthened its control of various ethnic minorities in the Northeast, the Northwest, Tibet, and Taiwan, and consolidated its control of these areas and maintained its power (Ma 1994). Up to the end of the Qing Dynasty, the struggle for unification always was a central task. The struggle for unification was not diminished even after the founding of the People's Republic in 1949.

Since 1949, China's government has adopted an aggressive sponsorship and encouragement of Han migration to the minority regions to shift political power to the Han (Banister 1992; Heberer 1989). In order to "promote national solidarity and in consideration of the needs of economic and cultural development" (Banister 1992: 554), the Autonomous Regions were drawn up by placing many Hans in the outlying regions to simply outnumber the small minority groups. The central perspective of the government on minority policy is that all the territory of the PRC belongs to China's whole population, and should be used for the benefit of all. Although the central government and the National People's Congress established a basic law for the autonomy of ethnic minorities in 1954, which pledges respect for the language, religion, and traditional clothing of ethnic minorities and guarantees them equal rights (Gamer 1999), the minorities in the autonomous regions do not posses any political and economic autonomy rights (Banister 1992; Heberer 1989).

In recent decade, there has been a reduction in the minority groups resisting the control of the PRC government; thus, Han-minority relations have been smoother in the

past three decades. Before 1980, there were many conflicts and revolts resulting from

the oppression of the PRC government among many minority nationalities, particularly,

the Tibetans, Uygurs, Kazaks, and Hui. Since 1953, the Hui in Henan, Beijing, and

Yunnan provinces, had rebelled in reaction to Han insensitivity and oppression. The

Tibetans in Gansu and Qinghai provinces revolted in 1959 to resist Han intolerance of

Tibetan culture and customs and to gain an independent status. During the period of

political radicalism (the Great Leap Forward and Cultural Revolution) between 1954

and 1976, the nationality policy that "minorities and their territories were distinctive"

was rejected, and all special privileges for minorities were eliminated. All minority

members were to be treated the same as the Han, and it was once declared that the

nationality policy was no longer needed (Heberer 1989).

Starting in the 1980s, the government's policy on minority population

transferred from a very coercive, forced form of assimilation to a relatively relaxed one.

In 1980, the government restored the 1950s policy of encouraging the use of minority

languages, dress, customs, food, and music. Minorities were allowed to choose their

preferred arrangements, to express their religious beliefs (e.g. Moslem, Tibetan

Buddhism, or shamanism), and to publish books using minority languages (e.g. Korean,

Mongolian, Kazak, Uygur, and Tibetan).

In fact, many minority nationalities has been assimilated to Han culture before

1949, and had lost much of their distinctiveness along with the lack of tolerance for

individual differences under the control of the PRC government. Many minority

persons practically found it necessary to adapt Han culture to avoid the troubles caused

by their distinctive identity. Many minority peoples now speak Mandarin or another Chinese dialect, live in Han communities, adopt Han customs, dress like Han, and often intermarry with Han to become part of them. To complete the assimilation process, intermarriage between Han and minority was officially promoted in 1958. However, rarely were intermarriages between Han and non-Han allowed before 1980. The 1978, the policy further promoted the merging of China's ethnic groups and stated that "… 'interracial' adds to unity among nationalities… In fact, 'interracial marriage' expands and strengthens economic and cultural exchanges among fraternal nationalities in our country…" (Banister 1992: 561; Dreyer 1976: 161). According to the census of 1982 and 1990, the number of intermarriages between Han and non-Han was increasing, suggesting some assimilation of the minority populations.

Slowly, the central government released its control and allowed the minority groups to restore their culture and to maintain their distinctiveness. Similar to affirmative action policies in the U.S., the central government in China allows ethnic minorities to enter colleges and universities with lower scores, gives them priorities for promotions in government institutions, allows them to have more children, and affords them other advantages to help them rise economically. These "minority privileges" have had an effect on the relations between Han and the minority population. For example, many Han with minority origins have changed their identities to minority members in order to enjoy the privileges. Under the exemption from the one-child policy, the number of intermarriages between Han and non-Han is increasing to avoid

the sanctions. The patterns of ethnic relations in China are changing over time, and its impact on population dynamics is very important.

The Definition of Minority Nationality

In Chinese, "minority nationality" is called "*shaoshu minzu*". The term "minority" embraces a group of people who differ according to a number of distinctive specific characteristics from the rest of the population of a country whose territory they inhabit. These characteristics include race, language, religion, customs, traditions, clothing, and social organization. Generally, "minority" is understood to be a group that does not share all the characteristics of the majority population, and is treated unequally on the basis of their cultural or physical differences from the majority group. The term "nationality" (*minzu*) means "a people" and "an ethnic group", and is a term used to refer to all China's nationalities, the Han as well as the minorities. The minority nationalities in China are identified by ethnic, cultural, and religious criteria. They are defined as population groups who share "a language, an area, an economic life, a culture" and "an awareness of belonging to the same group" (Attane and Courbage 2000: 258; Gladney 1991: 66).

In China the minority nationalities are not usually thought of as races. Most minority members, with but a few exceptions, are not distinguishable from one another solely on the basis of phenotypic characteristics. Their identification mostly depends on cultural and linguistic differences that over time have been relatively persistent (Dreyer 1976; Eberhard 1982; Fei 1981; Gladney 1994; Poston 1993; Poston and Shu 1987).

In the early 1920s, Dr. Sun Yat-sen recognized China as a "republic of five nationalities": the Han, Man (Manchu), Meng (Mongolian), Hui, and Zang (Tibetan). After the founding of the People's Republic, over 400 ethnic groups responded to an initial call for registration (Fei 1992; Heberer 1989). Since no one knew exactly how many different nationalities lived in China, the identification process became a complex issue. Three major criteria have been adopted by social scientists as important for identifying China's minority nationalities (Bean and Tienda 1987: 210; Poston et al. 2003: 1) that each group comprises a small proportion of the country's total population-- indeed all 55 minorities constitute a mere eight percent of the population of China; 2) that each minority group exhibits a self-awareness that its members share a common culture or subculture as members of their group; and 3) that each minority nationality has experienced discrimination from the majority. A fourth characteristic which is also relevant for the analysis of ethnic minorities in China is that the Chinese government recognizes them as specific nationalities (*minzu*) and distributes specific benefits to them (Harrell, 1990). For example, the Hui in China are actually less an ethnic group and more so a religious minority (Moslem), but they have been recognized as an ethnic minority on the basis of common characteristics and a separate development (Heberer 1989). Another example is the Daurs of northeastern China which share a cultural and language heritage with the Mongolians. However, the historical records indicate that for 450 years, they lived in communities separate from the Mongolians. Therefore, the Daur is officially recognized as a single nationality (Fei 1992).

The Nationalities of China

China is a multiethnic country, with a diverse population. There are 56 recognized nationalities in China (Table 1). The majority population is the Han Chinese with over 1.2 billion people in the year 2000. The Han people are China's, and the world's, largest ethnic group. Its formation and development was a continuous process of integration and assimilation of the earlier tribal groups over the centuries. It was in the Han Dynasty (206 B.C.- A.D. 220) that they adopted the name "Han"; their language belongs to the Han group of the Chinese-Tibetan language family (Heberer 1989; Ma 1994).

The population of the other 55 minority nationalities (*shaoshu minzu*) accounts for 91.2 million persons, representing over 8 percent of total population in 1990. In 2000, the total minority population has increased to over 93 million persons. There is a great variation in the size of these minority nationalities. Among the 55 groups, 18 of them with over a million people account for over 90 percent of the total population in 1990. The ethnic minority groups with over one million people include the Zhuang, Manchu, Hui, Miao, Uygur, Yi, Tujia, Mongolian, Tibetan, Bouyei, Dong, Yao, Korean, Bai, Hani, Li, Kazak, and Dai, 18 in all. The largest of these 18 groups is the Zhuang, with more than 15 million people. Many of the other groups are very small; seven have less than 10,000 persons, and about 700,000 minority people still have not been classified (State Statistical Bureau 1991)(Table 1).

Table 1. Population Size and Growth Rate of 55 Minority Groups, 1982 and 1990

Nationality	1982 Census (Population)	1990 Census (Population)	Growth Rate (%)	TFR, 1990
Mongolian	3,416,881	4,806,849	40.68	2.24
Hui	7,227,022	8,602,978	19.04	2.61
Tibetan	3,874,035	4,593,330	18.57	3.80
Uygur	5,962,814	7,214,431	20.99	4.76
Miao	5,036,377	7,398,035	46.89	3.13
Yi	5,457,251	6,572,173	20.43	3.08
Zhuang	13,388,118	15,489,630	15.57	2.89
Bouyei	2,122,389	2,545,059	19.91	3.51
Korean	1,766,439	1,920,597	8.73	1.56
Manchu	4,304,160	9,821,180	128.18	1.86
Dong	1,426,335	2,514,014	76.26	2.64
Yao	1,403,664	2,134,013	52.03	2.91
Bei	1.132,010	1,594,827	40.88	2.79
Tujia	2,834,732	5,704,223	101.23	2.50
Hani	1,059,404	1,253,952	18.36	3.39
Kazak	908,414	1,111,718	22.38	4.74
Dai	840,590	1,025,128	21.95	2.68
Li	818,255	1,110,900	35.76	3.49
Lisu	480,960	574,856	19.52	3.59
Va	298,591	351,974	17.88	3.97
She	368,832	630,378	70.91	2.26
Gaoshan	1,549	2,909	87.80	1.76
Lahu	304,174	411,476	35.28	3.59
Shui	286,487	345,993	20.77	3.53
Dongxiang	279,397	373,872	33.81	3.40
Naxi	245,154	278,009	13.40	2.12
Jingpo	93,008	119,209	28.17	4.21
Kirgiz	113,999	141,549	24.17	6.20
Tu	159,426	191,624	20.20	2.77
Daur	94,014	121,357	29.08	2.26
Mulam	90,426	159,328	76.20	2.69
Qiang	102,768	198,252	92.91	2.90
Bulang	58,476	82,280	40.71	4.23
Salar	69,102	87,698	26.91	4.12
Maonan	38,135	71,968	88.72	2.45

Table 1. Continued

Nationality	1982 Census (Population)	1990 Census (Population)	Growth Rate (%)	TFR, 1990
Gelo	53,802	437,997	714.09	2.78
Xibe	83,629	172,847	106.68	1.87
Achang	20,441	27,708	35.55	3.74
Pumi	24,237	29,657	22.36	3.40
Tajik	26,503	33,538	26.54	6.21
Nu	23,166	27,123	17.08	4.23
Uzbek	12,453	14,502	16.45	2.77
Russian	2,935	13,504	360.10	1.58
Ewenki	19,343	26,315	36.04	2.57
Deang	12,295	15,462	25.76	4.98
Bonan	9,027	12,212	35.28	2.63
Yugur	10,569	12,297	16.35	2.10
Jing	11,995	18,915	57.69	2.69
Tatar	4,127	4,873	18.08	2.75
Dulong	4,682	5,816	24.22	5.43
Oroqen	4,132	6,965	68.56	2.31
Hazhen	1,476	4,245	187.60	2.41
Menba	6,248	7,475	19.64	4.13
Lhoba	2,065	2,312	11.96	3.98
Jinuo	11,974	18,021	50.50	2.96
Other unidentified nationalities	881,838	749,341	--	--
Foreigners of Chinese citizenship	4,842	3,421	--	--
Han	940,880,121	1,042,482,187	10.80	--
Total	1,008,175,288	1,133,682,501	12.45	--

Source: *Beijing Review* 33 (52) (Dec. 24-30, 1990): 34.

The Chinese government established 155 autonomous areas, including 5 autonomous provinces, 30 autonomous prefectures, and 120 autonomous counties. These areas cover 6.4 million square kilometers, about 64 percent of China's total territory (Gamer 1999; Zhang 2003). In general, the minority population is geographically concentrated in certain regions. For example, 96 percent in Tibet, 62 percent in Xinjiang, 42 percent in Qinghai, and 39 percent in Guangxi are minorities (Table 2). More than 60 percent of minority group members are located in the southern and southwestern areas of China, about 30 percent live in the north, northeast, and northwest areas. Some groups live in compact communities with mild weather, good natural condition, and transport facilities (e.g. the Zhuang in Guangxi province); some groups live in semi-farming areas with high elevations, cold weather, vast territory, and poor natural conditions (e.g. Tibetan in Tibet or northwestern Sichuan province); and some others live in remote mountainous districts with high mountains, steep slopes, terrible traffic conditions, a less developed economy, and backward medical and health care services (e.g. Tibetans in Gansu province and Shes in Fujian province). In general, 90 percent of the minority populations are located in the border or mountainous provinces of China. A large proportion of minority populations reside in rural areas; only a few groups, such as Mongolians, Hui, Uygur, and Manchu, have higher proportions of their populations living in urban areas.

Table 2. 1990 Total, Han, and Minority Population of 30 Provinces, 1990

Province	Total population	Han population	Minority proportion and distribution (%)		Percent of minorities in province
North Area				7.9%	
Beijing	10,819	10,405	414	(0.5)	3.8
Tianjin	8,785	8,582	203	(0.2)	2.3
Hebei	61,082	58,673	2,409	(2.6)	3.9
Shanxi	28,758	28,676	82	(0.1)	0.3
Inner Mongolia	21,456	17,289	4,167	(4.6)	19.4
Northeast Area				11.71%	
Liaolin	39,459	33,293	6,166	(6.8)	15.6
Jinlin	24,659	22,134	2,525	(2.8)	10.2
Heilongjiang	35,215	33,217	1,998	(2.2)	5.7
Middle Area				2.0%	
Shanghai	13,341	13,279	62	(0.1)	0.5
Jiangshu	67,056	66,903	153	(0.2)	0.2
Zhejiang	41,446	41,233	213	(0.2)	0.5
Anhui	56,181	55,856	325	(0.4)	0.6
Fujian	30,048	29,581	467	(0.5)	1.6
Jiangxi	37,710	37,608	102	(0.1)	0.3
Shandong	84,392	83,886	506	(0.6)	0.6
South Area				28.5%	
Henan	85,534	84,524	1,010	(1.1)	1.2
Hubei	53,970	51,829	2,141	(2.3)	4.0
Hunan	60,657	55,834	4,823	(5.3)	8.0
Guangdong	62,829	62,474	355	(0.4)	0.6
Guangxi	42,244	25,667	16,577	(18.2)	39.2
Hainan	6,558	5,441	1,117	(1.2)	17.0
Southwest Area				33.51%	
Sichuan	107,218	102,328	4,890	(5.4)	4.6
Guizhou	32,391	21,148	11,243	(12.3)	34.7
Yunnan	36,972	24,614	12,358	(13.5)	33.4
Tibet	2,196	80	2,116	(2.3)	96.4
Northwest Area				16.32%	
Shaanxi	32,882	32,725	157	(0.2)	0.5
Gansu	22,371	20,513	1,858	(2.0)	8.3
Qinghai	4,456	2,578	1,878	(2.1)	42.1
Ningxia	4,655	3,106	1,549	(1.7)	33.3
Xinjiang	15,156	5,695	9,461	(10.4)	62.4
Total	*1,130,496*	*1,039,171*	*91,325*	*(100.0)*	

The official language of China is Mandarin Chinese or *Putonghua*, also known as the Beijing dialect. Among the 55 minority nationalities, only the Manchu and Hui use the Mandarin language of the Han majority. The other 53 groups speak their own languages. There are 29 with languages in the Chinese-Tibetan language family, and these groups live in central, south and southwest China. Seventeen groups have languages of the Altaic language family. These are found in northeastern and northwestern China. Three have languages in the language family of South Asia, and two speak Indo-European languages. Many times various minority groups spoke each other's languages. The Tajik, Ozbek and Tatar speak Uygur, for instance. Before the founding of the People's Republic in 1949, only 21 ethnic groups (including the Hui, Manchu, and She using the Han written script) had their own written languages. Some of these written languages are pictographic or ideographic scripts; others have alphabets or syllabic systems, such as Tibetan, Korean, Uygur, Dai and Arabic. There are also some people using several written scripts concurrently. The Dai, for example, had four, while the Mongolians had two (Gamer 1999; Ma 1994).

There is also diversity of religion among the ethnic minority groups in China. Religion has retained a wide influence throughout the ethnic minority areas. Of the 55 ethnic groups, four (the Tibetan, Mongolian, Tus and Yugur) are largely Lamaists, a Buddhist sect. The Hinayana, or Lesser Vehicle Buddhism, is another branch of Buddhism; the believers are among the Bai, Dai, Deang, Achang, Blang, and Jingpo. There are ten groups in China that are primarily Moslems; they are the Hui, Uygur, Kazak, Tatar, Kirgiz, Tajik, Ozbek, Dongxiang, Salar and Bonan. Protestantism found

converts among the Miao and Yi, and some of the ethnic minorities living in western Yunnan. Believers in the Orthodox Eastern Church are found among the small groups of Russian and Ewenki. Other groups (e.g. Nu, Dong, Va, Gaoshan) adhere to primitive religions such as ancestor worship, totemism, and Shamanism (Ma 1994).

The ethnic groups are further distinguished by their different traditions and customs in marriage, childbirth, funerals, festivals, food, housing, costumes, hosting guests and recreational activities. The ethnic minority peoples of China enjoy music and traditional dancing; many have a fine artistic tradition. They have evolved a large volume of poems, fables and legends, and a wealth of scientific writings. Many famous scientists and men of letters have come from the ethnic minorities, and many magnificent old buildings have been built in distinct ethnic styles. But the rich store of cultural and artistic heritage was neglected in the past; most people were denied the right to receive an education. Today, illiteracy is still common for many minority populations. Widespread disease and perpetual natural and man-made calamities result in the loss of countless lives, particularly in the greatly isolated and less developed ethnic minority areas.

Generally, most minority women marry early except for the Tibetan and Dong. The pattern of early marriage may be due to various factors, such as culture, education, employment, customs, and religion; religion has an especially great impact. Many Moslem women marry between ages 15 to 19 in northwestern China (e.g. in Xingjiang, Ningxia, and Qinghai provinces). According to the *Gulanjing (Quran),* a girl at 9 and a boy at 12 can be seen as "*Chu-yo*" (which means they are adults, or grown-ups) who

might be married. It was very common in the past for Moslem women to marry in the younger age. For example, the Hui women married between 13 and 14, the Dongxiang women married between 13 and 17, the Uygur women married around 14, and Tajik women usually married before 14. At present, the situation has changed somewhat, but in rural areas some girls still marry at 15 or 16 and boys at 16 or 17 (Ma 1994; Zhang 2001).

Using data from the *1987 One Percent National Survey* to compare 15 largest minority groups; the age at first marriage for most minority groups in Table 3 are mostly concentrated in the categories of 15 to 19 and 20 to 24. The Uygur has the highest percentage (82.55%) of women married between 15 and 19, and the Bouyei has the lowest percentage (26.27%) married at the same ages. In general, the Uygur, Hui, and Yi, in particular, have over 50 to 80 percent of married women who married before the legal marriage age of 20. Compared with other ethnic groups, Tibetan and Dong women have relatively higher proportions of women married between 30 and 34.

The fertility levels of the minority population vary by groups. Compared with other ethnic group, Koreans have the lowest total fertility rate since the 1980s. In 1990, the total fertility rate of the Korean dropped to 1.5, which is even lower than that of the majority Han (2.3). The Zhuang, Manchu, and Mongolian have lowered their fertility since the late 1980s because of the enforcement of family planning policy. However, other minority groups still have high levels of fertility (Table 1), for example, Tajik (6.21), Kirgiz (6.2), Kazak (4.74), Uygur (4.76), Jingpo (4.21), Bulang (4.23), Salar

(4.12), Deang (4.98), Dulong (5.43), Menba (4.23). The total fertility rates of these groups are still very high, and many of them are Moslem groups.

Table 3. Percent of Married Women of First Marriage Age, for the Largest 15 Minority Groups, 1987 One Percent Sample Population

Ethnic Group	< 15	15~19	20~24	25~29	30~34	35~39	40~44	> 45
Han	0.97	38.40	50.83	9.01	0.64	0.12	0.02	0.01
Mongolian	0.87	42.40	47.11	8.99	0.49	0.18	0.02	--
Hui	2.86	48.71	37.73	11.01	0.68	0.12	0.01	0.01
Tibetan	0.59	33.90	43.19	16.07	5.04	1.28	0.27	0.15
Uygur	3.61	82.55	12.41	1.27	0.13	0.02	--	0.01
Miao	1.38	44.57	46.93	6.21	0.77	0.11	0.03	0.01
Yi	1.47	49.69	41.06	6.63	0.80	0.31	0.05	--
Zhuang	0.80	32.84	54.35	10.21	1.37	0.26	0.04	0.02
Bouyei	0.50	26.27	56.66	14.58	1.74	0.18	0.07	--
Korean	1.64	28.17	58.13	11.44	0.52	0.07	0.02	0.02
Manchu	0.76	34.98	55.03	8.68	0.44	0.13	--	--
Dong	1.21	38.89	51.12	7.74	9.79	0.18	0.05	--
Yao	0.55	36.14	54.97	7.46	0.66	0.20	0.04	--
Bai	0.80	44.90	49.36	4.46	0.40	0.07	--	--
Tujia	1.50	35.60	56.01	6.41	0.39	0.06	0.03	--
Hani	1.52	52.03	40.78	4.62	0.97	0.36	0.04	--

Source: Zhang, Tien-lu. 2001. *Ethnic Demography.* Beijing: China Population Press. Pp. 228.

The patterns of early childbearing are seen among many minority groups. Regarding the proportions of married women who have at least one child before the age of 20, the Lahu, Hani, Uygur, Dai, and Kirgiz women all have over 70 percent of married women, age 15 to 19, with at least one child (Zhang 2003). The early childbearing of these groups is mainly due to their culture of early marriage. Some minority groups have relatively lower proportions of early childbearing, such as the Yugur, Russians, and Koreans.

Minority Population Policy

From 1953 to 1964, China's minority population has increased from 35.3 million to 40 million with an annual increase rate of 1.11 percent. By 1982, the total population of the minority nationalities reached 67.2 million with an annual increase rate of 2.94. In 1990, China's minority popoulation reached 91.2 million, and its annual increase rate became 3.5 percent (Zhang 2003). According to the report of the China Population Information and Research Center (CPIRC 1991), the minority population had increased its population by 35.5 percent from 1982 to 1990, while the increase for the Han nationality was 10.8 percent for the same period. Eight of the fifty-five nationalities have more than doubled during the eight years (Table 1). Apart from the stability of the social environment, the growth of the minority population since 1978 is attributed to natural increase, changes in nationality identification, and more importantly, no unified family planning regulations for most minority nationalities (Banister 1992; Zou 1991).

Initially, the one-child policy was announced by the Chinese government in early 1979, which was transformed from the previous family planning program known as the *wan xi shao* campaign (meaning later marriage, longer spacing between first and subsequent children, and fewer children) launched in 1971[1] (Banister 1987). The purpose of the one-child policy is to reduce the population growth and to stabilize population size by the year 2000. The plan calls for each couple of dominant Han nationality to have only one child, the second birth is permissible only if the first child is handicapped or dies. Excluded from the policy are peasants in problem areas, ethnic minorities, and couples who were only children, all of whom are allowed to have more than one child.

Before 1970, population policy toward the minority nationalities favored an increasing rate of growth, while favoring a reduction of the general Han population as a whole. Ethnic minorities were by and large exempt from family planning policies between 1950 and the early 1970s. The flouring population policy (1950-1970) was carried out among minority regions to feed the manpower needs. From 1971 to 1980, discussions were begun among experts in the society since the flouring policy had led to high birth rates in minority regions and faster population growth than among the Han (Heberer 1989). There were different arguments on how family planning policy should be applied in the minority regions. The prevailing point of view was that population growth should be controlled in densely populated minority regions, but the small

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[1] In 1971 the government instituted the *wan xi shao* (later, longer, fewer) campaign to accelerate three reproductive goals—later marriage, longer spacing between first and subsequent children, and few children. The slogan of "one is best, at most two, never a third" summarized the purpose of later instituted one-child family planning policy (Banister, 1987).

minority nationalities should be allowed more flexible birth control regulations. In 1982, the central authorities in Beijing announced that the minority nationalities should also be involved in family planning, and gave each province and autonomous regions the right to develop their own family-planning policies. Detailed rules were proclaimed in April, 1984 that the one-child family policy should be encouraged for minorities comprising more than 10 million member (e.g. the Zhuang) and that other nationalities constituting less than 10 million members could have two children per couple, and under special circumstances could have three; four children or more would not be permitted[2] (Zhang 2001).

Basically, the one-child policy is implemented by each province and autonomous region; therefore, the regulations vary from one to another. Take Tibet as an example. Urban Tibetan couples are allowed to have two births in Lhasa and several other cities, and no family planning policy has been enforced in the agricultural and pastoral areas (Zhang and Zhang 1991). In the Inner Mongolia Autonomous Region, there are no restrictions on the number of children for the Daur, Ewenki, Elunchun, and Hezhe, but that there must be three years duration between each child. In the same region, the Mongolians, Hui, Manchu, Koreans, and the descendants of Russians with Chinese citizenship may have two children (CPIRC, 1995). In the urban area of Xinjiang Uygur Autonomous Region it is stipulated that if both husband and wife are both ethnic minorities, they can have two births, and if one of the two births has a birth

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[2] 'Guan-yu-chi-hua-shan-yu-gung-zhuo-huei-bao' (Report of family planning work) announced by the National Family Planning Committee on April 1984, contained in Zhang, Tien-lu's (2001) *Ethnic Demography*. Beijing, China Population Press. Pp. 295.

defect, a third child is then allowed; and couples in the rural areas are allowed to have

three births, and under special cases, a fourth is allowed. Nationalities constituting less

than 50 thousand members may have three births among urban couples, and four births

among rural couples (Zou 1991: 8). However, some minority nationalities in the urban

areas are subjected to strict regulations. For example, the Manchus in Heilongjiang and

Liaoning provinces, the Zhuang in Guanxi province, and most minorities in Qinghai

province, have the same family planning policies as the Han.

In spite of the more flexible population policy, the central government in China

allows ethnic minorities to enter colleges and universities with lower scores, gives them

priority for promotions in government institutions, and affords them other advantages to

help them rise economically. Not only are they having more children than the rest of

the population, but investigations have found that many individuals who had been

classified as Han, but had a blood relationship with a minority, have registered

themselves as a minority (e.g. Manchu, Tujia, Miao, Mongolian) so as to be exempt

from family planning program and to take advantage of other special privileges enjoyed

by the ethnic minorities.

In general, there is no unified family planning regulation for intermarried

couples. However, for most Han who intermarry with ethnic minorities, except the

Zhuang, they are subjected to the same family planning regulations of the minorities in

their provinces and autonomous regions. And for minorities who intermarry with other

ethnic minorities, they can choose the minority regulation (Zhang, 2001: 300-03).

According to the national policy, intermarried couples can choose to maintain their

original identities, their children are allowed to choose their ethnic identity when they reach 18 years of age; before that, their ethnicities are determined by their parents (Zhang 2001: 97).

  In this chapter, I presented a historical overview of ethnic relations in China, the identification issue of minority nationalities, a social and demographic overview of China's minority population, and the development of minority population policy. In the next chapter, I will present brief vignettes of each of the thirty minority nationalities that will be analyzed in this dissertation.

CHAPTER III

VIGNETTES OF THE THIRTY ETHNIC GROUPS

In this chapter, I present brief descriptions of each of China's 30 minority nationalities. I have classified these groups according to their geographic distribution, starting from the regions in northeast China and Inner Mongolia, followed by northwest, southwest, south central, and southeast China. General description of minority characteristics, such as residential location, language, religion, origin, culture, customs, and development for each nationality will be introduced.

Northeast China and Inner Mongolia

Manchu

In 1990, the population of the Manchu nationality is 9.8 million, making it the second largest minority group in China. The Manchu people are scattered all over China. The largest group, about 46 percent of the total, lives in Liaoning Province, and rest are mostly in Jilin, Heilongjiang, and other parts of China (Ma 1994).

The Manchu are descendants of the Sushen tribe, a people that lived in northeastern China about 2,000 years ago. The Sushen changed their tribal name to Yilou, Huji, Mohe, and Nüzhen in succeeding centuries. By the end of the Ming Dynasty (1368-1644), the Nüzhen had accepted the name of Manchu. And in 1644, the Manchu troops took over China from the Han and established the Qing Dynasty (1644-1911),

which ruled China for over two hundred years (Guy 2002; Ma 1994; Poston et al. 2003; Rawski 1998; Schein 2000; Sen 2002).

The Manchu have their own oral and written language, which belongs to the Manchu-Tungusic group of the Altaic linguistic family (Ma 1994). Since the 1640s, large numbers of Manchu gradually moved to the south and adopted Mandarin Chinese as their spoken language. Later, as more and more Han migrated to the north, many northern Manchu picked up Mandarin as well.

Compared with the other minority groups, the Manchu are very advanced in terms of socioeconomic status and demographic characteristics. Owing to their centuries of contact with the Han people, the Manchu are similar to the Han with respect to their population distributions in education, occupation, and industry (Poston and Shu, 1987).

Korean

The Koreans are the 13th largest Chinese minority (State Statistical Bureau 1993) numbering 1.9 million persons in 1990. The majority of the Korean population resides in Jilin, Liaoning, and Heilongjiang provinces in northeastern China.

The Korean minority originally migrated from south of the Yalu and Tumen rivers in the Korean peninsula. The ancestors of the Korean people in China moved into northeastern China starting in the 13th century. Because of famine, more Korean farmers migrated to northeastern China and settled in the area of Jilin province known today as the Yanbian Autonomous Prefecture. Some others settled in the southern part of Manchuria after 1910. During the last 350 years, most of the descendants of Korean

immigrants have assimilated with the Manchu and Han Chinese, and only a few have preserved their Korean identity (Min 1992; Piao 1990; Yanbian Editorial Committee 1986).

The Koreans have their own spoken and written language. In Yanbian, Koreans have their own newspaper offices, magazine companies, publishing houses, and radio and TV stations (Cui 1990; Ma 1994). Korean and Mandarin Chinese are their major languages. Because of the long tradition of emphasizing education, the Koreans in China have maintained high levels of ethnic autonomy and positive ethnic identity (Min 1992). Along with the Manchu, the Koreans are the most advanced socioeconomically of all the Chinese minorities. Yanbian University, established in 1949, it was the first minority nationality university in China; operated by Korean-Chinese administrators and has trained a large number of Korean-Chinese professionals who now occupy important positions both locally and nationwide (Cui 1990; Piao 1990; Poston et al. 2003; Shu 1989).

Mongolian

The Mongolian nationality numbers over 4.8 million in 1990, and is the 8th largest minority in China. In 1990, about 70 percent of the Mongolians lived in the Inner Mongolia Autonomous Region where natural resources are apt for both animal husbandry and farming (Ma 1994; Poston et al. 2003; State Statistical Bureau 1993).

The earliest Mongolians were known as "Mongol Shiwei." By the 12th century, the Mongols had reached the upper limits of the Onon, Kerulen and Tula Rivers and in

the Hentey Mountains. In the early 13th century the Mongol Empire was unified from several northern tribes. In 1272, Kublai Khan founded the Yuan Dynasty (1279-1368) and conquered the Southern Song (1127-1279), bringing all of China under the control of the Yuan Dynasty for about one century (1279-1368) (Borchigud 1995; China Handbook Editorial Committee 1985; Khan 1995).

The Mongolians believed in Shamanism in ancient times. In the 13th century, the red sect of Lamaism became popular among the Mongolian rulers. Many feudal lords and herdsmen shifted to the yellow sect of Lamaism later in the 16th century. Lamaism was later protected and encouraged by the imperial court of the Qing Dynasty (Heilongjiang Editorial Committee 1987; Ma 1994). The influence of Lamaism may be felt in every aspect of Mongolian life. Young people were encouraged to become lamas during the years of the Ming and Qing Dynasties, which seriously impeded the development of production and the growth of the population. Lamaism is still the primary religion today (Inner Mongolian Editorial Committee 1985; Ma 1994).

The Mongolians were originally characterized by a nomadic life style but are now almost entirely in permanent settlements (China Handbook Editorial Committee 1985). Compared with the other minorities today, the Mongolians have a lower percentage in agriculture, 70% in 1990, a figure just slightly higher than the 69.6% of the Han peoples.

Daur

There were about 121,000 Daurs in 1990. Most live mainly in the Inner

Mongolia Autonomous Region and Heilongjiang Province. Several thousand of them are found in the Tacheng area in the Xinjiang Uygur Autonomous Region in northwest China. The biggest Daur community is in the Morin Dawa Daur Autonomous Banner, which was set up on August 15, 1958 on the left bank of the Nenjiang River in Heilongjiang Province.

Along with the Ewenki and Oroqen, the Daur people are thought to be descendents of Khitan nomads, who founded the Liao Dynasty (916-1125). They originally inhabited the lower reaches of the Heilong River. In the early Qing Dynasty, the Daur had a diversified economy, and they had frequent interaction with the Han via business trading. They traded hides for metal implements, cloth and other articles from the more economically advanced Han (Ma 1994).

The Daur speak a language related to Mongolian and used Manchu during the Qing Dynasty as their written language. Since the 1911 Revolution, mandarin Chinese has replaced Manchu. The religion of the Daur was shamanism, while a few were followers of Lamaism. Monogamy was the general rule, and marriages were arranged by the parents. Industry has come to the Daur community. With the development of education, many Daur children of school age now attend primary schools, and an increasing number of young Daurs go to middle schools and colleges (Ma 1994).

Northwest China

Hui

With a sizable population of 8.6 million, the Hui are the third largest minority

group in China. They are residentially dispersed over most of the counties and cities throughout China. Over 70 percent of the Hui are in the Ningxia Hui Autonomous Region, and the rest are spread among Gansu, Qinghai, Henan, Hebei, Shandong and Yunnan Provinces, and in the Xinjiang Uygur Autonomous Region (Ma 1994; State Statistical Bureau 1993). Generally, the Hui people are the most residentially integrated with the Han of all the minorities of China (Poston and Micklin, 1993).

The Hui are a Moslem people and employ an Arabic script. The name Hui is abbreviated from "Huihui," a term that identified the peoples who resided in and around the large area of Xinjiang since the Tang Dynasty (618-906); these people, however, were actually ancestors of today's Uygur. The Hui ancestors also date back to the "Islamic-oriented peoples from Middle Asia, as well as Persians and Arabs" (ref: #) who migrated into China in the early periods of the 13th century (Dillon 1999; Ma 1994; Poston et al. 2003).

Hui culture was mainly developed during the Yuan Dynasty (1279-1368). The Huihui obtained higher social positions than the Han during the Yuan Dynasty. In the early Ming, they emerged as a distinct nationality. During the initial stages, the Huihui used the Arabic, Persian and Han languages. However, by intermarrying with the Han, the Mongolians and the Uygur, the Huihui emerged. Due to the introduction of the Han language as a common language, the tendency of assimilation to Han is obvious among today's Hui by adopting the Han language (i.e., Mandarin), wearing clothing like the Han, and using Han names (Gladney 1991; Heilongjiang Editorial Committee 1987; Ma 1994).

Dongxiang

People of the Dongxiang nationality have a population of over 373 thousand in 1990. Half of them dwell in the Dongxiang Autonomous County, and the rest are scattered in Hezheng and Linxia counties, Lanzhou city, and the Xinjiang Uygur Autonomous Region.

The name of "Dongxiang" comes from the place they live -- Dongxiang. The Dongxiang nationality was not recognized as a minority prior to the founding of the People's Republic in 1949. Before 1949, the Dongxiangs were called "Dongxiang Huis" or "Mongolian Huis." The Dongxiang language is basically similar to Mongolian, both belonging to the Mongolian branch of the Altaic language family. Most of the Dongxiang people also speak Mandarin Chinese, which is accepted as their common written language (China Handbook Editorial Committee 1985; Ma 1994)

The Dongxiang are mainly agricultural people. Some historians believe the Dongxiang are descendants of Mongolian troops posted in the Hezhou area by Genghis Khan (1162-1227) during his march to the west. Other historians say they are a mixture of many races -- Hui, Mongolian, Han and Tibetan groups. During the early years of the Ming Dynasty (1368-1644), the Ming rulers offered them amnesty, and they settled down permanently in the Dongxiang area (Ma 1994).

 The Dongxiang are predominantly Moslems. The Moslems in the Dongxiang area were divided into three sects in the past-- the Old, the New and the Emerging sects. The Moslems were feuding among themselves because of various conflicts. At times there were armed clashes. Since the early days of the 1950s, the Chinese government

has pursued a policy of freedom of religious beliefs in the Dongxiang area and has taken measures to restore unity among the Moslem population (Ma 1994).

Tu

The Tu ethnic minority lives in the northwestern part of China with over 192 thousand people in 1990. It is concentrated mainly in the Huzhu Tu Autonomous County in Qinghai Province, and also in the counties of Minhe and Datong. Others are scattered in Ledu, Menyuan and the Tianzhu Tibetan Autonomous County in Gansu Province.

The Tu language belongs to the Mongolian branch of the Altaic language family. Its basic vocabulary is similar to that of the Mongolian language, but it is much closer to the languages of the Dongxiang and Bonan ethnic minorities. Some of their religious terms are borrowed from the Tibetan language, and certain portion of everyday words and phrases come from the Han language. The Tu people do not have a written language of their own; they use that of the Han instead (Ma 1994; Tu Editorial Committee 1982).

The fact that the Tu claim to be "Mongguer" (Mongolians) or "Chahan Mongguer" (White Mongolians) indicates the close relations between the early Tu and the Mongolian nationality. Most Tu are followers of the Yellow Sect of Lamaism. Before the early period of the Ming dynasty, the primary economic activity of the Tu was livestock breeding, especially of goats and sheep. This was due to the abundance of water and grass in the fertile mountainous area that they inhabited (Ma 1994; Tu Editorial Committee 1982).

Uygur

Among the 55 Chinese minorities, the Uygur are the fifth largest, with a population in 1990 of over 7.2 million (State Statistical Bureau 1993). The Uygur are one of China's ten predominantly Moslem groups (Zhang 2001).

The language of the Uygur belongs to the Turkic group of the Altaic language family (China Handbook Editorial Committee 1985). In 1990, virtually all of the Uygur (99.7%) resided in the Xinjiang Uygur Autonomous Region in far northwestern China, an area which includes about one-sixth of China's land mass (State Statistical Bureau 1993). The Uygur are mainly farmers, and their major products are wheat, rice, corn and cotton (Ma 1994; Zhang and Zeng 1993).

According to their language, Uygur signifies "unity" or "alliance" (China Handbook Editorial Committee 1985; Zhang and Zeng 1993). Their origins date back to the "Ding Ling" nomads who lived in the third century B.C. The Uygur took the names of "Tiele," "Huihe," and "Huigu" in succeeding centuries. Their descendants "inter-married with people in southern Xinjiang and Tibet(an), Qidan (Khitan) and Mongol tribes, and evolved into the group now known as the Uygur" (Ma 1994: 139). The nomadic Uygur settled into farming and related sustenance activities between the ninth and the 12th centuries, and have over the centuries maintained strong relations with the Han.

In 1990, more than 84 percent of the Uygur were in agricultural jobs, and only 4.1 percent were professionals. They have an illiteracy rate of almost 27 percent, compared to 22.2 percent for the nation as a whole (State Statistical Bureau 1993).

Kazak

The Kazaks are another of the ten Moslem groups in China. It has a population of over a million in 1990, mainly living in the Xinjiang Uygur Autonomous Region. Some are also located in the Haixi Mongolian, Tibetan and Kazak Autonomous Prefecture in Qinghai Province and the Aksay Kazak Autonomous County in Gansu Province (Ma 1994).

The Kazak language belongs to the Turkic branch of the Altaic language family. Since the Kazaks live in mixed communities with the Hans, Uygurs and Mongolians, they have assimilated many words from these languages. Some Kazaks still use the Arabic alphabet as a written language, but a new Latinized written form was evolved after the founding of the People's Republic of China. Many outstanding Kazak classic and contemporary works have been published in the Kazak language (Ma 1994; Xingjiang Uygur Editorial Committee 1987).

The Kazaks are Muslims. Islamic culture has a great influence upon their social life in all aspects. The Kazaks' festivals and ceremonies are mostly related to religion. Except for a few settled farmers, most of the Kazaks live by animal husbandry. Mostly, they live in collapsible round yurts and in winter build flat-roofed earthen huts in the pastures (Zhang, Huang, and Go 1993).

The Kazak family and marriage have characteristics of the patriarchal feudal system. The male patriarch enjoyed absolute authority at home; the wife was subordinate to the husband, and the children to the father. The women had no right to property. The marriage of the children and the distribution of property were all decided by the

patriarch. In the past, in accordance with their Islamic faith, polygamy was quite common among Kazak chiefs. However, the Kazaks today usually practice monogamy (Ma 1994; Kazak Editorial Committee 1987).

Xibe

There are over 127 thousands Xibe people widely distributed over northern China from the Ili area in the Xinjiang Uygur Autonomous Region in the west to the northeast provinces of Jilin and Liaoning.

The Xibe are descendants of the ancient Xianbei people in northern China. Between A.D. 158 and 167, the Xianbei people formed a powerful tribal alliance under chieftain Tan Shihuai. Between the third and sixth centuries, the Murong, Tuoba, Yuwen and other powerful tribes of Xianbei established political regimes in the Yellow River valley, where they mixed with the Han people. They were probably the ancestors of today's Xibe people.

The Xibe people in northeast and northwest China have each formed their own characteristics in the course of development. The northeast Xibe language and cultural habits are close to those of the Han and Manchu people. The Xibe language belongs to the Manchu-Tungusic branch of the Altaic Language Family. The northwest Xibe (i.e., in Xinjiang), however, mainly speak Uygur and Kazak languages. In 1947, certain Xibe intellectuals reformed the Manchu language into their own written language, by dropping some phonetic symbols and adding new Xibe letters.

Many Xibe in Xinjiang believed in Polytheism (i.e., gods of insects, dragons, land, ghosts, and smallpox) in the old times. After China's national liberation in 1949, the religion changed toward Shamanism and Buddhism. Traditionally, most Xibe families consist of at least three generations, sometimes as many as four or five generations. Marriage was mostly decided by parents. Women held a very low status and had no right to inherit property. The family was governed by the most senior member who had great authority. However, this family structure is changing along with the socioeconomic development after 1949.

Southwest China

Tibetan

The Tibetan people with a population of over 4.5 million people mostly live in the Tibet Autonomous Region. There are also Tibetan communities in Qinghai, Gansu, Sichuan and Yunnan provinces.

At the beginning of the 7th century, King Songzan Gambo began to rule Tibet and made "Losha" (today's Lhasa) the capital. In the Tang Dynasty (618-907), the Kingdom of Tibet began to have frequent contact with the Han. In 641, King Songzan Gambo married Princess Wen Cheng of the Tang Dynasty. In 710, King Chide Zuzain married another Tang princess, Jin Cheng. The two princesses brought with them the culture and advanced production techniques of central China to Tibet. They are also credited with helping introduce the Buddhist faith into Tibet. From that time on, emissaries traveled frequently between the Tang Dynasty and Tibet. All interactions

helped promote relations between the Tibetans and other ethnic groups in China and stimulated social development in Tibet (Ma 1994; Sinclair 1987; Tibet Editorial Committee 1985).

The Tibetan language belongs to the Tibetan sub-branch of the Tibetan-Myanmese language branch of the Chinese-Tibetan language family. According to geographical divisions, it has three major local dialects: Weizang, Kang, and Amdo. The Tibetan script, an alphabetic system of writing, was created in the early 7th century (Tibet Editorial Committee 1985).

Lamaism is the major religion of the Tibetans, and belongs to the Mahayana School of Buddhism. It was introduced into Tibet in the seventh century and developed into Lamaism by assimilating some of the beliefs and rites of the local religion called "Bon." The Tibetan family is male-centered, and marriage is a strictly inner-class affair. Monogamy is the principal form of marriage. The husband controls and inherits the property of the family, and the wife is subordinate to the husband, even if he is married into a woman's family (Ma 1994).

The areas where Tibetans live in compact communities are mostly highlands and mountainous country studded with snow-capped peaks, one rising higher than the other. High in Tibet mountains, the yaks are the only form of transport. Known as the "Boat on the Plateau," the yak is capable of with-standing harsh weather and carrying heavy loads (Ma 1994; Sinclair 1987). Compared with other minority nationalities, the Tibetans are less developed socioeconomically in terms of their educational attainments and living standards.

Qiang

The Qiang ethnic minority has a population of 198 thousand people in 1990. Most of them dwell in the Maowen Qiang Autonomous Prefecture in Sichuan Province with a small number living with Tibetan, Han and Hui ethnic groups in other areas. The Qiang were not a single distinctive ethnic group. The name of "Qiang" was given by the ancient Han to the nomadic people in west China. Since the Han Dynasty (206 B.C.- A.D. 220), a clan group made their homes in today's Sichuan Province. The Han Dynasty court had set up an administrative prefecture for the area. Over the centuries, most Qiang were assimilated by the Tibetans and others by the Han, leaving a small number unassimilated. These developed into the distinctive ethnic group of today (Ma 1994; Qiang Editorial Committee 1986).

The Qiang language belongs to the Tibetan-Myanmese language family. The Qiangs do not have a written script of their own. Owing to their close contact with the Han, many Qiang people speak and write in Han Chinese. Aside from those who live near Tibetan communities and believe in Lamaism, most Qiang are believers of Animism.

The Qiang have mainly monogamous marriages, which were arranged by parents in the past. Usually, the wives were several years older than their husbands. It was common for cousins to marry and for bridegrooms to live with their wives' families. And it still is not unusual today for brides to live with their parents within a year or so after

marriage. In Qiang society, men could marry the widowed of their brothers. Such habits have been gradually discarded since liberation in 1949 (Ma 1994).

Yi

The Yi number more than 6.5 million persons, and 99.6% of them reside in southwestern China in Yunnan, Sichuan and Guizhou Provinces. They are the sixth largest of China's minorities (State Statistical Bureau 1993). The Yi are not reported to have a complete written language, although a modified form was apparently created after 1949 for books and newspaper circulation and production (Ma 1994).

Historically, the principal residences of the Yi were in Yunnan and Sichuan, and these date back more than 2,000 years. Although a feudal economy was established among the Yi in the late Yuan Dynasty, remnants of a slave system have impacted the Yi in subsequent periods. The Yi are distributed over mountainous areas in southwestern China with striking differences of climate and precipitation (Ma 1994). The Yi are primarily engaged in farming and animal husbandry, and their social economy varies somewhat from one place to another. They are nowhere as socioeconomically advanced as the Han peoples, particularly the Yi who reside in the heavily mountainous areas (Harrell 1990).

Bai

The Bai nationality numbers over 1.59 million people in 1990. The majority of them live in the Dali Bai Autonomous Prefecture of Yunnan Province. A few Bai ethics

are scattered in Sichuan and Guizhou provinces (Ma 1994).

The Bai's ancestries can date back to the Tang Dynesty when the Bai nobles unified the people of the Erhai area and established the Nanzhao regime of Yis and Bais. Its first chief, Piluoge, was granted the title of King of Yunnan by a Tang emperor. The Nanzhao regime lasted for 250 years. In 902, a feudal lord system, known as the Kingdom of Dali, was established. The kingdom lasted for over 300 years (937-1253) as a tributary to the Song Dynasty (960-1279) court. Frequent economic and cultural exchanges with the Hans contributed greatly to the development of this border area till late 18th century of the Qing Dynasty (Ma 1994: 250).

Basically, Bai people speak their own language, which is a branch of the Yi Chinese-Tibetan language family (Ma 1994). They also adopt much of the Han language because of the long and extensive contact with the Han.

Most Bais are Buddhists with their own science and culture. For instance, Bais are well known for their superb architectural skill through the construction of the three pagodas at the Chongsheng Temple in Dali during the Tang Dynasty. Culturally, the Bai people are also good singers and dancers, known especially for their operas and dances. For example, the "Lion Dance," created during the Nanzhao regime, and Bai opera, known as *chuichui*, was appreciated in the central plains during the Tang Dynasty (Ma 1994; Sichuan County Editorial Committee 1985).

Hani

In 1990, over 1.25 million Hanis lived in southern Yunnan Province. The Hani language belongs to the Yi branch of the Chinese-Tibetan language family. In 1957, the People's government initiated a written script of the Hani language. It is believed that the Hani people originated from tribal people, "Heyis", who lived around the south of the Dadu River in the 3rd century B.C.   In the Yuan Dynasty (1271-1368) a prefecture was established to rule the Hanis and other minorities in Yunnan. The Ming Dynasty (1368-1644) exercised its rule through local chieftains, who were granted official posts. During the Qing Dynasty (1644-1911), court officials replaced the chieftains (Ma 1994: 259). The social development of the Hanis was uneven. For instance, those in contact with the Han were more developed economically and culturally than those Hanis who were not.

Traditionally, marriages for the Hani people were arranged by the parents. Before 1949, if a wife had produced no sons after many years of marriage, a man was allowed to have a concubine. However, he could not forsake his original wife to remarry Yunnan County Editorial Committee 1982).

Dai

About one million Dais lived in the southern part of Yunnan Province in 1990. The Dai people speak their own language, which belongs to the Chinese-Tibetan language family. The Dai language contains three major dialects and is written in an alphabetic script (Ma 1994: 362).

Contact between the Dai and Han people has been continuous and persistent since 109 B. C. In the 12th century, a Dai chieftain, Bazhen, unified all the tribes and established the Mengle local regime. According to local records, the kingdom had a population of more than one million, and was famous for white elephants and fine-breed horses (Sichuan Editorial Committee 1985: 26).

The religious beliefs of the Dai people are Buddhism and shamanism. Many parents sent their young boys to the Buddhist temples in the countryside where they learned to read, write and chant scriptures. Some of the young boys became monks, while most of them returned to secular life. The Dai people financially supported the Buddhist temples (Ma 1994: 265).

Marriage among the Dais was unequal depending on various social and economic statuses. Polygamy was common among chieftains while the patriarchal monogamous nuclear family was the common form among peasants. Pre-marital social contact between young men and women was quite free, especially during festivals. It is still common today for the groom to move into the bride's home after the wedding (Ma 1994: 265).

Lisu

The Lisu nationality numbers 574,600 people in 1990 and predominately live in concentrated communities in the Nujiang Lisu Autonomous Prefecture in northwestern Yunnan Province. Some Lisus live in the Sichuan Province, in small communities with the Han, Bai, Yi and Naxi peoples (Yunnan Editorial Committee 1990: 32).

In the past the Lisu people were mostly believers of polytheism; they worshipped nature and different gods. In the mid-19th century, Western missionaries spread Christianity and Catholicism to the area. The Lisu language belongs to the Chinese-Tibetan language family. In 1957, a new alphabetic script was created for the Lisu people (Ma 1994).

The political economy in the various Lisu areas varied before China's national liberation in 1949. In areas closest to China's interior (e.g., Lijiang, Dali, Baoshan, Weixi, Lanping and Xichang), a feudal landlord economy was prevalent, with productivity approaching the level in neighboring Han and Bai areas. However, in mountainous areas, some medium and small slave-owners appeared, conducting agriculture or part-agriculture and part-hunting (Ma 1994: 275).

Patriarchal slavery existed in the Nujiang River area in the period between the 16th century and the beginning of the 20th century. The slaves were generally regarded as family members or "adopted children." They lived, ate and worked with their masters, and some of the slaves could buy their freedom after numerous years of work. After 1949, the clan system could still be found among the Lisu society. Within each clan, except for kinship ties, individual households had little economic links with one another (Ma 1994; Yunnan Editorial Committee 1990).

Va

People of the Va nationality have a population of over 352 thousand in 1990, with most of the Va people residing in southwestern Yunnan Province. Furthermore,

some are found scattered in the Xishuangbanna Dai Autonomous Prefecture and the

Dehong Dai-Jingpo Autonomous Prefecture (Zhang 2003).

The Va language belongs to the Austroasiatic family. Before the founding of the

People's Republic of China in 1949, the Va people did not have their own written

language. An alphabetic script was created in 1957 for the Va.

The nuclear family was the basic unit of the Va society. Men and women were

permitted to have premarital intercourse. For instance, the courting ritual required that

small groups of young men and women met and sang love songs. After giving their

chosen partners betal nuts or tobacco leaves as a token of love, they could engage in

premarital sex. Marriages were arranged by parents, and the dowry was several cattle as

betrothal gifts. Because of unhappy arranged marriages, eloping occurred often (Ma

1994).

Economic development of the Va society was rather slow before liberation

because of long-term oppression by reactionary ruling classes and imperialist aggression.

In the post-1949 era, many different commercial stores reflected the industrial and

agricultural development in the life of Va people, including increases in primary and

middle schools, hospitals, and banks (Ma 1994: 280).

Lahu

The Lahus people number more than 411,000 persons in 1990, and are mainly

living in the Lancang Lahu Autonomous County in Simao Prefecture, Southern Lincang

Prefecture and Menghai County in western Xishuangbanna in Yunnan Province (State

Statistic Bureau 1993).

Including the Lahu, it is believed that during the West Han Dynasty, the nomadic

tribe in western Yunnan, the "Kunmings," might be the forbears of certain ethnic groups

(Ma 1994: 283). The Lahu language belongs to the Chinese-Tibetan language family.

Most of the Lahus speak multiple languages including Chinese and the language of the

Dais. Religiously, the Lahu people used to worship many gods who decide the good or

bad fortune of the people. In the early Qing Dynasty, Buddhism was introduced to the

Lahu by Buddhist monks and Buddhism has gradually been accepted since then (Yunnan

Editorial Committee 1986).

In regards to marriage practices, monogamy was practiced. In some areas such as

Bakanai Township in Lancang County and Menghai County in Xishuangbanna, young

people were free to choose their marriage partners, and only a few marriages were

arranged by parents. Women played the dominant part in marital relations. For instance,

after the wedding, the husband stayed permanently in the wife's home, and kinship was

traced maternally. In other areas, patriarchal marriages occurred. Dowries were sent

through a matchmaker before the wedding. After 1949, with the implementation of the

marriage law, the old custom of sending betrothal gifts has been less strictly observed

(Lahu Editorial Committee 1985).

Jingpo

The Jingpo people have a population of over 119 thousand people and mostly

live in the Dehong Dai-Jingpo Autonomous Prefecture of Yunnan Province (State

Statistic Bureau 1993).

The Jingpos speak a language belonging to the Tibetan-Myanmese family of the Chinese-Tibetan language system. Before an alphabetic writing system was introduced, the Jingpos kept records by notching wood or tying knots. Calculations were done by counting beans. After 1949, with the help of the government, the Jingpo people have started publishing newspapers, periodicals and books in their own language (Ma 1994).

Marriage for the Jingpo society was the nuclear, small family of a husband and wife. However some noble "shanguans" and rich peasants practiced polygamy. The family was generally headed by the father. The Jingpo family retained the system of inheritance by the youngest son. For instance, while the eldest son would set up a separate family after marriage, the youngest son would remain to support his parents and inherit most of their property. Therefore, in the Jingpo society the youngest son had highest status while women had the lowest status. The Jingpos practiced a hierarchical intermarriage system, that is, intermarriage between "shanguan" noble families and between common peasant households. While young people could freely socialize, their marriage, often involved many betrothal gifts and was arranged by their parents. Therefore, bride snatching was a common occurrence (Ma 1994: 298).

Miao

The Miao nationality has a population of almost 7.4 million persons and is the 4th largest Chinese minority in 1990. The Miao have grown rapidly in recent decades,

increasing by 47% in the latest census interval (1982-1990), although much of this increase is due to ethnic reaffirmation (Poston et al. 2003).

Most Miao live in the mountainous areas of Guizhou (almost 50%) and Hunan (12.1%); the rest live mainly in Yunnan and Sichuan Provinces and in the Guangxi Zhuang Autonomous Region (State Statistical Bureau 1993).

Historically the Miao were a migratory people. They were first found in areas around western Hunan and eastern Guizhou Provinces about 2,000 years ago. During the third century, they migrated to northwestern Guizhou and southern Sichuan. Over the centuries, the Miao have been widely dispersed and have interacted to a significant degree with the Han and some of the other minorities. The Miao language comprises the Miao-Yao branch of the Chinese-Tibetan language family; however, many Miao have adopted Han Chinese, the Yao, or Dong languages, as their spoken language (Poston et al. 2003).

The Miao are much less developed socioeconomically than the Han and some of the other minorities because of centuries of poverty and primitive living. The economic and social progress of the Miao society has been so slow that its earliest known forms of farming, weaving, dying, and trade did not emerge until the time of the Eastern Han Dynasty (A.D. 25-220)(Ma 1994). According to data from the 1990 Census, 93% of the Miao are engaged in agriculture, and 42% of them (aged 15 and above) are illiterate or semi-illiterate (Poston et al. 2003; State Statistical Bureau 1993).

Bouyei

The Bouyei people had a population of 2.54 million in 1990. Most of the Bouyei live in several Bouyei-Miao autonomous counties and Qiannan Bouyei-Miao Autonomous Prefecture in Guizhou Province, while others are distributed in counties in the Qiandongnan Miao-Dong Autonomous Prefecture. Most areas where the Bouyei resides have very fertile land with a mild climate (Guizhou Editorial Committee 1986; Ma 1994).

The Bouyei language belongs to the Chinese-Tibetan family of languages. Because the Bouyei had no written language of their own, the Bouyei used Han characters. After 1949, the government helped formulate a Bouyei writing system based on Latin letters. Studies of the language have shown that the Bouyei people are a common ancestry with the Zhuang. The similarity between the modern Zhuang and Bouyei languages and the ancient Louyue tongue is a strong indication of the origin of the Bouyeis (Guizhou Editorial Committee 1986).

The Bouyei marriage practices are monogamous arrangements. Young people can interact freely while unmarried men and women get together to sing songs in fairs or festivities. For example, young woman can throw a man a ball in the festivals to show her attraction to him. If the man accepts the ball, they can make a date and sing love songs to each other. After several dates, they may announce their engagement. However, most marriages were still arranged by parents (Ma 1994).   Before 1949, Bouyei agriculture was behind other areas, especially in remote mountain areas. After 1949, many changes have taken place including socioeconomic development.

Dong

There were over 2.5 million Dong people who dwell in the Hunan-Guizhou-Guangxi borders in 1990 (State Statistic Bureau 1993) with a mild climate and great rainfall. The major occupations of Dong people are farming and lumbering. The Dongs speak their own language, but have no written script of their own. Many Dongs learn to read and write in Chinese. In 1958, the central government helped construct a Dong written language based on Latin script (Ma 1994).

A typical Dong diet consists mainly of rice. In the mountainous areas, glutinous rice is eaten with peppers and pickled vegetables. The favorite tree of Dong people is fir. They like to plant fir saplings when a baby is born. When the child reaches eighteen and marries, the fir trees are then used to build houses for the bride and groom. Thus, fir trees are also called "18-year-trees" among the Dong people (Ma 1994; Zhang 2003).

In the past, the feudal patriarchal family was the basic social unit. Women had the lowest status, even forbidden to touch sacrificial objects. Dong girls usually lived separately on the upper floors, which prevented men from visiting them. After marriage, women were given a share of "female land" for private farming while men inherited the rest of the family property. Monogamy was and is still practiced (Guangxi Editorial Committee 1987a; Ma 1994).

Shui

In China, there are over 345 million Shui people who dwell in the Guizhou and Guangxi Province. Most of them live in compact communities in the Sandu Shui

Autonomous County of Guizhou, while others have homes in the Guangxi Zhuang

Autonomous Region (Guangxi Editorial Committee 1987b).

The Shuis are probably the descendants of the Luoyues, one of the early tribes

that lived along China's southeastern coast before the Han Dynasty (206 B.C.-A.D. 24).

They adopted their present name, "Shui", at the end of the Ming Dynasty (1368-1644).

The Shui language belongs to the Zhuang-Dong branch of the Chinese-Tibetan language

family. The Shuis once had an archaic written script but most of them spoke Chinese in

their daily lives except for religious purposes (Ma 1994).

Marital practices of the Shui people have likewise changed with according to

cultural and political shifts. For example, over three centuries ago, young people had the

freedom to choose their spouses, but with the growth of the feudal economy arranged

marriages became more common. As such, children from affluent families could only

marry others from the same class. Parents of the bride were also known to extort big

payments from grooms' family in exchange for their daughter; but these feudal traditions

slowly transformed as well, finally ceasing to exist after 1949 (Guangxi Editorial

Committee 1987b; Zhang 2003).

Gelo

The Gelo people contain over 438 thousand of population in 1990, residing in

dispersed clusters of communities in Guizhou, Yunnan and Guangxi provinces (State

Statistic Bureau 1993). In the past, Gelo marriage customs were feudal, with matches

made by parents at childhood, regardless of the desires of the children involved.

Because of the small and scattered population, Gelo marriages were usually made among cousins (Ma 1994).

Most Gelo festivals echoed Han traditions, but some practices differed, particularly the number of distinctive taboos. For instance, they did not allow themselves to sweep floors, carry water, cook food, clean houses, plough, ride horses or pour water from their houses during Spring Festival. In some areas on other holidays, Gelos would not transplant rice or build houses if they heard thunder.

Because of close contact with many other ethnic groups, the Gelo people speak multiple languages (Ma 1994). Although many Gelos have learned three or four different languages from other ethnic members (e.g., the Miao, Yi, and Bouyei), many of them still face difficulties conversing with other Gelo-speaking people. Therefore, the Han language has become their common language (Zhang 2003).

Central South and Southeast China

Zhuang

The Zhuang are the largest of China's minorities, with a population of almost 15 million persons in 1990. They are concentrated almost exclusively in western Guangxi and eastern Yunnan. Over 90 percent of them live in the Guangxi Zhuang Autonomous Region (Kaup 2000; Ma 1994; Poston et al. 2003). The Zhuang are one of the more residentially segregated of China's minorities (Poston and Micklin, 1993). They have their own language, which fits into the Chinese-Tibetan language family (Guangxi

Editorial Committee 1979; Ma 1994). The Chinese Communist Party (CCP) granted the

Zhuang their own autonomous region in 1958 (Guangxi Editorial Committee 1979).

The Zhuang are thought to be descendants of one of China's ancient ethnic

groups, the Yue (China Handbook Editorial Committee 1985). In 221 B.C. the Zhuang

areas were conquered by China's central peoples, many of them Han. People from other

places were moved to this area to strengthen the control of the central government. In the

rise and fall of the dynasties in succeeding centuries, a number of powerful clans

emerged in the Zhuang areas. Backed by the central authorities, many governed most of

the Zhuang areas from the Tang Dynasty (618-906) through the Qing (1644-1911)(Ma

1994). One line of current research dealing with the Zhuang, however, holds that the

group was given an explicit identification and legitimacy by the CCP as recently as the

1950s (Kaup, 2000).

During the Tang and Song (618-1279) Dynasties, the Zhuang clans practiced

slash-and-burn cultivation, while most of central China had irrigation systems. The

Zhuang are still heavily agricultural; in 1990, almost 90 percent of them were employed

in agriculture (Ma 1994).

Yao

The Yao, with a population of 2.13 million, live in mountain communities

scattered over five south China provinces and one autonomous region. About 70 per cent

of them live in the Guangxi Zhuang Autonomous Region, the rest in Hunan, Yunnan,

Guangdong, Guizhou and Jiangxi provinces.

Historically, the Yao have had at least 30 names based on their ways of production, lifestyles, dress and adornments. For example, the Yao people were called the "savage Wuling tribes" some 2,000 years ago when the Yao ancestors lived around Changsha of today's Hunan Province. Two or three centuries later, they were renamed the "Moyao." The name "Yao" was officially adopted after the founding of the People's Republic in 1949 (Guangxi Editorial Committee 1982; Ma 1994).

The Yao language belongs to the Chinese-Tibetan language family. Half of the Yao speak the Yao language, others use the Miao, Dong, Han or Zhuang languages because of close contacts with these groups. Before 1949, the Yao did not have a written language. The ancient Yao used Chinese characters to keep records of important things. Ancient stone tablets engraved with Chinese characters have been found in a lot of Yao communities.

Since the Song Dynasty (960-1279), ties between the Yao and the Han people have grown along with the increased Yao population. The Yao developed agriculture and handicrafts developed considerably in the Yao areas, such that forged iron knives, indigo-dyed cloth and crossbow weaving machines became reputed Yao products. At that time, the Yao in Hunan were raising cattle and using iron farm tools on fields rented from Han landlords.

Yao religion is Polytheism, which includes a plethora of gods, ancestors, or the "Panhu" (the dog spirit). Today, hunting still remains an important part of Yao life. The

Yao practiced an interesting form of primitive cooperation called "singing-while-digging"[1] (Ma 1994). This can still be seen in Guangxi today.

The Yao have an age-old revolutionary tradition. As early as the Han Dynasty, they fought feudal imperial oppression. During the Tang and Song dynasties, they waged more rebellions against their Han rulers. In the Qing Dynasty (1644-1911), many Yao joined the famous Taiping Rebellion, led by Hong Xiuquan in the 1850s against the feudal bureaucrats. In the 1930s, the Yao people had actively helped the founding of the People's Republic. The Yao Autonomous County in Guangxi today used to be the base area of the 7th Red Army commanded by Deng Xiaoping (Guangxi Editorial Committee 1982; Ma 1994).

Tujia

In 1990, there were 5.7 million Tujias resideing in the Wuling Range of western Hunan and Hubei provinces. They live mainly in the Xiangxi Tujia-Miao Autonomous Prefecture, Exi Tujia-Miao Autonomous Prefecture and some counties in southeastern Hunan and western Hubei.

The Tujias were a distinct ethnic group in western Hunan by the early Five Dynasties period (around 910). After early contact with the Han, they developed metal smelting and commercial crafts. Han peasants started to migrate to western Hunan in the early 12th century, bringing with them modern tools and farming expertise. The Tujias

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[1] "Singing-while-digging" is a popular activity among the Yao community. At times of spring ploughing, 20 to 30 households work together for one household after another until all their fields are ploughed and sown. While the group is working, a young man stands out in the fields, beating a drum and leading the singing (Ma, Yin. 1994. *China's Minority Nationalities*. Beijing, China: Foreign Language Press. p.382).

became more assimilated to the Han. During the Ming Dynasty (1368-1644), Tujia

soldiers, together with Han, Zhuang, Miao, Yao, Mulam and Hui fighters, were sent to

the country's coastal provinces to fight against Japanese pirates pillaging the areas

(Hunan Editorial Committee 1983).

The Tujias are dying out as they become more assimilated to the Han. Their

religious beliefs have included Taoism, ancestor worship and a shamanistic belief in

gods, ghosts and demons. The Tujia language is similar to that spoken by the Yi, which

belongs to the Chinese-Tibetan language system. About 20,000-30,000 people living in

remote areas such as Longshan speak Tujia; the majority of Tujias speak the Han and

Miao languages, now that the Tujias have been largely assimilated. Their clothing and

customs are very much like those of the Han. Only those who live in remote area still

address the old Tujia ways (Hunan Editorial Committee 1983; Ma 1994).

Li

The Li nationality, with a population of 1.1 million, live mainly in the Hainan

Island. Lying at the foot of the Wuzhi Mountains, the Li area is a tropical paradise with

fertile land and abundant rainfall natural resources (Zhang 2003).

The Lis are believed to be descendants of the ancient Yue ethnic group, with

especially close relations with the Luoyues, who migrated from Guangdong and

Guangxi provinces to Hainan Island long before the Qin Dynasty (221-206 B.C.).

Although their spoken language belongs to the Chinese-Tibetan language family, many

of them now speak Han language. Because the Li group originally did not have written

script, a new romanized script was created for the Li in 1957 with government help (Ma 1994).

Marital practices of the Li resemble other Chinese ethnic minorities. For example, the Li people are monogamous, and close relatives are not allowed to marry each other. Before 1949, marriages were arranged by parents when their children were still young and bride prices were as high as several hundred silver dollars or several head of cattle. Those who could not afford the bride price were indentured to the bride's family for several years. Shortly after the wedding, the bride went back to live with her own parents until she knew she had become pregnant. However, these old customs have gradually gone out of practice since liberation (Ma 1994).

She

In 1990 over 634 thousand of She people lived in China, mostly scattered in Zhejiang, Jiangxi, Jiangxi and Guangdong provinces (State Statistic Bureau 1993). The She language is very close to the Hakka dialect of the Hans, and most Shes speak Chinese instead of their ethnic tongue.

The She families are organized by "ancestral temples" with people of the same surname or clan. Each temple has a chief responsible for settling internal disputes, administering public affairs and presiding over sacrificial ceremonies. Within each temple are the "fangs" under which blood-related groups live together.
The basic living and production unit remains the patriarchal family, led by the eldest man. Pre-1949 feudal conditions, parent-arranged marriages were common, as were

outright sales of daughters. The She women, however, enjoy a higher status than their Han sisters. In fact, She men often live with their wives' families and adopt their surnames. Today, She marital customs are much like those of the Hans (Ma 1994).

The She people celebrate similar Festivals as the Han, such as Spring Festival and Moon Festival. In addition, they follow the lunar calendar as the Han with ancestor worship the center of another festival on the eighth day of the fourth lunar month (Zhang 2003).

Throughout history, the Shes struggled against exploitation and oppression imposed by their rulers. During the First Revolutionary Civil War (1924-27), She peasants in eastern Guangdong organized to fight landlords with similar uprisings occurring in Fujian and Zhejiang provinces. Revolutionary activities exploded in eastern Fujian during the Agrarian Revolution (1927-37), and most of the Shes were under the worker-peasant democratic power (Ma 1994).

In this chapter, I have presented a vignette for each of the thirty minority nationalities about their residential locations, languages, origins, cultures, and customs. In the next chapter, I will review prior literature of ethnic fertility and assimilation framework, followed by the empirical evidence from the different assimilation dimensions to discuss the impacts of assimilation on minority fertility.

CHAPTER IV

PRIOR RESEARCH ON ETHNIC FERTILITY

In the ethnic fertility literature, assimilation theory hypothesizes that fertility differences between minority and majority populations are largely determined by differences in their social, economic, and demographic characteristics. In the process of social and economic transition, minority groups are said to have a general tendency toward convergence in both their reproductive and socioeconomic levels. Accordingly, observed differentials in fertility are assumed to be temporary phenomena. The fertility patterns of minority groups will eventually converge to that of the dominant majority as a result of ethnic assimilation. It is assumed that the fertility differences will decrease over time as the majority and minority come to interact freely in the wider community (Goldscheider and Uhlenberg 1969; Halli 1987; Peterson 1975). This assimilation process is likely to affect the fertility patterns of the minority nationalities in China. In attempting to explain differential fertility patterns among the minority groups in China, the principle approach of assimilation theory will be used to show how different levels of assimilation affect their fertility behavior.

In this chapter, I start with a brief review of the ethnic fertility literature in the U.S. Next, I present the theoretical bases of the assimilation perspective. Finally, I review the empirical evidence from the different dimensions of assimilation to discuss the impacts of different assimilation dimensions on fertility behavior.

Development of Ethnic Fertility Studies

The initial research on variation in fertility by race and ethnicity in the United States mainly examined data on intergroup compositional differences in age, educational and occupational attainment, rural/urban residence, and regional location. Prior to the formation of Goldscheider and Uhlenberg's "minority group status" approach in 1969, ethnic group fertility research was "more descriptive than theoretical and more devoted to documenting the size and extent of differences among minorities than explaining them" (Sullivan 1978:165). Group differences in family size and fertility behavior had been observed in earlier studies, but relatively little emphasis focused on the interpretation of these differences. In this early period of analyses, group fertility differentials were more likely to be explained in terms of intergroup variation in socioeconomic composition as opposed to cultural traits (Lee and Lee 1952/1959; Farley 1966). For example, Lee and Lee (1959) in their study of Negro fertility compared white and non-white child/women ratios with 1950 Census data by educational attainment and urban/rural residence. They found that "the higher Negro fertility can be explained in terms of differences in education and socioeconomic level" (p. 231). And this perspective of socioeconomic composition, or socioeconomic characteristics, shared the assumption of assimilation that acculturation processes and socioeconomic convergences under way at the time would eventually be translated into demographic convergence. As noted by Farley (1966), "low fertility rates may be indicative of an increasing involvement of Negroes in American society… as status differences disappear so may fertility differences" (p.203).

In 1969, Goldscheider and Uhlenberg challenged the adequacy of the "socioeconomic characteristics" hypothesis, and proposed an independent explanation of "minority group status" in explaining ethnic fertility differentials. Their major argument was that socioeconomic compositional differences alone could not account for the patterns of ethnic fertility observed after controlling for socioeconomic characteristics. Using data from previous research and published Census tables, they showed that when the majority white and other racial/ethnic groups were equated with respect to socioeconomic characteristics, the differences in fertility between groups in actual and desired fertility remained. They thus brought attention and suggested that under certain conditions minority group status per se might operate to depress fertility and thus account for the unusually low family size for more highly educated blacks, Jews, and Japanese Americans residing outside the West (Goldscheider and Uhlenberg 1969). The minority status hypothesis attributed such low fertility to insecurities generated by discrimination and by additional barriers to social mobility faced by minority members. The major contribution of Goldscheider and Uhlenberg's study was not only its recognition of the necessity of taking into account compositional differences before drawing conclusions about the role of cultural factors in producing aggregate subgroup differentials, but also that minority group fertility might be depressed because of minority group status alone (Bean and Swicegood 1985).

In response to Goldscheider and Uhlenberg, subsequent research in ethnic fertility reflected a variety of analytical strategies (Bean and Marcum 1978; Bean and Swicegood 1985; Bean and Tienda 1987; Cooney, Rogler, and Schroder 1981; Gurak

1978/1980; Johnson 1979; Johnson and Nishida 1980; Jiobu and Marshall 1977; Lopez and Sabagh 1978; Poston et al. 2003; Ritchey 1975; Roberts and Lee 1974; and Sly 1970). Generally, these studies in ethnic fertility can be divided into two broad approaches according to their organizational schemes: minority/majority fertility differentials and intragroup differentials.

Minority/Majority Fertility Differentials

Studies using this approach commonly used a comparative approach to test the minority group status hypothesis as formulated by Goldscheider and Uhlenberg. Most of these studies compared the fertility of one or more minority group populations with that of the majority whites after statistically controlling various socioeconomic and demographic factors within a multiple regression or analysis of variance framework (Fischer and Marcum 1984; Jiobu and Marshall 1977; Johnson 1979; Johnson and Nishida 1980; Poston et al. 2003; Ritchey 1975; Roberts and Lee 1974; and Sly 1970).

Various researchers have adopted different positions as to what empirical results would constitute support for the minority group status hypothesis. For example, Sly's (1970) analysis of variance of 1960 Census data tended to support the idea that minority fertility will fall below that of the majority at higher levels of female education. However, this pattern of fertility differences was not observed when he examined the conditional effects of minority status on other socioeconomic indicators. After controlling for women's residence, Sly found little difference between white and nonwhite family size net of compositional differences in family income and husband's

occupation, thus leading him to accept the characteristics hypothesis and to believe that "within a specified occupational group Negroes desire fewer children than whites may be a function of their lower income and may be completely unrelated to their minority-group status" (1970: 453). Ritchey's study, however, provided consistent evidence favoring a minority group status explanation. Ritchey estimated regression equations for three samples of ever-married black and white women aged 15-44 drawn from 1970 Census Public Use Samples. The equation predicted the number of children ever born from a set of socioeconomic variables, and the interaction of race and education. Plots of regression slopes revealed racial differences in the pattern of fertility by education consistent with Ritchey's equation for two of his three samples (1975: figure 1).

Much of the research designed to test the minority group status hypothesis has focused on various minority population in the United States. Poston, Chang, and Dan's (2003) study is the only one to use this approach in an analysis of China's majority and minority population. Poston and his students used the one percent sample of the 1990 Census of China to compare and contrast the fertility patterns of the Han majority with that of eight minority groups in China by applying western fertility hypotheses. In addition to testing the socioeconomic and minority group status hypotheses, they included the subcultural and economic factors hypotheses derived from Bean and Tienda's study (1987). Three sets of Poisson regression analyses were designed to test the four hypotheses. After controlling for a set of social characteristics, minority status, and economic factors, their results indicated the greatest amount of support for the subcultural hypothesis, which reflected the differential application in China of fertility

policy. However, similar to the findings reported in the western literature by Bean and Tienda (1987) and several other investigators, none of the four hypotheses provided the sole explanation of majority-minority fertility difference. That is, each hypothesis provided at least some explanation.

Intragroup Differentials

Another approach to the study of racial and ethnic fertility differentials has also followed in the wake of Goldscheider and Uhlenberg's formulation. Different from an approach comparing and contrasting majority and minority fertility differentials, studies following this approach do not claim to test the minority group status hypothesis directly, but instead focus on the internal heterogeneity of racial and ethnic groups with respect to individual acculturation and social assimilation (Cooney, Rogler, and Schroder 1981; Espenshade and Ye 1994; Gurak 1978/1980; Lopez and Sabagh 1978). In general, this approach has sought to estimate the impact on fertility of various dimensions of ethnicity from the notion of assimilation and acculturation. Previous empirical studies tended to test the minority group status hypothesis by solely using indicators of assimilation (i.e., education, occupation, and income) under the assumption that minority group members who have achieved some degree of assimilation are acculturated. The research following the intragroup approach, however, attempted to provide additional insight to examine the relationship among various dimensions of acculturation/assimilation and fertility in order to condition minority status effects on fertility.

For example, Lopez and Sabagh (1978) used a survey in Los Angeles to explain residual differences in Mexican American fertility behavior. An important feature of the Lopez and Sabagh study was the emphasis placed on the multidimensionality of ethnicity. They employed three different measures of ethnic integration, including social ethnicity, media ethnicity, and context ethnicity. The three dimensions of ethnic integration, along with other sociodemographic variables, were included in a regression equation with the number of children ever born as the dependent variable for two age cohorts of Mexican American women. Their results showed that different dimensions of ethnicity may affect reproductive behavior in opposite ways.

Using a similar approach, Cooney and her associates (1981) were guided by Gordon's typology in constructing measures of three dimensions of assimilation, namely, cultural, identificational, and structural, to examine fertility patterns among Puerto Ricans. Using multiple regression analysis, they estimated the different effects of assimilation on cumulative fertility net of socioeconomic and demographic control variables. Separate analyses were run for two generations of Puerto Rican women. Surprisingly, their results showed that there was no significant effect on fertility of cultural and social assimilation net of control factors for either generation group. However, there was a desire for non-minority friends among the younger generation, which may reflect the desire of acculturation rather than a conscious limiting of family size in order to facilitate social mobility.

Rather than equate assimilation with social characteristics or with minority group status variables, my dissertation will stress the importance of treating assimilation

separately. Similar to previous studies following the intragroup approach, my research

is in an attempt to measure the impacts of different dimensions of assimilation on

fertility behavior, particularly, among Chinese minority population. So next, I present

the framework of assimilation theory, followed by a review of empirical evidence of

different assimilation dimensions.

Assimilation Theory

One of the earliest expressions of assimilation theory was raised by Robert E.

Park and his students (Park 1950; Park and Burgess 1969). Park's theory of the "race-

relations cycle" pointed to sequential stages of "contact, competition, accommodation,

and eventual assimilation (1950:150)." Park proposed that race relations would follow

these four stages. The cycle may be slowed; however, it is impossible to change or

reverse its direction, and assimilation is an "inevitable outcome."

Assimilation theory was further refined when Milton Gordon (1964) classified

the roles that race, religion, and national origin play in assimilation process. In Gordon's

observation of western ethnic groups, he found that different ethnic groups could

"continue their existence even while the cultural differences between them become

progressively reduced and even in a greater part eliminated" (1964: 158). The reason

why ethnic groups could be both separate and assimilated at the same time owed to the

fact that assimilation takes place along different dimensions. He argued that the most

fundamental parts were cultural and structural assimilations. For example, ethnic groups

can quickly adopt the culture of the dominant group, such as food, dress, language, or

values; however, the groups can still encounter structural inequality or discrimination even after they become almost culturally indistinguishable from the majority. They may not be able to assimilate structurally into the host society, and have higher education, practice exogamous marriages, move into the majority's neighborhood, or have upper-class occupations. Therefore, Gordon distinguished seven dimensions of assimilation: cultural, structural, marital, identificational, attitude receptional, behavior receptional, and civil assimilation. The first three dimensions are of critical importance and are central for the remaining four elements. Gordon hypothesized that all of the stages take place in varying degrees and at least some of the stages could occur out of sequence. As Murguia (1975) noted, if large-scale intermarriage has occurred, then it could be assumed that at least some identificational, attitude receptional, behavior receptional, and civil assimilation already has occurred (p.15).

There were some debates about Gordon's theory, such as the fact he did not recognize the distinction between individual and group levels of ethnic change (Alba and Nee 1997; Gans 1979/1992; Glazer 1993; Hirschman 1983; Portes and Zhou 1993 Yinger 1994). Alba and Nee (1997) thus refined Gordon's theory with the addition of another two dimensions of assimilation: socioeconomic assimilation and residential assimilation. They argued that entering the occupational and economic mainstream has undoubtedly provided many ethnic minorities with a motive for social or structural assimilation. Socioeconomic mobility and residential distribution of minority groups in fact reflect the social capital and the level of assimilation since they likely result in equal

status contact across ethnic lines in workplaces and neighborhood (Alba and Nee 1997; Hirschman 1983; Massey 1985; Massey and Denton 1987/1993).

After reviewing the framework of assimilation theory, I will turn next to a review of the empirical evidence from the different dimensions of assimilation to discuss the impacts of the different assimilation dimensions on fertility behavior. All these dimensions will help me in selecting independent variables to be used in my dissertation.

Socioeconomic Assimilation

Much of the literature on socioeconomic assimilation focuses on the "attainment of average or above average socioeconomic standing" (Alba and Nee 1997: 835), as measured by indicators such as education, occupation, and income (e.g., Neidert and Farley 1985; Espenshade and Ye 1994). In another usage, socioeconomic assimilation can be defined as minority participation in institutions, such as labor markets and education. Rather than focusing on equality of attainment or position, the second definition emphasizes equality of treatment. Members of the minority and majority groups have the same opportunities in the pursuit of the same types of high-status jobs and the same levels of higher education. Since most minority group members have mostly occupied the lower level of the social structure, both definitions of socioeconomic assimilation indicate certain levels of social mobility.

The traditional assimilation perspective has presented fertility reduction as a consequence of educational and economic progress (Freeman 1961-62; Schoen 1978). Many studies have noted that high fertility is a significant factor in retarding educational

advancement, and the prejudice and discrimination against some minority group members are related with their disadvantages in educational and economic status (Goldscheider and Uhlenberg 1969; Lieberson 1961; Lieberson 1980). A negative relationship between socioeconomic status and fertility has been shown to obtain among many U.S. minorities. Education, occupation, and employment status are commonly used in most studies as the socioeconomic measures.

The pattern of fertility reduction by increasing socioeconomic status has been documented in many studies among Mexican and African American women in the US (Bean and Swicegood 1985; Bean and Marcum 1978; Goldscheider and Uhlenberg 1969; Johnson 1979; Sly 1970). Fischer and Marcum (1984), for example, examined three fertility differentials hypotheses, the social characteristics, minority group status, and subcultural hypotheses, in analysis of the fertility pattern of Mexican American women. In their study, most of their findings supported the characteristics hypothesis and found that fertility is negatively associated with education. Burr and Bean's (1996) study used data from the 1973, 1976, 1982, and 1988 National Surveys of Family Growth (NSFG) to examine the impact of female employment and education on wanted and unwanted births among black and white women in the United States. Their findings indicated that nonworking women, compared to working women, had a fertility higher by about 0.33 children. Their logistic models indicated that black women's fertility decreased with increased levels of education.

Similar patterns were also found among Japanese and Chinese Americans. The fertility of Chinese and Japanese women in the U.S. was found to be negatively related

to their levels of education. At all levels of socioeconomic status, Chinese and Japanese

fertility was lower than that of whites, which is partly attributable to their late age of

marriage; but their relatively high socioeconomic status also played an important role

(Bean and Marcum, 1978; Johnson and Nishida, 1980). Rhodes and Woodrum (1980) in

their study found that education and occupation were the most consistent predictors and

explained the most significant amount of variance in three generations of Japanese

American's low fertility. Espenshade and Ye (1994) in their fertility study of Chinese

American, found that the socioeconomic assimilation hypothesis was well supported

among Chinese American women. They argued that, "Chinese American women

frequently are unable to convert educational attainment into occupational status at the

same rate as Caucasian women. Consequently, they must try harder or make sacrificial

efforts in their pursuit of social and economic equality. Those who do and who are

successful pay a price in terms of time and energy. This price is reflected both in a

reduction in the time and energy available for childrearing and in lower fertility"

(Espenshade and Ye 1994: 109).

Outside of the U.S., the effect of socioeconomic assimilation on fertility has also

been examined (Addai and Trovato 1999; Schoorl 1984; Trovato and Burch 1980). For

example, Addai and Trovato (1999) in their ethnic fertility study, used the 1993 Ghana

Demographic and Health Survey to determine the relative importance of socioeconomic

and ethnic/cultural factors on the possible convergence in reproduction among four

groups and a residual ethnic group. They found that, in the long run, increased

urbanization, higher education and participation in the labor force to the levels of the

standard group in Ghana is likely to result in smaller family size. Trovato and Burch (1980) used samples of nine ethnic groups from the 1971 Census of Canada to examine their fertility patterns. Their findings provided partial support for the socioeconomic assimilation hypothesis among the French, German, and Italian groups; their fertility differences could be explained by the variables of education, occupation, and income.

In China, educational levels also play a very important role in detecting the level of modernization, the success of family planning, and contraceptive use. Many studies have found that increases in women's socioeconomic status will decrease their reproductive levels and the demand for children, and increase the likelihood of sterilization and contraceptive use (Gu and Zhao 1992; Liu and Chang 2004; Poston 1986; Poston and Gu 1987; Wang 1990; Wei 1988; Ye 1991). For example, Wei (1988) examined population growth and educational development in China. His findings showed that the rates of contraceptive use among women with a primary school education are significantly higher than those of illiterate women. Wei's finding was consistent with that of Poston's (1986) study, that the relationship between the variable of female employed in nonagricultural industries and the contraceptive use was positive. Ye (1991) developed a multilevel causal model to explain the demand for children of married women in rural Hebei of China by using the 1985 Hebei In-Depth Fertility Survey. Six independent variables, including individual socioeconomic status and the community level of the family of orientation and socioeconomic development, were related to women's demand for children. In Ye's findings, the variation in Hebei women's demand for children were shown to be negatively associated with their

individual attributes. Particularly, raising women's socioeconomic status would be the most effective way to reduce their demand for children in rural Hebei.

Among the minority populations in China, the hypothesis of socioeconomic assimilation has been supported at both the micro and macro levels in many studies (Anderson and Silver 1995; Gu and Zhao 1992; Jin, Su, and Mei 1998; Poston and Shu 1987; Poston et al. 2003). Gu and Zhao (1992) analyzed the demographic transition patterns of the Korean minority group in China using 1990 national census data. They found the decelerated population growth of the Korean nationality to be attributed to the popularization of compulsory education. The illiteracy rate of Korean women in the reproductive ages was only 3 percent, while the national illiteracy rate of child-bearing age Han women was 30 percent. Anderson and Silver (1995) compared the fertility pattern of the four largest minority groups in Xinjiang Uygur Autonomous Region, Uygur, Kazak, Hui, and Han, using micro-data of 1990 Census. Their study showed that education was not the most important determinant of births for Kazaks or Huis. The Uygur who received more than primary education, however, were more likely than those with primary education or less to have a first birth. In addition, less educated women and women living in rural areas were more likely than other women to have a second or higher-order birth. The analysis of Jin, Su, and Mei (1998) examined Mongolian fertility using 1990 Census data. Their finding showed that the birth rate of the Mongolian nationality was very low in comparison to other minority nationalities in China, with a total fertility rate of only 2.2. They found the decline in the birth rate may

have been attributed to a variety of factors, including improvement in education and increases in the number of working professional Mongolian women.

All these studies have been undertaken at both the micro and macro levels and indicate that women with higher levels of education are more likely to be assimilated into the mainstream culture, and less likely to have large families.

Cultural Assimilation

This type of assimilation, usually the first to occur, involves the acceptance of the cultural patterns of the majority; it includes language usage, religion, customs, and other forms of identification with the majority. The subcultural hypothesis derives from the cultural assimilation perspective and posits that fertility differentials among minority groups reflect subcultural values. Fischer and Marcum (1984) argued that individual ethnic characteristics should affect fertility because they indicate stronger attachments to pronatalist subcultural norms. This indicates that as minorities gradually assimilate into the majority culture, their fertility rates are likely to decline.

In the western literature, there are not many studies using direct indicators to measure cultural effects; the most common indicators of cultural influences are measures of English-language proficiency and duration of residence in the US (Forste and Tienda, 1996). However, these indicators are not the appropriate proxies for China's minority population. Although language usage may be used as an indicator of assimilation to the majority culture, this measure is not available in the Census data and most surveys conducted in China.

Nevertheless, Goldscheider and Uhlenberg (1969) attempted to maintain the importance of a cultural dimension in their analysis of minority group fertility. They specified three conditions that might prove necessary for the depressing effect of minority status on fertility to operate. One of the conditions was that "there is no pronatalist ideology associated with the minority group and no norm discouraging the use of efficient contraceptives" (p. 372). They proposed this point in their discussion of high Catholic fertility. In other words, they believed the commitment to a religious ideology or socio-cultural norms would override the effects of the minority group status or other social characteristics on fertility behavior. This pronatalist ideology or socio-cultural norms, according to Goldscheider and Uhlenberg (1969), would encourage large families or restrict the maximum choice with respect to contraceptive usage.

Catholics not the only religion group with such a pronatalist ideology. There are other religious belief and tribal customs that affect fertility control (Dyck 1968; Yu and Yang 1989). Islam, or Moslemism, for example, are well known to have a similar pronatalist ideology. The literature has shown the positive relationship between Islamic belief and fertility (Weeks 1988; Xu 1987). Most nations of Islam, both individually and as a group, are characterized by "higher-than-average fertility, higher-than-average mortality, and rapid rates of population growth" (Weeks 1988: 12).

In China, there are over 18 million Moslems. Of the officially recognized 55 minority nationalities in China, the Hui and the Uygur are the numerically largest Moslem groups, accounting for about 80 percent of all Moslems in the country (State Statistical Bureau 1993). There are an additional eight predominantly Moslem groups

which account for the remaining Moslem population in China; these are the Kazak, Uzbek, Tajik, Tatar, Kirgiz, Salar, Dongxiang, and Bonan (Poston and Shu 1987; Weeks 1988; Zhang 2003). Among Islamic nationalities, early marriage is a social custom supported by religious canons; it should certainly lead to early childbearing. In addition, Moslem women traditionally have low socioeconomic status, which is another reason for the higher fertility levels among Moslem populations (Yu and Yang 1989; Zhang 2003).

In the Xinjiang Autonomous Region, over half of its minorities are of the Islamic faith, which teaches that births are not "self-willed" (Xu 1987). For example, it is not uncommon for Kazak families to have 7 to 8 children in Xinjiang. Some Kazak families take their children out of school at 13 or 14 years to work as herders of sheep and goats on the grasslands (Cheng 1985). Compared with the Han population in Xinjiang, Anderson and Silver (1995) found that 34 percent of Kazaks, 40 percent of Uygur, and 14 percent of Hui had four or more children; 13 percent of Uygur, 11 percent of Kazaks, and 3 percent of Hui had a parity of seven or higher. Only 1 percent of the Han had a parity of four or higher (Anderson and Silver 1995: 215, Table 2).

Ningxia is another autonomous region in China with Moslems as its main group. Ethnic minorities comprise one-third of the region's population and Moslems comprises 99 percent of the minority population. The 1991 report in *RENKOU XUEKAN* by Shen and her associates showed that the growth of the Moslem population would far exceed that of the Han in Ningxia since the total fertility rate of Moslems was much higher than that of the Han. Using the data of 1988 National Fertility Survey, they found that the increase in the level of education of the Moslems was slower than that of the Han. They

concluded that the higher fertility of poor ethnic minorities hindered the socioeconomic development of the minority areas.

As noticed by Banister (1992), Moslem groups have remained most resistant to assimilation in China. Facing different violations of their customs and religious beliefs, they have reacted with fury by constructing anti-Han revolts or rebellion organizations. Various violations among the majority Han have created hostile relationships between Moslems and Han, particularly, during the period of the Cultural Revolution. Since 1980, China's government has tried to develop lenient policies toward the Moslem groups. The distinctive dress, customs, food preferences, dances, and songs of Moslem groups are being more accepted. Nevertheless, religious belief is still an important predictor of cultural assimilation.

Marital Assimilation

According to Gordon (1964), marital assimilation is a finishing stage of assimilation. The distinctive cultural traits and socioeconomic status will first hinder intimate interactions between minority and majority members. However, the more intimate relations will occur when minorities gradually overcome the cultural and structural barriers that block their full membership in the society. The whole assimilation process begins with acculturation by learning and adopting the cultural patterns of the majority group, proceeds through structural assimilation by entering the socioeconomic structure of the majority group, and then is completed when there is no longer a salient characteristic of the minority group themselves compared with members

of the majority group. Intermarriage is then expected to happen after the assimilation process is completed. As Peter Blau and his colleagues mentioned, "high rates of intermarriage are considered to be indicative of social integration, because they reveal that intimate and profound relations between members of different groups and strata are more or less socially acceptable" (1984: 591).

There have been many intermarriage studies conducted in the United States. However, not as much attention has been paid to the relation of intermarriage and fertility. Various methodological problems are the main reason for less attention. The data of intermarriage are more accessible in the United States than in China. However, the standard census and survey data sources generally report only the prevalence of intermarriage among the currently married population. If intermarriages are more likely to be disrupted, either by separation or divorce, then cross-sectional data will underestimate the extent of intermarriage. The estimation of intermarriage will be biased. In China, intermarriage data are generally not available. The difficulty in obtaining systematic and detailed information about patterns of intermarriage is the major reason for the relative neglect of China's ethnic demography in this area. Most of the official publications from censuses and surveys provide only crude data. More detailed information for ethnic minority groups, such as intermarriage, is generally not available.

So far, the relation between intermarriage and fertility is significant and negative in the western literature. Almost all studies have found a significant contribution of intermarriage on the fertility patterns of minority groups (Axelrod, 1990; Beaujot,

Krotki, and Krishnan, 1982; Coleman, 1994; Cooney, Rogler, and Schroder 1981; Gurak

1980; Eschbach 1995). Among them, few adopted a similar approach in constructing

measures of different dimensions of assimilation. Gurak (1980), for example, estimated

the impact of two dimensions of assimilation net of socioeconomic status and

sociodemographic variables on the number of children ever born to women in a high-

fertility (Mexican American) and a low-fertility (Japanese American) group. By

examining the effects of marital assimilation and residential assimilation on Mexican

American and Japanese American women's fertility, the data were shown to support

Gurak's hypothesis that convergence in fertility levels will accompany assimilation.

In a study of Italian immigrants in Belgium, Zavattaro and his associates (1997)

found that Italian-Belgian marriages were more frequent among the better educated

groups. Family size was smaller among migrants in heterogamous marriages. There

was a significant difference in birth intervals between homogamous and heterogamous

marriages. The similar pattern was found among American Indians, that fertility levels

of Indian women who are part of intermarried couples are lower than those for women in

racially endogamous marriages (Eschbach 1995). The fertility decline of the immigrant

population in Western Europe was also shown to be partly due to the rising level of

intermarriage (Coleman 1994).

The study of the intermarriage effect on fertility is very limited in China's

minority population. Only a few reports have documented that the increasing

intermarriage of minority populations with Han residents has caused a reaffirmation of

ethnic identity, which partly accounts for the increases of the minority population (Yang

and Liu 1992). I have reviewed a lot of the fertility studies of China's minority

population. Except for Chang's (2004) forthcoming research, only Zhang Tian-Lu

(1984/2001), one of the experts on China's minority populations, has addressed the

impact of intermarriage on population dynamics. Zhang Tian-Lu, in his book of *Ethnic

Demography*, used 1978 to 1987 published Census data to generally discuss changes in

intermarriage rates in the capital of Beijing. He predicted the growth of future

intermarried populations. Unfortunately, Zhang's research was mostly published in

Mandarin, and his study provides only descriptive data.

Using data from the 1990 Census of China, Chang (2004) constructed a direct

measure of marital assimilation, intermarriage, by matching the ethnicity of each

minority women with her husband in the households of the ten largest minority

nationalities in China. Using Poisson regression analysis, the impact of intermarriage on

their fertility patterns was examined net of socio-demographic characteristics of the

women. The results showed a significant and negative impact of marital assimilation on

fertility among these women.

Structural Assimilation

Structural assimilation involves both the entry of minorities into the institutions

and settings of the majority and their general fusion in the social and economic

structures of the society. Structural assimilation can be measured by the spatial

distribution of ethnic groups and other indirect measures of social contact. In fact,

spatial assimilation is a necessary intermediate step between acculturation and other

types of assimilation. If a group is not physically integrated into a society, structural assimilation will be very difficult (Massey and Mullan 1984). Massey's formulation is the most systematic and has been used as a standard to assess the residential segregation of the minority population in the U.S. He and his colleagues outlined a theoretical model that identifies residential segregation as a primary structural cause of the geographic concentration of poverty in US urban areas (Massey 1981/1985; Massey and Denton 1993).

Residential segregation can be used as one of the indicators of structural assimilation, which represents the degree to which immigrant groups are spatially isolated from the mainstream majority (Massey 1981/1985). Many studies based in the U.S. have found that the ethnic homogeneity of one's neighborhood has a significant effect on fertility (Fischer and Marcum 1984; Gurak 1980; Lopez and Sabagh 1978; Sharma 1994). These studies have argued that living in a more ethnically homogeneous area means that group members live in a context that maximizes contact with their own subcultural institutions and values. Thus, ethnic homogeneity in an area should produce higher fertility by reinforcing subcultural norms. Persons who reside in rural area should be more likely to be isolated from the mainstream culture, and should be more likely to have higher fertility. That is, residential segregation should be positively related to fertility.

Educational segregation (or educational differentiation), derived from the measure of residential segregation, can also be used as an indicator of structural assimilation. In a study of China's minority groups, Poston and Shu (1987) examined

the level of assimilation among China's 15 major minority groups. They extended the index of dissimilarity to five other social and demographic differentiation measures-- educational, occupational, industrial, fertility, and age differentiation indexes. Their two major hypotheses were,

First, the more geographically dispersed minorities are characterized by higher socioeconomic levels than the geographically isolated groups; and

Second, geographic dispersal is positively associated with life expectancy and negatively associated with fertility (Poston and Shu 1987: 718).

Their analysis suggested that the major minority groups show varying levels of similarity with the Han majority. The groups that are geographically the most segregated from the Han are also the most differentiated in terms of education, occupation, industry, fertility, and age. Moreover, as predicted by assimilation theory, the groups that are less differentiated from the Han tend to be better off socioeconomically and demographically (Poston and Shu 1987; Poston, Micklin, and Shu 1998).

Migration status may also be considered as an aspect of structural assimilation. The social characteristics perspective hypothesizes that as the socioeconomic characteristics of two groups become similar, the differences of their fertility levels will gradually disappear (Lee and Lee 1959; Petersen 1975). In other words, when minority groups "share the social characteristics of the dominant group in society, they share the

same fertility value" (Sly 1970: 444). In China, an individual's migration status is an indicator of social mobility.

China has a very restricted household registration system, called *hukou,* which is used to control free migration among the populations in rural and urban areas. The *hukou* system began in 1955-56 and was adopted into law in 1958. It was originally set up to avoid overwhelming the cities of China with uncontrolled immigration. Every Chinese is registered in a household registration book (*hukou)* that classifies the person as either "urban" or "rural", and his/her household status is hardly ever changed. In order to receive many state benefits, such as education and certain types of work permits, people have to be officially registered in their town or county (Gamer 1999; Iredale, Bilik, Su, guo, and Hoy 2001; Poston and Duan 1999).

Minority members who are allowed to legally change their household status and to migrate to other places are mostly due to workshifts, marriage, business, or study reasons; and for those minorities who cannot legally migrate but are greatly attracted by the modernization and economic growth of urban cities, they are the so-called floating population and are temporary urban migrants. Today, at least ten percent of China is made up of a "floating population" of migrants. The number is estimated at between 100 to 200 million mostly rural residents who have migrated to cities in search of work. Most of these migrants are poor and can not get any welfare because they are outside the official *hukou.* Nevertheless, all types of migration, either permanent or temporary, indicate the increasing upward mobility and interaction with the majority culture.

Therefore, I hypothesize that minority members who are migrants, whether permanent migrants, long-term floaters, or short-term floaters, are likely to have fewer children.

In this chapter, I have reviewed the literature of ethnic fertility and empirical evidence of assimilation impacts on fertility. I now turn to the next chapter to present the data source, methods, and research hypotheses of this study.

CHAPTER V

METHODOLOGY

Data

The 1990 Census of China was the fourth census taken in the country since 1949.
The previous three censuses were taken in 1953, 1964, and 1982, respectively. The first
two censuses did not provide much usable information on the minority populations. For
example, in the 1954 census the minority population was counted as 35.3 million
persons, or 6.06 percent of China's total population. The 1964 census counted 39.99
million minority peoples, constituting 5.76 percent of the total population (Banister
1987). The obvious reduction of the minority proportion of China's population from
1953 to 1964 is plausible, and may be due to the misreporting of self-identified minority
members, or due to the worsening mortality conditions and increasing emigration,
slowing down their population growth (Banister 1992: 563). In the 1982 census, the
minority population numbered 67 million persons, which constituted 6.7 percent of
China's total population. According to the 1990 census, the minority population
increased to 91 million persons, or 8 percent of the total population.

The major data source to be used in this study is the *One Percent Sample of the
1990 Census of China*. The 1990 Census of China is the fourth census taken in the
country since 1949. Other than the 2000 Census, which is now only partly available to
scholars outside China, the 1990 Census of China contains the latest available national
data on Chinese minority women's fertility. The sample is a systematic selection of all

the living persons in every household in each province. Fifteen demographic items were

collected in the 1990 Census, including name, relationship with household head, gender,

age, nationality, household status, usual residence since mid-1985, reasons of migration,

education, employed industry, occupation, unemployment status, marital status, fertility,

and mortality (State Statistic Bureau 1993).

The number of children ever born is recorded for each woman aged 15 to 64.

The 1990 Census also identified the majority Han group and the 55 recognized minority

ethnic groups. This dissertation focuses on the 30 largest minority groups which contain

no less than 250 childbearing-aged women in the one percent sample of the 1990 Census

(Table 3). A total sample of 124,840 women 15 to 49 years of age who belong to one of

these 30 minority groups is used.

Measurement

The independent variables for the multilevel analysis pertain to both the

individuals (minority women) and their groups (minority group). Five micro-level

variables and five macro-level variables are used to represent various aspects of

socioeconomic, cultural, marital, and structural assimilation.

Individual-level Variables

Policy. To measure the effect of the One-Child Policy for each minority woman,

a policy index is constructed by calculating the percentage of a woman's childbearing

years that occurred before the year of 1979 (the year the one-child policy officially started).   The formula of policy index is:

The Policy Index = $(A_w - D_{79\text{-}90} - Y_b) / (A_w - Y_b)$

Where,

A_w is woman's age

$D_{79\text{-}90}$ is the number of years from 1979 to 1990.

Y_b is the number of years before the beginning of her childbearing age.

Minority women who have a higher percentage of their childbearing years before 1979 are expected to have more children. The values of the policy index range from 0 to 0.69. A woman with a zero value on the policy index had no childbearing years before 1979; that is, all her childbearing years were under the policy restriction. And the greater the value of the policy index, the greater the proportion of childbearing years the woman experienced before the policy restriction.

Years of Schooling. It measures the number of completed school years from 0 to 16 years. There are six educational categories in the questionnaire of 1990 Census. Each category is transformed to an equivalent year of schooling: 1) illiterate (0 year); 2) completed the primary grades (1-6 years); 3) completed the junior grades (7-9 years); 4) completed the senior grades (10-12 years); 5) completed one or two years of community college (13-14 years); 6) college graduate (13-16 years).

Professional/leadership Job is a dummy variable measuring whether a minority woman is in a professional or leadership job (professional/leadership job = 1). The 1990 Census classifies eight major types of occupations: 1) professional and technical personnel; 2) leadership of government, party, or enterprise; 3) office worker or clerk; 4) business worker, merchant, tradesman, or dealer; 5) worker in service industry; 6) labor in agriculture, forest, pasture, and fisheries; 7) labor in industry and transportation; and 8) other labors. The first and second categories contain mostly white-collar type occupations. Therefore, minority women who are in the first or second categories of occupation are coded 1.

Intermarriage. The data of intermarriage are constructed by matching each minority woman's ethnicity with that of her spouse. Women who are intermarried to Han men are coded 1, their counterpart are coded 0.

Permanent Migrant measures persons who have migrated from other regions. Minority women who are permanent migrants are coded 1, the rest are coded 0.

Group-level Variables

Moslem Group. As I mentioned in Chapter two, ten of China's ethnic nationalities are predominantly Moslem; they are the *Hui, Uygur, Kazak, Dongxiang, Kergaz, Salar, Tajik, Usbek, Tartar,* and *Baoan.* The Moslem culture is assumed to have an impact on individual women's reproductive behavior. Totally, four Moslem groups, *Hui, Uygur, Kazak, and Dongxiang*, are included in this dissertation because of the consideration of group size. Following previous studies (Weeks 1988; Poston 1993;

Zhang 2001), these 4 Moslem groups are coded 1, and the rest of the 26 groups are coded 0.

Residential segregation index (D index). This index gauges the degree of unevenness in the patterns of residential distribution between each ethnic minority population and the Han majority across the 2,378 counties in 1982. The D index values range from 0 to 1 with 0 indicating a perfectly even residential distribution of the minority and the Han, and the value 1 indicating a totally uneven residential distribution of the two groups. Thus, the higher the value of the index, the greater its degree of residential segregation from the Han. The equation of the Dissimilarity Index is:

$$D = \tfrac{1}{2} \, \Sigma \, |Mi / M - Hi / H|,$$

all D values have been multiplied by 100,

where,

Mi and Hi are the number of minority and Han persons living in county i, and M and H are the total number of minority and Han persons, respectively, in the population of China. The absolute differences between Mi/M and Hi/H are summed over 2,378 counties of China.

Educational segregation index. Similar to the residential segregation index, the measure of educational segregation compares the distribution of the Han with that of a

minority group with respect to the population six years of age and older across six

educational categories[1], in 1982.

Illiteracy rate. This variable measures the percentage of persons aged 15 and

over in the minority group that is illiterate, in 1990.

Intermarriage rate. This measures the percentage of minority women in the

minority group who out-married to majority Han, as of 1990.

Hypotheses

The major goal of this dissertation is to examine the influence of assimilation on

fertility change among minority women after controlling for the effects of the one-child

policy. According to assimilation theory, the degree of assimilation should have a

negative effect on fertility behavior. That is, the higher the assimilation level of

minorities, the lower the fertility.

Four specific hypotheses are:

1) *The stronger the effect of the family planning policy, the lower the fertility.* In

other words, minority women who have higher percentages of childbearing

years before 1979 are more likely to have more children.

2) *The higher the socioeconomic assimilation, the lower the fertility.* At the

individual level, minority women's educational level, employment status, and

professional status should have negative effects on fertility. And at the group

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[1] The six educational categories are: 1) illiterate (0); 2) completed the primary grades (1-6); 3) completed
the junior grades (7-9); 4) completed the senior grades (10-12); 5) completed one or two years of
community college (13-14); 6) college graduate (13-16).

level, minority groups with higher levels of educational segregation and

illiteracy should have higher fertility.

3) *The higher the marital assimilation, the lower the fertility.* Minority women

who are out-married to either majority Han, or to other minority group men,

will be more likely to have fewer children. And those groups with high

proportions out-married should have lower fertility.

4) *The higher the structural assimilation, the lower the fertility.* Minority women

who are either permanent or temporary migrants should have fewer children

than their counterparts. And the higher the level of residential segregation of

minority groups, the higher the fertility.

Methods

In this dissertation, the method of multilevel analysis as discussed by

Raudenbush and Bryk (2002), is used to examine how individual and group

characteristics affect their fertility. Multilevel modeling operates at more than one scale

or level so that an overall model can handle both individual and aggregate level

independent variables.

As we know in the social sciences, both the person's characteristics and those of

the context will influence an individual's behavior. Multilevel models are used to

understand the effect of social context on individual-level outcomes. Many examples of

how multilevel analysis can contribute to our understanding of human behavior are

available for many areas, including demography (Poston 2002), education (Coleman,

Hoffer, and Kilgore 1982), epidemiology (Van Korff, Koepsell, Curry, and Diehr 1992), and criminology (Horney, Osgood, and Marshall 1995).

The idea of the hierarchical relationship between individual and social contexts and individual outcomes can be dated back to Marx's work on political economy in 1846 and Durkheim's work on the community effects on suicide in 1897 (DiPrete and Forristal 1994). Before the 1980s, the techniques used for multilevel analysis were either to *disaggregate* all the contextual level variables down to the level of individuals, or to *aggregate* the individual-level characteristics up to the contextual level and to conduct the analysis at the aggregate level. For example, to examine the effects of group characteristics on the fertility behavior of minority women from different groups, the technique was to assign the group characteristics to the individual women, and then do the regression at the individual level. The major problem is that using this technique violates the independence of each observation. Because if we know that women are from the same group, then we also know that they have the same values on the various group characteristics.

Around the late 1980s and early 1990s, the technique of multilevel analysis became popular in the social sciences to combat the above and other statistical problems. It has been noted by many other names, including hierarchical linear models (HLM), hierarchical linear regression, random coefficient models, hierarchical mixed linear models, or Bayesian linear models (DiPrete and Forristal 1994). The newer multilevel method, the HLM analysis which will be discussed in this dissertation, is a big improvement over the aggregation and disaggregation approaches. The major advance

of this technique in the past ten years is to go beyond the aggregation and disaggregation approaches and consider a "more sophisticated treatment of the error structure" (DiPrete and Forristal 1994: 334).

Generally speaking, the technique of HLM involves a set of regression models. The basic idea is to analyze data that consist of multiple macro-level units and multiple micro-level units within each macro unit. In this dissertation, the HLM involves the analysis of regression equations at the individual women level within the minority groups. My HLM analysis will involve two separate steps, namely, one-way ANOVA model and intercepts- and slopes-as-outcomes model (Raudenbush and Bryk 2002).

HLM can be expressed in algebraically equivalent forms by using a set of regression equations. For the purposes of illustration of this technique, one women-level variable, *education (EDUC)*, and one group-level variable, *residential segregation (RESG)*, will be used here to predict the dependent variable of *children ever born (CEB)* in the following discussions.

One-Way ANOVA Model

This is the basic, simplest model in the HLM analysis that will provide the preliminary information about the outcome variable of children ever born. Specifically, it will enable us to access the amount of variance in the dependent variable that lies within groups and how much is between groups.

The women-level equation is

$$Y_{ij} = \beta_{0j} + r_{ij}$$

This equation models women's CEB (Y_{ij}) with just an intercept, β_{0j}, which is the mean of CEB for the group.

At the group level, each group's mean CEB, β_{0j}, is modeled as a function of the grand mean plus a random error. The group-level equation will then be

$$\beta_{0j} = \gamma_{00} + u_{oj}$$

The combination of these two equations yields to the one-way ANOVA model with a grand mean (γ_{00}), a group effect (u_{oj}), and an individual women effect (r_{ij}), as following:

$$Y_{ij} = \gamma_{00} + u_{oj} + r_{ij}$$

The one-way ANOVA model provides a lot of useful information for preliminary examination, including an estimate of the grand mean on CEB, a partition of the total variation in CEB into women-level and group-level variance, and information on the intraclass correlation.

Intercept- and Slopes-as-Outcomes Model

The final model estimates the variability of intercepts and slopes across group-level units, so that each group's mean CEB is predicted by the RESG variable of the group. In this model, the women-level equation is

$$Y_{ij} = \beta_{0j} + \beta_{1j} (EDUC_{ij} - EDUC\text{-}bar_j) + r_{ij}$$

In the women-level equation, the CEB for every i^{th} woman in every j^{th} group (Y_{ij}) is predicted by EDUC. Next, the group-level equation is expanded to include a group-level predictor, RESG.

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (RESG)_j + u_{oj}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} (RESG)_j + u_{1j}$$

The group-level equations are combined into the women-level equation, yielding the final HLM equation as following:

$$Y_{ij} = \gamma_{00} + \gamma_{01} (RESG)_j + \gamma_{10} (EDUC_{ij} - EDUC\text{-}bar_j) + \gamma_{11} (RESG)_j(EDUC_{ij} - EDUC\text{-}bar_j) + u_{oj} + u_{1j} (EDUC_{ij} - EDUC\text{-}bar_j) + r_{ij}$$

This is the main equation of the HLM analysis, and it indicates that the woman outcome on CEB, Y_{ij}, may be viewed as a combined function of the overall intercept (γ_{00}), the main effect of RESG (γ_{01}), the main effect of women's EDUC (γ_{10}), one cross-level interaction involving RESG with woman EDUC (γ_{11}), and a random error of $u_{oj} + u_{1j} (EDUC_{ij} - EDUC\text{-}bar_j) + r_{ij}$.

As pointed out by Raudenbush and Bryk (2002), the HLM not only improves the estimation of effects within individual units, but it also models cross-level effects by

showing how variables measured at one level affect relations occurring at another. This modeling framework provides a significant advance over traditional methods. In addition, HLM draws on the estimation of variance and covariance components with unbalanced, nested data. Its multilevel approach enables a decomposition of the variation into within- and between-group components (Raudenbush and Bryk 2002). In other words, HLM can take an individual-level outcome and partition its variance among two levels' units, and use each level's characteristics as predictors of the outcome at its level and also consider it in the same overall equation. By using the HLM technique, this dissertation identifies differences within the contextual level which conventional models would not have detected because such analyses do not allow the partitioning of fertility variance into within- and between-group components. This study demonstrates how models with complex between-group and between-individual heterogeneity can be both specified and estimated by using the HLM method.

In this dissertation, a nonlinear approach of the hierarchical generalized linear model (HGLM; Raudenbush and Bryk 2002) is used to assess the likelihood of children ever born of Chinese minority women. The outcome variable of this study is *Children Ever Born (CEB)*, which measures a woman's number of children ever born over her childbearing years to date as of July 1, 1990. The variable of children ever born may be categorized as a "count" variable. Count variables indicate the number of times something has happened, that is, it is a "nonnegative integer-valued random variable" (Cameron and Trivedi 1998: 1). The mean CEB value for all the women in the sample is 2.89. I compare in Figure 1 the distribution of observed CEB in my sample with the

univariate Poisson distribution. In Figure 1, it shows that the distribution of the CEB

variable is not normally distributed and it closely resembles a univariate Poisson

distribution for a mean of 2.89 (the dotted line). Therefore, this study adopts a HGLM

model, or more specifically, a Poisson HLM analysis, to model the count variable of

CEB.
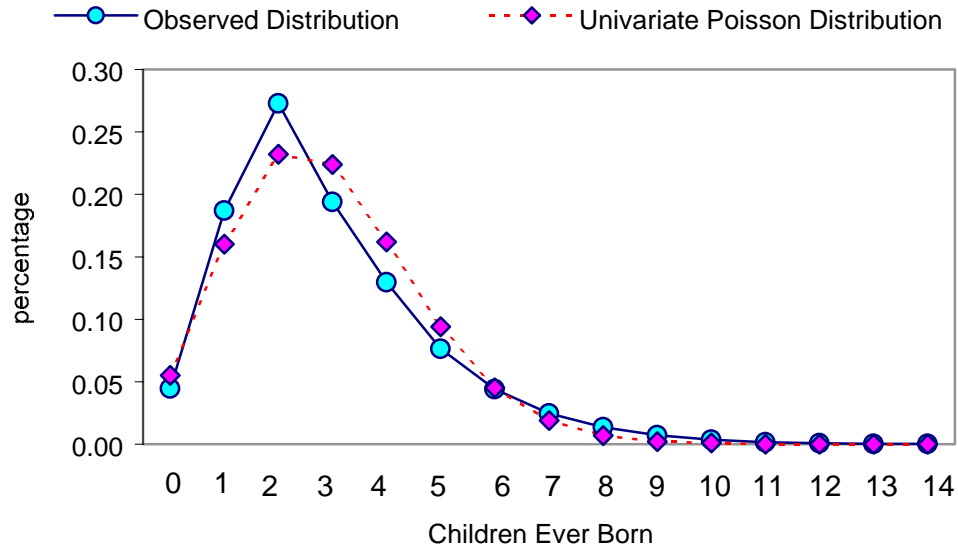
Figure 1. **The CEB Distribution for 124,840 Minority Women in 1990,**
Compared with Univariate Poisson Distribution with Mean = 2.892

The HGLM has a similar logic as the HLM; the only difference between HLM and HGLM is their level-1 model. The level-1 outcome, Y_{ij}, in the HGLM analysis needs to be transformed via certain sampling and link procedure into a structural model. Using the same variables as in example, EDUC for woman-level and RESG for group-level, the woman-level structural model is as follows:

$$\eta_{ij} = \log\left[\varphi_{ij} / 1 - \varphi_{ij}\right] = \beta_{0j} + \beta_{1j} (EDUC)_{ij}$$

Then, same as in the HLM analysis, the intercepts and coefficients are used as the dependent variables in a set of equations across the groups. The group-level equation is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (RESG)_j + u_{oj}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11} (RESG)_j + u_{1j}$$

In the woman-level model, η_{ij} is the log of children ever born. It is predicted by the woman's education (EDUC). In the group-level model, each of the woman-level coefficients are predicted by the level of residential segregation (RESG).

In the next chapter, a descriptive analysis is presented to explore the relationship between assimilation predictors and women's fertility.

CHAPTER VI

ASSIMILATION AND FERTILITY:

DESCRIPTIVE ANALYSIS

This chapter presents a descriptive analysis of the individual and structural characteristics of Chinese minority women in relation to their reproductive behaviors. The descriptive analysis here is to explore the relationship between predictors and fertility before a full examination using the multilevel models.

Descriptive Statistics

Table 4 presents descriptive statistics for the dependent and independent variables among the 30 minority nationalities in China. As shown in Table 4, the sample of Chinese minority women consists of a total of 124,840 individuals in 30 minority groups. The mean of the dependent variable, children ever born, is 2.89 children with a standard deviation of 1.9 children. The minimum number of children in the sample is 0 children while the maximum number reaches 18 children.

At the individual level, the average value of the policy index is .37, which indicates that, an average of 37 percent of childbearing years for each minority woman happened before the year of 1979. Its value ranges from zero to 69 percent.

Minority women completed an average of 5 years of school. Only about 4 percent of minority women were in the professional/leadership jobs, and 86 percent of them live in rural areas. Almost one out of five (19 percent) minority women are intermarried, and only 2 percent of them were permanent migrants (Table 4).

Table 4. Descriptive Statistics of Dependent Variable and Independent Variables Among 30 Minority Nationalities in China

Variable	Number of Observations	Mean	Minimum	Maximum	Standard Deviation
Dependent Variable					
Children Ever Born (CEB)	124840	2.89	0	18	1.90
Independent Variable					
Woman-level Variables					
Policy effect	124840	.37	.00	.69	.23
Year of schooling	124840	5.08	0	16	4.14
Professional/leadership jobs	124840	.04	0	1	.20
Rural/urban household	124840	.86	0	1	.35
Minority-Han intermarriage	124840	.19	0	1	.39
Permanent migrants	124840	.02	0	1	.14
Group-level Variables					
Moslem Group	30	.13	0	1	.35
Residential Segregation Index	30	.95	.69	.99	.06
Educational Segregation Index	30	.21	.05	.58	.12
Illiteracy rate	30	31.17	4.95	76.56	18.16
Intermarriage Rate to Han Group	30	.63	0	5.86	1.2

At the group level, 4 minority groups are predominantly Moslem among the total sample of 30 groups, or about 13 percent of the groups. The mean value of the residential index is .95, which means that on average 95 percent of the minority population would need to move to other counties to have the same distribution as the Han. A similar interpretation can be applied to the mean value of the educational segregation index (.21). On average, the percentage of illiterate population for 30 minority groups is 31 percent, and the mean value of intermarriage rate among groups is .63 (Table 4).

Impact of Socioeconomic Assimilation

The educational levels of the minority populations in China are generally low; over fifty percent of the minority populations are illiterate in 1990. Educational attainment varies from one group to another. Compared with the majority Han population, there is a wide gap in the degree of educational improvement between 1982 and 1990 (Table 5). The Miao, Yao, and Li are the three nationalities with the greatest improvement in decreasing their percentage of illiteracy from 1982 to 1990; their percentages of decreases in illiteracy rates are 17.53, 17.06, and 15.66 percent, respectively. Less improvement occurred among the Korean, Manchu, and Tibetan, with decreasing rates of 2.77, 4.84, and 5.42 percent, respectively. The Koreans have the highest level of education and lowest percentage of illiteracy in both years, compared with the Han and the other minority populations. And the Tibetans, on the other hand, are the least improved nationality in educational attainment with the highest illiteracy rates in both 1982 and 1990. Presumably these levels are affected not only by their different levels of social and cultural development, but also by their different ecological environments and natural resources.

Table 5. Change of Educational Attainments from 1982 to 1990 for 18 Minority Nationalities with More Than One Million Persons %

Nationalities	Year	College/ University	High School	Middle School	Primary School	Illiteracy	Change of Illiteracy, 1982-90
Mongolian	1982	0.81	7.94	16.82	34.12	40.37	
	1990	1.85	10.30	21.83	35.19	30.83	-9.54
Hui	1982	0.69	6.35	16.65	26.21	50.10	
	1990	1.53	7.88	19.96	29.12	41.51	-8.59
Tibetan	1982	0.20	1.00	3.33	16.52	78.95	
	1990	0.44	2.07	4.56	19.40	73.53	-5.42
Uygur	1982	0.33	3.49	10.28	33.00	52.91	
	1990	0.90	5.69	11.39	43.34	38.68	-14.23
Miao	1982	0.12	1.93	7.15	24.72	66.08	
	1990	0.40	3.28	11.20	36.57	48.55	-17.53
Yi	1982	0.08	1.25	6.02	23.35	69.93	
	1990	0.26	1.59	8.48	34.16	55.51	-14.42
Zhuang	1982	0.22	5.29	13.80	36.97	43.72	
	1990	0.57	5.66	17.39	45.53	30.85	-12.87
Bouyei	1982	0.14	1.75	8.70	26.54	62.86	
	1990	0.57	2.47	11.39	37.03	48.54	-14.32
Korean	1982	1.96	18.35	30.69	28.48	20.52	
	1990	4.32	20.92	33.72	23.29	17.75	-2.77
Manchu	1982	0.87	9.15	23.17	38.29	28.52	
	1990	1.65	9.16	27.52	37.99	23.68	-4.84
Dong	1982	0.21	3.01	10.54	33.60	52.64	
	1990	0.60	4.67	15.35	42.63	36.75	-15.89
Yao	1982	0.14	3.03	7.73	32.37	56.73	
	1990	0.51	4.46	12.14	43.22	39.67	-17.06
Bai	1982	0.41	3.59	12.74	33.60	49.65	
	1990	1.06	5.34	17.47	39.12	36.98	-12.67
Tujia	1982	0.16	4.76	14.08	39.62	41.32	
	1990	0.71	5.97	17.93	42.52	32.87	-8.45
Hani	1982	0.04	0.86	4.79	18.00	76.32	
	1990	0.17	1.61	7.02	28.21	62.99	-13.33
Kazak	1982	0.44	4.58	13.57	38.71	42.70	
	1990	1.24	8.14	16.45	43.94	30.23	-12.47
Dai	1982	0.10	1.20	6.09	29.13	63.48	
	1990	0.29	2.16	8.41	40.87	48.27	-15.21
Li	1982	0.15	4.17	11.03	29.08	55.57	
	1990	0.48	4.63	17.74	37.24	39.91	-15.66
Han	1982	0.62	6.78	18.15	35.77	38.68	
	1990	1.44	8.14	23.93	37.16	29.33	-9.35

Data Sources: 1% of 1982 Census and 1% of 1990 Census.

Generally speaking, urban minorities have higher levels of education than rural

minorities. The sample used in this dissertation shows a clear pattern between rural and

urban women. Among urban minority women in 1990, only 5.3 percent were illiterate,

and almost 40 percent of them had at least a high school education. In contrast, more

than one-third (39%) of rural minorities were illiterate, 41 percent had only been to

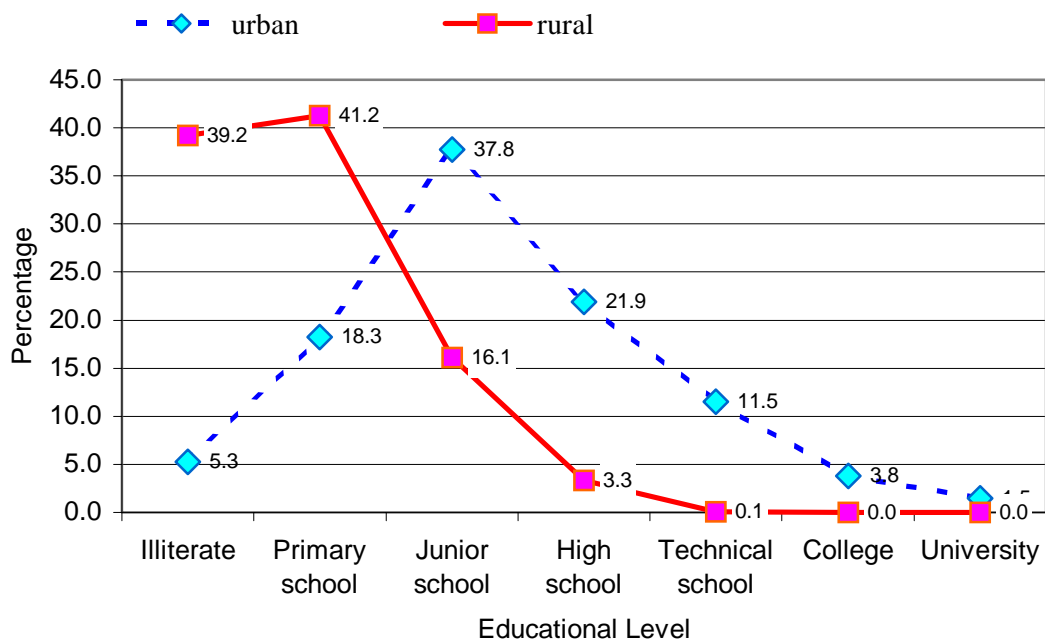primary school, and less than 5 percent had at least a high school education (Figure 2).

**Figure 2. The Educational Level of Minority Population in Rural and Urban
        Areas, 1990**

The fertility patterns of the minority populations reflect their preference of early childbearing and a large family, which is directly or indirectly likely caused by low levels of educational attainment. Figure 3 shows that age-specific fertility is higher in all age groups for the minorities in 1990, especially for the younger ages (15-19) and older age (45-49). It indicates the minority populations have a higher tendency to marry at young ages and to keep having births at old ages. These findings are consistent with the literature that I discussed in Chapter Two. In fact, according to the data provided by the Chinese Population Information Center (CPIC, 1983), before the age of 20, the Hans' cumulative first marriage rate was 0.165, while that of the minority was 0.350, over two times higher. In particular, some nationalities, such as the Uygur, Yi, Tibetan, and Hani, still maintain the custom of early marriage (Zhang, 2001: 230). In Zhang's discussion about marriage patterns of minority women, for example, he showed that 29 percent of the Uygur women, age 15 to 19, were married in 1990, while only 2 percent of the Korean women were married at the same ages. These early marriage patterns would likely lead to early childbearing and higher fertility.
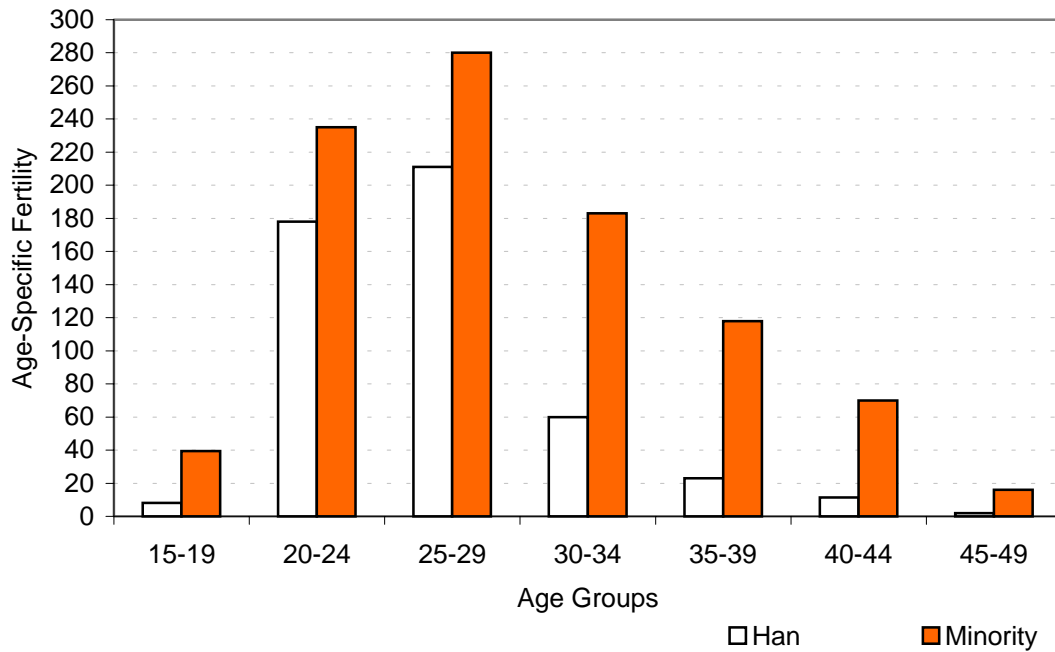
Figure 3. **Age-Specific Fertility in China Among Married Women of Reproductive Age, 1990**

Impact of Marital and Cultural Assimilation

In the sample of my dissertation, 19 percent of the minority populations are intermarried to the majority Han, and 4 percent are intermarried to other minority nationalities. The percentage of intermarriage in urban areas is double that of the rural areas (39% and 19%). It is mainly due to the fact that residential patterns in the city are more dispersed and less segregated. Ethnic interactions are more common, frequent, and convenient in cities, which increases mutual understanding of different cultures, customs, and languages between minorities and the Han. Intermarriage tends to weaken traditional social values and cultural conflicts.

There is great variation in intermarriage rates among all the ethnic nationalities. Some nationalities have very high proportions of intermarriage, such as the Manchu and the Mongolian. These two ethnic groups have adopted and learned the Han's culture since they ruled China as a whole in the Yuan Dynasty (1271-1368) and the Qing Dynasty (1636-1911). For some other ethnic groups, however, their lower intermarriage patterns are affected by segregated residences or religious customs, such as the Wa, Kazak, and Lisu, and Dongxiang. All four nationalities live in highly segregated rural areas.

To examine the association between intermarriage and minority women's fertility, I compare the fertility patterns of four high exogamous groups with those of four low exogamous groups. Figure 4 shows the CEB distribution of the four high-exogamous groups; they are the Mongolian, Manchu, Tujia, and She nationalities. The CEB distributions of these four groups are all skewed to the left. Most women among these four high-exogamous groups have mostly 0 to 3 children. Figure 5, however, shows a very different fertility pattern for four low-exogamous groups; they are the Tibetan, Uygur, Kazak, and Dongxiang. The CEB distributions of these four low-exogamous groups are all spread from 0 to 10 children. That is, these low-exogamous group women have higher fertility. Kazak and Dongxiang, are predominantly Moslem.
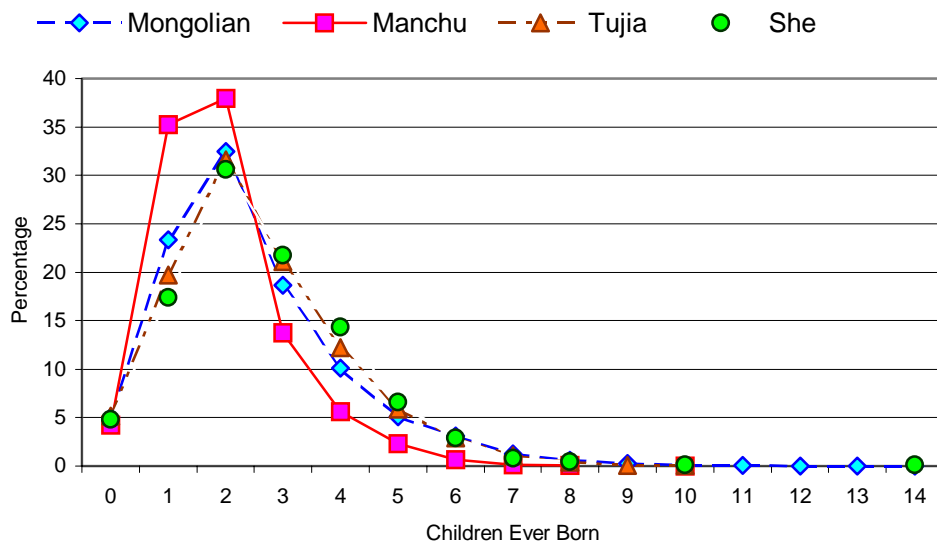
Figure 4. The CEB Distribution of Four High Exogamous Groups-Mongolian, Manchu, Tujia, and She Nationalities, 1990
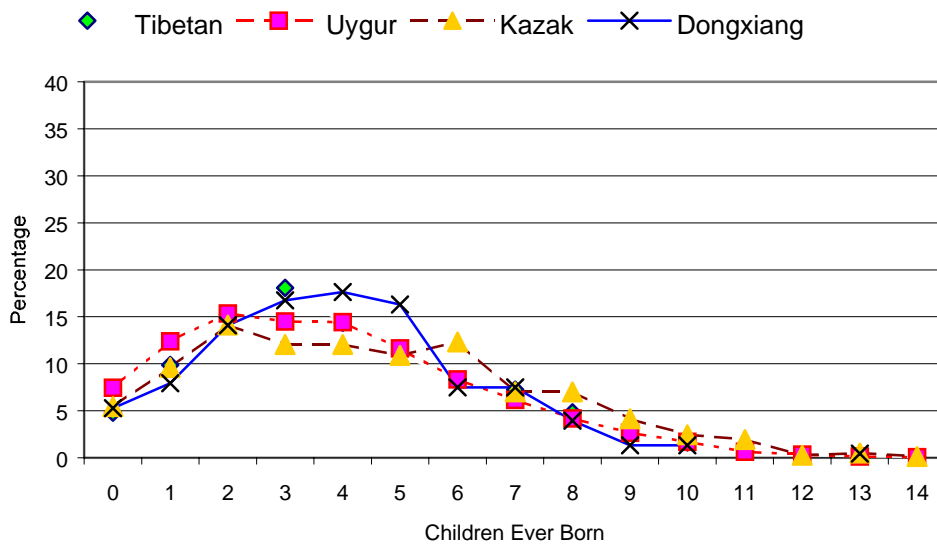
Figure 5. The CEB Distribution of Four Low Exogamous Groups--Tibetan, Uygur, Kazak, Dongxiang Nationalities, 1990

As discussed in Chapter Two, Moslem women have traditionally low socioeconomic status and are prohibited from out-marrying, so their offspring will be Moslems. Plus, early marriage is a social custom supported by their religious canons. The ban of intermarriage, low socioeconomic status, and the customs of early marriage among Moslem societies all contribute to high fertility. Therefore, the effect of Islamic culture should not be neglected when we examine the effect of assimilation on fertility.

To further examine the direction of the intermarriage effect on ethnic fertility, I compare the mean difference of CEB between exogamous women and endogamous women for all 30 groups (Table 6). By subtracting the mean CEB of endogamous women from the mean of exogamous women, all the values in the 'mean difference' column are negative. The average number of CEB for exogamous women is lower than that for endogamous women in all groups. In ten of them, namely, the Hui, Tibetan, Uygur, Hani, Dai, Wa, Lahu, Dongxiang, Jingpo, and Daur, exogamous women have an average of more than one child less than endogamous women. Among these ten, the Hui, Uygur, and Dongxiang are Moslem groups.

Table 6. Mean Numbers of Children Ever Born (CEB) Between Exogamous Women and Endogamous Women: China, 1990

Ethnic Groups	Mean Number of CEB (N)		
	Exogamous Women	Endogamous Women	Mean Difference
Mongolian	2.00 (2,736)	2.72 (4,913)	-0.72
Hui	1.62 (1,510)	2.74 (11,286)	-1.12
Tibetan	2.65 (207)	4.15 (4,175)	-1.50
Uygur	2.00 (25)	3.85 (10,080)	-1.85
Maio	2.58 (1,405)	3.13 (8,195)	-0.55
Yi	2.60 (1,166)	3.45 (6,711)	-0.85
Zhuang	2.60 (3,187)	3.09 (18,079)	-0.49
Bouyei	2.44 (322)	3.34 (2,779)	-0.90
Korean	1.68 (252)	1.88 (2,894)	-0.20
Manchu	1.82 (7,314)	2.00 (9,031)	-0.18
Dong	2.55 (509)	2.80 (2,517)	-0.25
Yao	2.63 (660)	3.01 (2,772)	-0.38
Bai	2.24 (230)	3.04 (2,011)	-0.80
Tujia	2.37 (2,234)	2.58 (6,815)	-0.21
Hani	2.35 (130)	3.87 (1,583)	-1.52
Kazak	--	4.51 (771)	--
Dai	2.17 (175)	3.46 (828)	-1.29
Li	3.00 (216)	3.66 (1,125)	-0.66
Lisu	2.68 (44)	3.42 (871)	-0.74
Wa	1.87 (46)	3.89 (889)	-2.02
She	2.59 (458)	2.69 (433)	-0.10
Lahu	2.55 (96)	3.61 (560)	-1.06
Shui	2.45 (33)	3.24 (584)	-0.79
Dongxiang	1.00 (1)	4.00 (226)	-3.00
Jingpo	2.90 (30)	4.37 (233)	-1.47
Tu	2.73 (77)	3.15 (167)	-0.42
Daur	1.84 (62)	2.94 (128)	-1.10
Qiang	2.35 (37)	2.99 (180)	-0.64
Gelo	2.89 (142)	3.21 (489)	-0.32
Xibe	1.85 (136)	1.88 (75)	-0.03

Data Source: *One Percent Sample of the 1990 Census of China* (State Statistical Bureau, 1992).

Impact of Structural Assimilation

At the structural level, some characteristics of minority groups can help us detect different levels of assimilation. Table 7 presents the mean CEB and percentage of structural assimilation measures for the 30 minority groups.

The level of residential segregation of the minority population varies in 1982, from the highest of 99.4 percent for the Kazak, to the lowest of 68.7 percent for the Hui. Table 7 shows that the residential segregation in China is generally high. Most groups have average values of over 90 in the index of residential segregation, which indicates that at least 90 percent of population in a selected county has to move out in order to have a balance population between Han and the specific minority nationality. Only two groups, the Hui and Manchu, have values of residential segregation lower than 90. High levels of residential segregation are reflects with high levels of fertility. For those groups with segregation values of 98 and higher, including the Tibetan, Uygur, Hani, Kazak, Dai, Li, Wa, Jingpo, and Dongxiang, their average numbers of children ever born (mean CEB) are 3 or even 4 (i.e., the Kazak), which are relatively higher than that of those groups with lower segregation values. The mean CEBs of the Hui and Manchu are close to 2 or even lower (Table 7).

The level of educational segregation for 30 groups ranges from the lowest of 4.6 for the Mongolian to the highest of 58.4 for the Dongxiang. Except for the Mongolian, two other groups, the Manchu and Dai, have values of educational segregation under 10. Six groups have high segregation values of over 30 in educational attainment, including the Dongxiang, Lahu, Tibetan, Lisu, Hani, and Wa. The level of educational segregation

is also associated with fertility, although not quite as much as with residential segregation. Some groups, such as the Kazak, Uygur, and Jingpo, have high level of residential segregation and high fertility, but their educational segregation levels are not as high. This may be mainly due to the majority of their population concentrated in lower educational categories. The Kazak, for example, has a value of educational segregation of 15.8. In fact, this value is much lower than that of Tibetan and other groups with values of 30 and higher even though the mean CEB of Kazak (4.01) is one child more than that of the higher groups.   This may be because many Kazak women only have primary school education. They may not be as highly segregated from other women in terms of their educational levels, but their average educational level is still low and other factors (e.g., Moslem culture) may also contribute to their high fertility (see Table 5).

The illiteracy level among the minority groups parallels their percentages rural. The percentage of illiterate population for 30 groups ranges from a low of 4.95 for the Xibe to a high of 76.56 for the Dongxiang. Five groups have less than 10 percent illiterate, namely, the Korean, Manchu, Kazak, Daur, and Xibe. Another five groups have over 50 percent illiterates; these are the Tibetan, Hani, Lisu, Lahu, and Dongxiang. These "high illiterate" are highly rural and have high fertility (Table 7).

Table 7. The Mean CEB and Percentage of Structural Assimilation Measures for 30 Minority Groups, 1982 and 1990 %

Minority Groups	Mean CEB	Residential Segregation, 1982	Educational Segregation, 1982	Percentage of Illiteracy, 1990	Percent Population in Rural Area, 1990
Mongolian	2.27	90.88	4.61	14.19	70.33
Hui	2.29	68.68	10.16	27.79	61.71
Tibetan	3.26	98.54	44.54	62.71	86.17
Uygur	3.26	99.25	15.92	20.80	84.07
Miao	2.70	94.02	19.89	34.65	92.73
Yi	2.91	95.79	24.77	41.67	93.26
Zhuang	2.68	96.08	11.69	16.88	88.48
Bouyei	2.88	97.49	20.71	35.54	92.91
Korean	1.76	91.26	28.58	6.02	51.65
Manchu	1.77	85.42	8.79	9.38	66.95
Dong	2.44	97.35	13.83	23.41	90.10
Yao	2.58	95.20	17.21	23.89	91.68
Bai	2.64	96.23	10.24	24.42	82.31
Tujia	2.40	96.65	9.81	20.94	88.56
Hani	3.14	98.80	32.68	50.85	93.84
Kazak	4.01	99.41	15.84	9.17	80.26
Dai	2.75	98.01	25.18	35.14	92.90
Li	3.19	98.17	8.78	22.30	91.11
Lisu	3.05	98.46	35.58	53.74	95.91
Va	3.41	98.23	31.16	49.33	94.30
She	2.37	92.61	16.83	23.68	83.32
Lahu	2.96	98.62	44.99	63.16	96.02
Shui	2.81	97.57	23.91	41.88	93.05
Dongxiang	3.11	98.70	58.40	76.56	95.99
Jingpe	3.35	99.12	23.98	35.12	90.80
Tu	2.51	96.84	24.26	42.33	87.32
Daur	2.40	95.15	14.30	7.93	43.39
Qiang	2.59	97.79	15.46	29.85	87.65
Gelo	2.89	97.84	15.29	26.68	91.67
Xibe	1.70	90.40	15.94	4.95	59.02

Data Source: *One Percent Sample of the 1990 Census of China* (State Statistical Bureau).

Table 8 presents the correlation matrix of individual- and group-level variables, which shows that all the micro-level and macro-level hypotheses associated with CEB as expected. At the micro-level, the effect of policy shows strong and positive effect on women's children ever born (CEB). Years of schooling, professional occupation, intermarriage, and permanent migrants all show negative and significant associations with women's CEB. At the macro-level, residential segregation, educational segregation, and illiteracy rate have positive and significant effects on mean CEB. And the intermarriage rate has a significant and negative effect on CEB. All the correlations support the assimilation hypotheses at both the micro- and macro-level.

Table 8. Correlations Matrix of Women- and Group-Level Variables of Minority Women in China, 1990

| | *Woman-Level* | | | | |
	CEB	Policy Index	Year of Schooling	Prof./leader jobs	Intermarriage
Policy index	.576**				
Year of schooling	-.347**	-.182**			
Prof/leader jobs	-.129**	.020**	.365**		
Intermarriage	-.181**	-.052**	.219**	.109**	
Permanent migrant	-.108**	-.120**	.072**	.041**	.116**

| | *Group-Level* | | | | |
	Mean CEB	Moslem Group	Residential Segregation	Educational Segregation	Illiteracy Rate
Moslem Group	.335				
Residential Segregation	.581**	-.252			
Educational Segregation	.376*	.118	.364*		
Illiteracy Rate	.495**	.053	.334	.850**	
Intermarriage Rate	-.459*	-.106	-.453*	-.405*	-.346

(* $p < .05$; ** $p < .01$)

In this chapter, I used descriptive analysis to explore the relationship between assimilation predictors and minority fertility. The results showed that woman's educational level and status of intermarriage were negatively related to their fertility. In addition, several structural assimilation predictors for thirty minority groups, such as the level of residential segregation, educational segregation, illiteracy, and percentage of rural residence, had positive association with the level of fertility.

Therefore, in the next chapter, I attempt to examine completely the impact of policy and assimilation on minority fertility by using multilevel analyses. The individual-level and aggregate-level predictors will be considered simultaneously in multilevel models. The main effects of individual- and group-level predictors as well as the cross-level interactions will be explored.

CHAPTER VII

ASSIMILATION AND FERTILITY:

MULTILEVEL ANALYSIS

This chapter presents the results of several multilevel analyses of individual and

structural characteristics of Chinese minority women in relation to their reproductive

behavior. Twelve multilevel models are estimated. In the multilevel analyses, I begin by

estimating a simple ANOVA model in which I compare the variance in fertility across

individuals and minority groups in 1990. Next, I estimate six HGLM conditional

models because of the multicollinearity across the individual-level and group-level

variables. The effects of policy and Moslem culture will be controlled in each of the

HGLM models at the individual and group levels, respectively. Finally, six additional

HGLM models are estimated among rural minority women in order to control for rural

and urban residence. All variables used in the multi-level equations have been centered.

ANOVA Model

To provide a baseline model, I estimate a simple ANOVA model. Table 9

presents a fully unconditional one-way ANOVA model, which partitions the variance in

fertility across individuals and minority groups and also tells us whether a multilevel

analysis is appropriate (Raudenbush and Bryk 2002). Without independent predictors at

any of the two levels, this fully unconditional model partitions the total variability in

women's children ever born (CEB) into two components: Level-1 (σ^2) among women

within minority groups; and Level-2 (τ_{00}) among minority groups.

At the individual level, the variance in CEB (referred to as σ^2) is 3.251. At the

contextual level, or the group-level, the variance in CEB (referred to as τ_{00}) is 0.444

(Table 9). These variance estimates indicate that most of the variation in the CEB of

minority women is at the individual level.   By using the following formula, we occurs

further estimate the proportion of variance in CEB that occurs between minority groups

(Raudenbush and Bryk 2002: 24):

$$p = \tau_{00} \: / \: (\tau_{00} + \sigma^2 \:)$$

$$p = 0.444 \: / \: (3.251 + 0.444) = 0.120$$

This means that 12 percent of the variance in CEB lies among the minority

groups. Therefore, 88 percent of the variance in CEB lies at the individual level. By

examining the value of the Chi-Square statistic (Table 9), we can determine whether the

estimated variance at the group-level is significantly different from zero. The χ^2 value

reported in Table 9 is 16408.56 with 33 degrees of freedom for minority women. It

indicates that there is significant variability in the variance in CEB among minority

groups. This means that the group-level variance is worthy of study using multilevel

(HGLM) methods, and therefore that multilevel analysis is an appropriate approach in

this dissertation.

Table 9. ANOVA Model

Reliability	0.99
INTERCEPT, β_0	
Fixed Effect	
Coefficient, γ_{00}	3.1255
Standard Error	0.1202
T-Ratio	26.003
Variance Component	
Woman-level, σ^2	
Group-level, τ_{00}	3.251
degree of freedom	0.444
Chi-Square	33
p-value	16408.555
	0.000

Results of Complete Models

The second stage of the HGLM analysis is to adopt the "intercept and slopes as outcomes" model (Raudenbush and Bryk 2002: 27) that was discussed in the previous chapter. Each HGLM analysis consists of separate regressions to predict children ever born for each of the 30 minority groups; these are referred to as individual-level equations. Both the intercepts and coefficients (slopes) are allowed to vary by group, and the

independent variables are centered on the group mean for each minority group. The resulting parameter estimates for the intercept (mean CEB) and coefficients for each of the 30 minority groups become the dependent variables for the second stage of the analysis when the group-level variables are entered. To assist in the interpretation of the minority group-level effects, the group-level variables were also centered.

Because there is multicollinearity across the individual-level and group-level independent variables, six separate multilevel models are estimated for all minority women. The effects of policy and Moslem group culture are controlled in each HGLM model. The same set of individual-level variables (policy, intermarriage, and professional/leadership job) is used for the first three models along with two or three of the four group-level variables. The second set of individual-level variables (policy, number of years of schooling, and permanent migrant status) is then used in the last three models along with two or three different group-level variables.

Table 10 presents the results of the six HGLM analyses for all minority women. Each of the γ_{xx} (gamma) coefficients may be exponentiated into odds ratios. The way of interpreting the γ_{xx} coefficients is the same way as for Poisson coefficients in a Poisson regression analysis.

Table 10. The Fixed Effects of HGLM Models for All Minority Women Among 30 Minority Groups, 1990

Fixed Effect (γ coefficient)		M-1	M-2	M-3	M-4	M-5	M-6
Direct Effect for *CEB*							
Grand Means	γ_{00}	**1.026***	**1.026***	**1.026***	**1.026***	**1.025***	**1.026***
Policy Index	γ_{10}	**1.843***	**1.846***	**1.845***	**1.758***	**1.753***	**1.757***
Years of Schooling	γ_{20}				**-.025***	**-.026***	**-.025***
Intermarriage	γ_{30}	**-.221***	**-.214***	**-.214***			
Prof/Leader Job	γ_{40}	**-.493***	**-.507***	**-.508***			
Permanent Migrant	γ_{50}				**-.306***	**-.293***	**-.303***
Moslem Group	γ_{01}	.178	**.324***	**.287***	**.283***	.170	**.293***
Residential Segregation	γ_{02}		**.026***	**.020***	**.021***		**.023***
Illiteracy Rate	γ_{03}			**.005***	**.005***		
Educational Segregation	γ_{04}	**.821***					
Intermarriage Rate	γ_{05}					**-.087***	-.030
For *Policy Index* Slope							
Moslem Group	γ_{11}	.047	.082	.094	.138	.065	.148
Residential Segregation	γ_{12}		.006	.011	**.015*** [a]		.013
Illiteracy Rate	γ_{13}			**-.005*** [b]	-.004		
Educational Segregation	γ_{14}	-.313					
Intermarriage Rate	γ_{15}					-.011	.019
For *Years of schooling* Slope							
Moslem Group	γ_{21}				.005	-.007	.006
Residential Segregation	γ_{22}				**.002*** [c]		**.002*** [c]
Illiteracy Rate	γ_{23}				-.000		
Educational Segregation	γ_{24}						
Intermarriage Rate	γ_{25}					-.003	.001
For *Intermarriage* Slope							
Moslem Group	γ_{31}	**-.448*** [d]	**-.472*** [d]	**-.449*** [d]			
Residential Segregation	γ_{32}		**-.009*** [e]	-.006			
Illiteracy Rate	γ_{33}			**-.003*** [f]			
Educational Segregation	γ_{34}	**-.598*** [g]					
Intermarriage Rate	γ_{35}						
For *Prof/Leader Job* Slope							
Moslem Group	γ_{41}	**.166*** [h]	**.187*** [h]	**.228*** [h]			
Residential Segregation	γ_{42}		-.001	.003			
Illiteracy Rate	γ_{43}			**-.003*** [i]			
Educational Segregation	γ_{44}	-.169					
Intermarriage Rate	γ_{45}						
For *Perm. Migrant* Slope							
Moslem Group	γ_{51}				-.175	-.094	**-.272*** [j]
Residential Segregation	γ_{52}				**-.014*** [k]		**-.018*** [k]
Illiteracy Rate	γ_{53}				-.002		
Educational Segregation	γ_{54}						
Intermarriage Rate	γ_{55}					.037	-.005

* $p < .05$

Direct Effects at the Individual-level

The top panel of Table 10 reports the direct effects of five individual-level variables on women's CEB. In the top panel, all five individual-level variables in each of six models are significantly related to the outcome variable CEB ($p< .05$), and the values of their γ coefficients do not change very much across the six models. Therefore, I use models 1 and 4 in Table 10 as examples for interpretation.

The γ_{00} in model 1 is 1.026. This is the intercept and the grand mean of the log of the number of children ever born. Its effect is significant. This coefficient may be exponentiated into 2.789 ($= e^{1.026}$) indicating that the expected number of children ever born of a minority woman assuming average values on all five of the independent variables in the model would be about 2.79 children.

The γ_{10} in model 1 is 1.843. This is the direct effect of policy, which measures each woman's proportion of childbearing years experienced before the year of 1979, on the log of children ever born. The effect is positive and highly significant. Since it is a proportion, I move the decimal point two places to the left and exponentiate the coefficient $e^{0.01843} = 1.019$; for every increase of 0.1 in the proportion of childbearing years started before 1979, minority women's children ever born would increase by 1.9 percent. Clearly, it supports my first hypothesis in Chapter Five that the stronger the effect of family planning policies, the lower the fertility.

The γ_{20} in model 4 is -.025 (odds ratio is 0.975), and the γ_{40} in model 1 is -.493 (odds ratio is 0.611). They are the main effects of years of schooling and professional/leadership job on the outcome CEB. The directions of both coefficients

suggest that minority women with professional/leadership jobs or higher levels of education have lower of fertility. More specifically, for every year increase in schooling, women's children ever born will decrease by 2.5 percent; and minority women with professional or leadership jobs have about 39 percent fewer children ever born than other women who don't have such jobs. Both effects support my second hypothesis at the individual level, that the higher the socioeconomic assimilation, the lower the fertility.

The γ_{30} in model 1 is -.221, and the corresponding odds ratio is 0.802. This is the main effect of intermarriage on the dependent variable CEB. It suggests that a minority woman who is intermarried to a majority Han has about 20 percent fewer children ever born than other endogamous women. Therefore, the hypothesis of marital assimilation is supported at the individual level by this result.

The γ_{50} in Model 4 is -.306, and its corresponding odds ratio is 0.736. This is the main effect of permanent migrant status on the outcome CEB. It suggests that a minority woman who is a permanent migrant has about 26 percent fewer children ever born than women who are non-migrants, which supports my last hypothesis that the higher the structural assimilation, the lower the fertility.

Direct Effects at the Group-level

The γ coefficients in the second panel of Table 10 are the direct effects of the five group-level variables on women's CEB. Some direct effects of the group-level variables are not statistically significant in models 1, 5, and 6, which may be due to possible

collinearity across the independent variables. Except for the effect of Moslem group culture in models 1 and 5, and in Model 6, which includes the effect of the intermarriage rate, all group-level variables on women's CEB are statistically significant.

The γ_{01} in model 2 is 0.324. This is the main effect of the group-level variable of Moslem group culture on mean CEB. The odds ratio of 1.383 suggests that Moslem groups have 38 percent higher mean CEB than non-Moslem groups. The direct effects of four additional group-level variables, including residential segregation, illiteracy rate, educational segregation, and intermarriage rate, are used as the group-level predictors of the assimilation hypotheses. The results in the second panel of Table 10 indicate that the higher the value of residential segregation (γ_{02}) and educational segregation (γ_{04}) of a minority group, the higher the group's average log of CEB. Also, the higher the proportion of illiterate persons (γ_{03}) in a minority group, the higher the group's average log of CEB. And a minority group with a higher intermarriage rate will have a higher CEB. These results support the hypotheses of socioeconomic, marital, and structural assimilation at the macro-level.

Cross-level Interactions

In addition to the main effects, there are eleven cross-level interactions which are statistically significant. These interactions involve the group-level variables on the slope coefficients of the woman-level variables and CEB (Table 10). Only one variable, the intermarriage rate, does not have significant effects on the slopes of the individual-level variables and CEB.

The eleven significant interactions are marked bold with asterisks and small alphabetic characters on the upper right of the values in columns three through seven of Table 10. These interactions can be better understood with graphical displays of their coefficient value's effects (see Figure 6 to Figure 16).

Impact of Moslem Culture. There are three significant interactions which involve the status of being in a Moslem group on the slope of individual-level factors and CEB (Table 10, γ^d, γ^h, and γ^j):

The interaction ($\gamma^d = -.448$) involving the status of Moslem group status on the slope of the intermarriage and CEB is significant (Table 10, model 3). Figure 6 shows that the relation of intermarriage on CEB is stronger among Moslem groups (solid line) compared with the non-Moslem groups (dotted line). The solid line is much steeper than the dotted line in Figure 6, which suggests that Moslem culture will result in an increase of the effect of intermarriage on women's CEB.

The interaction ($\gamma^h = .228$) involving the effect of Moslem group on the slope of professional/leadership job and CEB is significant (Table 10, model 3). The solid line for Moslem groups is flatter than the dotted line for non-Moslem groups in Figure 7. This result suggests that among Moslem groups the association between professional/leadership job and women's CEB is weaker.
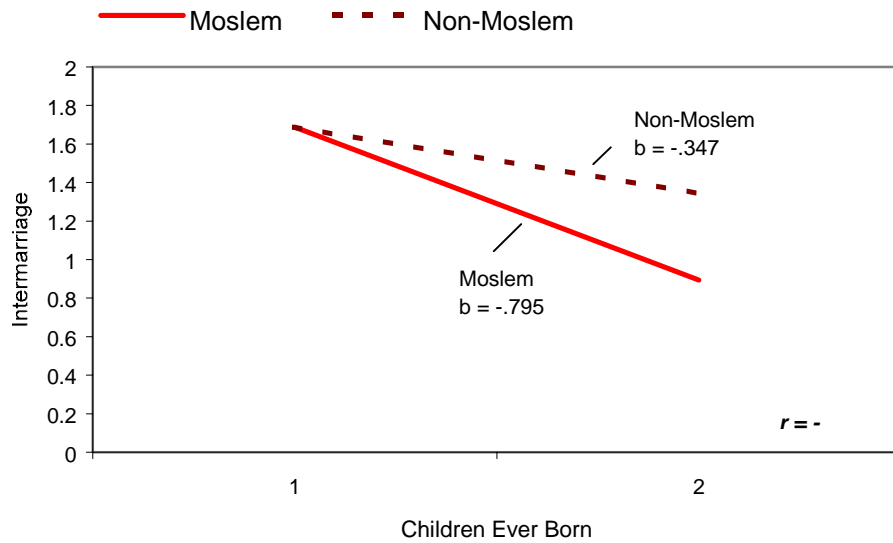
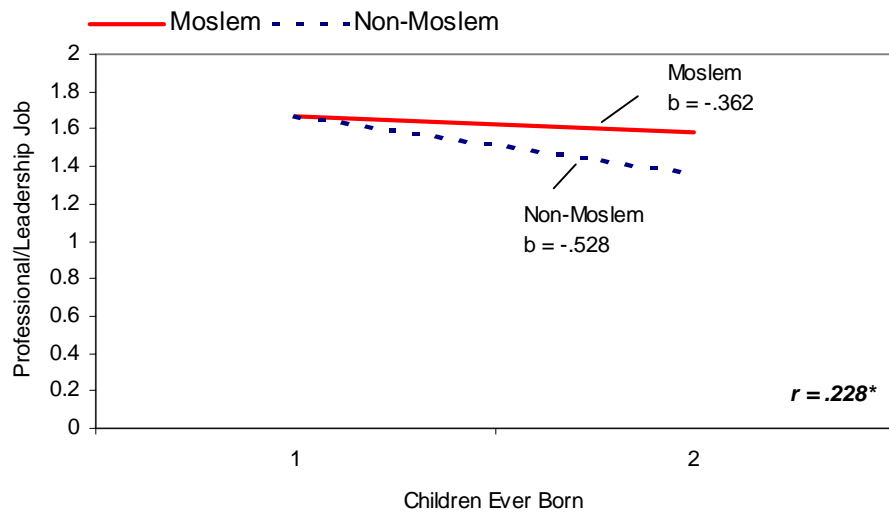**Figure 6. Interaction of Moslem on the Slope of Intermarriage and CEB**

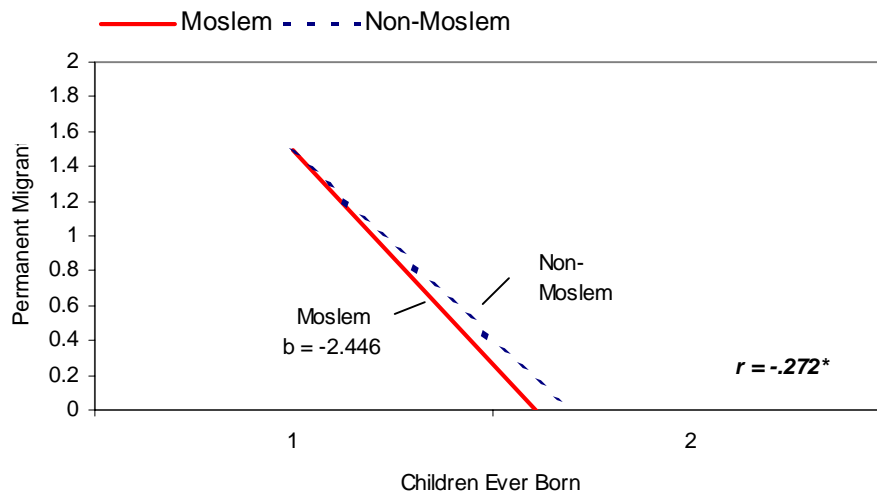**Figure 7. Interaction of Moslem on the Slope of Professional/Leadership
      Job and CEB**

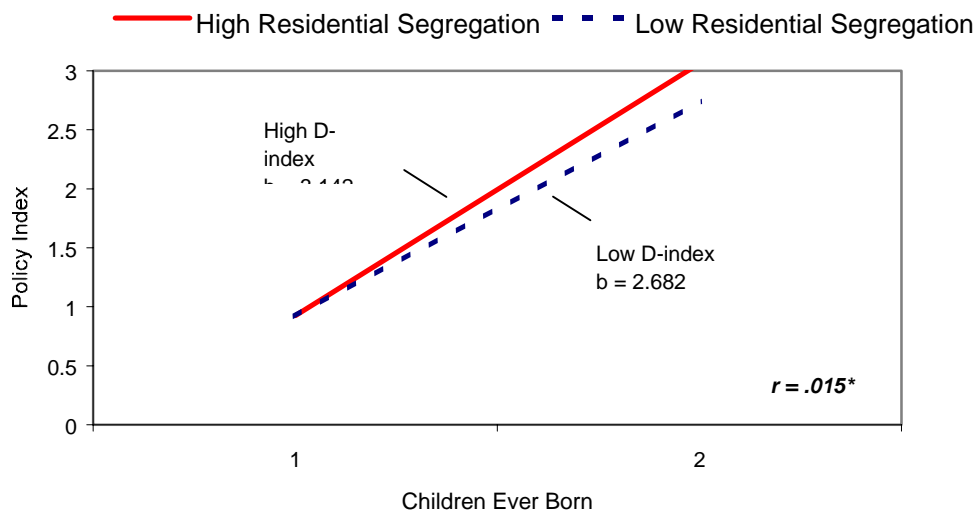**Figure 8. Interaction of Moslem on the Slope of Permanent Migrant and CEB**

Figure 9. Interaction of Residential Segregation on the Slope of Policy and CEB

The interaction ($\gamma^j = -.272$) involving the effect of Moslem group on the slope of permanent migrant status and CEB is significant (Table 10, model 6). The result shown in Figure 8 suggests that among Moslem groups the effect of permanent migrant on women's CEB is stronger than that among non-Moslem groups. In Figure 8, the slopes of permanent migrants and CEB are both very strong, but we can still discern that the relationship among Moslems (solid line) is slightly stronger than that for non-Moslems (dotted line).

Therefore, the results suggest the Moslem culture has a significant impact not only directly on minority women's fertility, but also indirectly on the relationship between other individual level variables (intermarriage, occupation, and migration) and fertility.

Impact of Residential Segregation. Four interactions involving the group-level of residential segregation on the slope of individual-level factors and CEB are significant (Table 10, γ^d, γ^f, γ^g, and γ^k):

The interaction ($\gamma^d = .015$) involving the level of residential segregation on the slope of policy and CEB is significant (Table 10, model 4). Figure 9 indicates that the impact of policy on minority women's fertility is stronger for the more highly segregated groups (solid line), which suggests that the greater the level of residential segregation in a minority group, the stronger the association between policy and women's fertility.

Similar patterns appear in Figures 10 and 11. Figures 10 and 11 show the interactions of residential segregation on the two slopes of intermarriage (γ^ℓ) and permanent migrant status (γ^k) on women's CEB. Both interactions are statistically significant. In both figures, the solid lines are steeper than the dotted lines, which indicate that the level of residential segregation tends to increase the impact of intermarriage and permanent migrant status on women's fertility. Therefore, the higher the level of residential segregation in a minority group, the stronger the effect of intermarriage on women's CEB (Figure 10); and the stronger the effect of permanent migrant status on women's CEB (Figure 11).

However, residential segregation has less of an impact on the slope of education and CEB. The interaction of γ^f (= .002, model 4) involves the level of residential segregation on the slope of year of education and CEB. Figure 12 shows that the slope of education and fertility is less steep among the high segregation groups. That is, the greater the level of residential segregation in a minority group, the less the association between education and women's fertility.
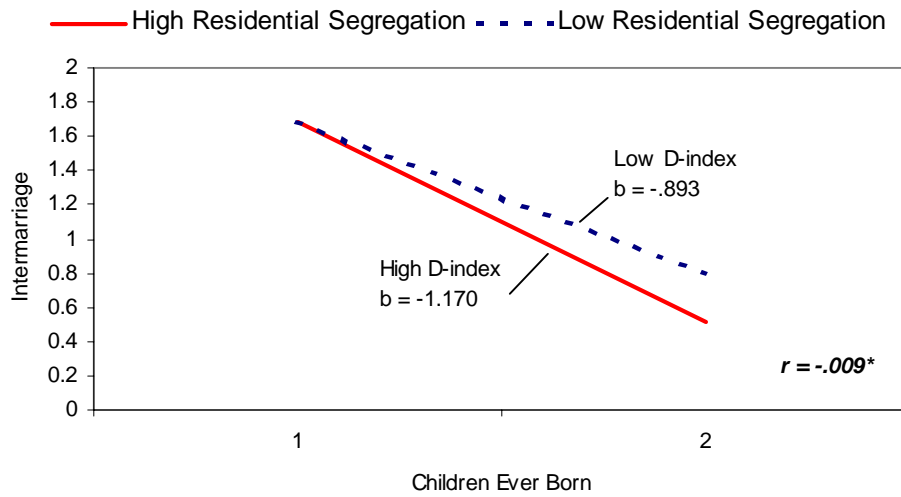
Figure 10. Interaction of Residential Segregation on the Slope of Intermarriage and CEB
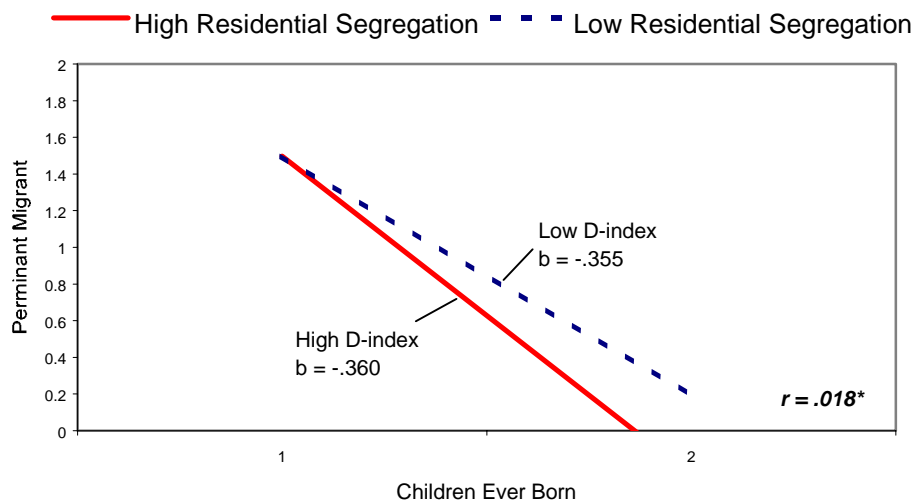

Figure 11. Interaction of Residential Segregation on the Slope of Permanent Migrant and CEB
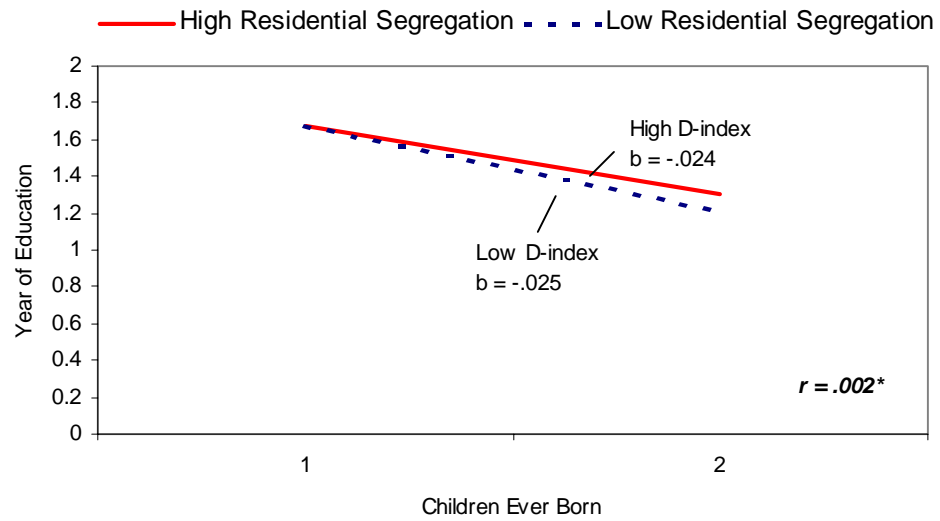
Figure 12. Interaction of Residential Segregation on the Slope of Education and CEB

Impact of Illiteracy. Three interactions involving the effect of the group-level of illiteracy on the slope of individual-level factors and CEB are significant (Table 10, γ^p, γ^i, and γ^j):

The interaction (γ^p = -.005) involving the level of illiteracy on the slope of policy and CEB is significant, which suggests that the greater the level of illiteracy in a minority group, the weaker the effect of the family planning policy on women's CEB (Figure 13).

The interaction (γ^i = -.003) involving the level of illiteracy on the slope of intermarriage and CEB is significant; this means that the higher the level of illiteracy in a minority group, the stronger the association between intermarriage to Han and women's CEB (Figure 14).

The interaction (γ^j = -.003) dealing with the level of illiteracy on the slope of professional/leadership job type and CEB is significant, indicating that the higher the level of illiteracy in a minority group, the stronger the association between professional/leader job and women's CEB (Figure 15).

The solid lines in Figure 13, 14, and 15 represent the slopes for higher illiteracy groups, while the dotted lines for those of the lower illiteracy groups. Basically, the patterns shown in Figures 14 and 15 are very similar since both solid lines are steeper than the dotted lines. These patterns indicate that among highly illiterate groups, minority women will tend to have lower fertility to a greater degree if they are married to a Han or if they have professional/leadership jobs. Minority women from more

literate groups, however, will have lower fertility to a lesser degree once they have

experienced of intermarriage or professional/leadership occupations.

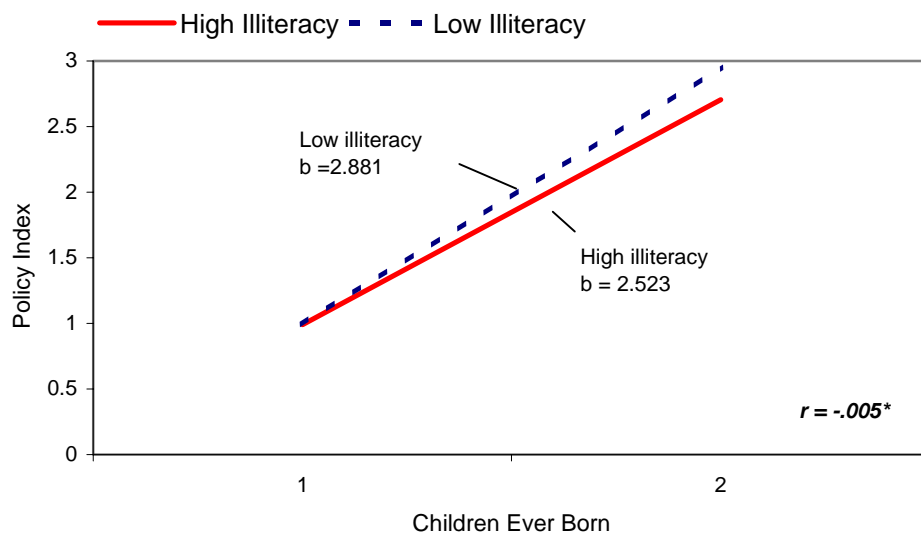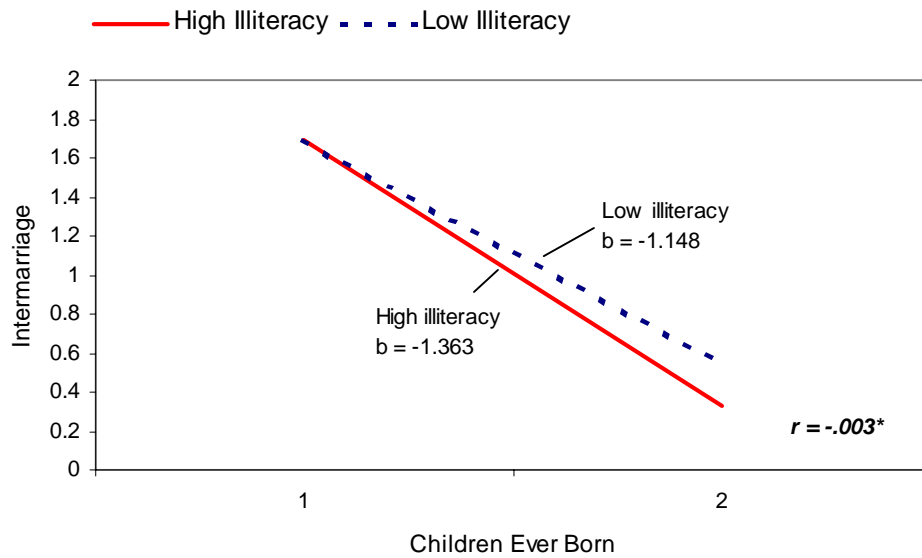**Figure 13. Interaction of Illiteracy on the Slope of Policy and CEB**

Figure 14. Interaction of Illiteracy on the Slope of Intermarriage and CEB
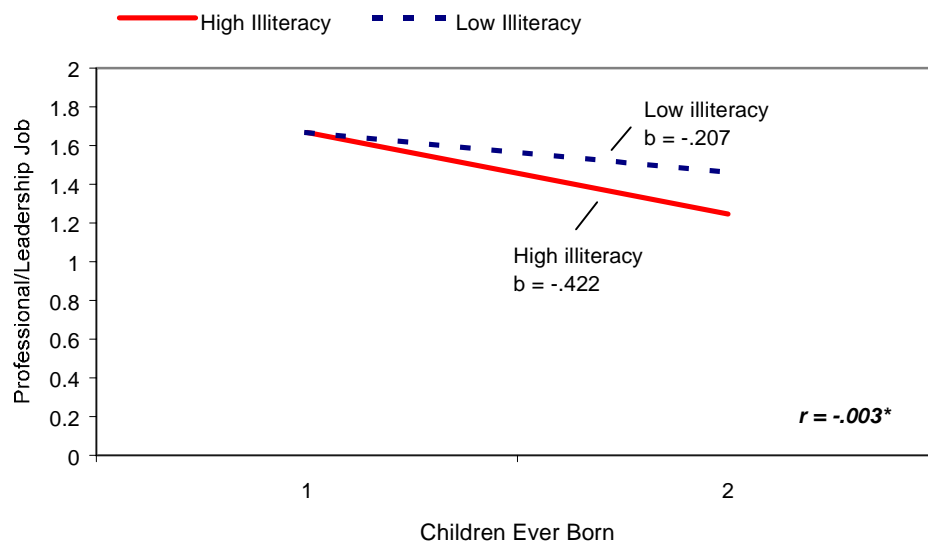
Figure 15. Interaction of Illiteracy on the Slope of Professional/Leadership Job and CEB

Impact of Educational Segregation. There is only one interaction (γ^g = -.598) involving the level of educational segregation on the slope of intermarriage and CEB that is significant, indicating that the higher the level of educational segregation in a minority group, the stronger the association between out-marriage to Han and women's CEB (Figure 16).
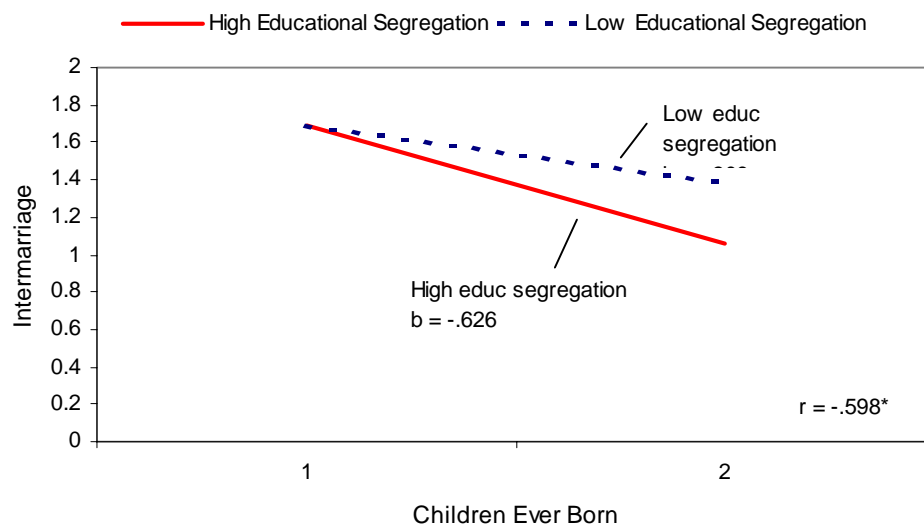
Figure 16. Interaction of Educational Segregation on the Slope of Intermarriage and CEB

Results of Rural Models

In order to control for rural and urban residence, six additional HGLM models are estimated for rural minority women, and these are shown in Table 11. Compared with the previous six models in Table 10, all direct effects (both individual-level and group-level variables) are statistically significant in the rural models (Table 11). The direction and magnitude of most of the independent variables, at both the individual and group levels, remain the same in the rural models. However, the coefficient of educational segregation on CEB (γ_{04}) is greatly changed from .821 for all minority women (Table 10) down to .663 for rural women (Table 11). The effect of educational segregation on fertility among rural minority women is lower than its effect among all minority women.

There are five cross-level interactions that became statistically insignificant in the rural models. These five interactions are the coefficients of γ_{12}, γ_{13}, γ_{32}, γ_{41}, and γ_{43} in Table 11, compared with the values of γ^a, γ^b, γ^e, γ^j, and γ^h in Table 10. These interactions represent the effect of Moslem culture on the slope of professional/leadership and CEB, the effect of residential segregation on the slope of policy and CEB, the effect of illiteracy on the slope of policy and CEB, the effect of illiteracy rate on the slope of professional/leadership and CEB, and the effect of residential segregation on the slope of intermarriage and CEB. The results of these five interactions suggests that the effects of these interactions come mainly from urban minority women.

Table 11. The Fixed Effects of HGLM Models for Rural Minority Women Among 30 Minority Groups, 1990

Fixed Effect (γ coefficient)		RM-1	RM-2	RM-3	RM-4	RM-5	RM-6
Direct Effect for *CEB*							
Grand Means	γ_{00}	**1.077***	**1.077***	**1.078***	**1.077***	**1.076***	**1.076***
Policy Index	γ_{10}	**1.837***	**1.841***	**1.837***	**1.783***	**1.782***	**1.783***
Years of Schooling	γ_{20}				**-.014***	**-.015***	**-.014***
Intermarriage	γ_{30}	**-.171***	**-.158***	**-.160***			
Prof/Leader Job	γ_{40}	**-.158***	**-.216***	**-.214***			
Permanent Migrant	γ_{50}				**-.314***	**-.291***	**-.317***
Moslem Group	γ_{01}	**.199***	**.312***	**.291***	**.289***	**.183***	**.263***
Residential Segregation	γ_{02}		**.019***	**.015***	**.015***		**.014***
Illiteracy Rate	γ_{03}			**.005***	**.005***		
Educational Segregation	γ_{04}	**.663***					
Intermarriage Rate	γ_{05}					**-.086***	-.049
For *Policy Index* Slope							
Moslem Group	γ_{11}	.059	.092	.094	.132	.075	.170
Residential Segregation	γ_{12}		.005	.009	.013		.014
Illiteracy Rate	γ_{13}			-.005	-.004		
Educational Segregation	γ_{14}	-.316					
Intermarriage Rate	γ_{15}					.001	.037
For *Years of schooling* slope							
Moslem Group	γ_{21}				**.015***[l]	.003	**.016***
Residential Segregation	γ_{22}				**.001***		**.002***
Illiteracy Rate	γ_{23}				-.000		
Educational Segregation	γ_{24}						
Intermarriage Rate	γ_{25}					-.002	.002
For *Intermarriage* Slope							
Moslem Group	γ_{31}	**-.300***	**-.298***	-.272			
Residential Segregation	γ_{32}		-.009	-.004			
Illiteracy Rate	γ_{33}			**-.004***			
Educational Segregation	γ_{34}	**-.575***					
Intermarriage Rate	γ_{35}						
For *Prof/Leader Job* Slope							
Moslem Group	γ_{41}	-.021	.074	.086			
Residential Segregation	γ_{42}		.007	.007			
Illiteracy Rate	γ_{43}			-.001			
Educational Segregation	γ_{44}	.866					
Intermarriage Rate	γ_{45}						
For *Perm. Migrant* Slope							
Moslem Group	γ_{51}				-.322	-.108	**-.433***
Residential Segregation	γ_{52}				**-.016***		**-.021***
Illiteracy Rate	γ_{53}				-.002		
Educational Segregation	γ_{54}						
Intermarriage Rate	γ_{55}					**.043***[m]	-.006

* p < .05

Also, two cross-level interactions (γ^l and γ^m) which were previously insignificant became statistically significant in the rural models (Table 11). The interaction of γ^l involves the effect of Moslem culture on the slope of education and CEB, which is positive and significant. It indicates that for Moslem groups the association between education and women's fertility becomes weaker than for non-Moslem groups. The interaction of γ^m involves the effect of the intermarriage rate on the slope of permanent migrant status and CEB, which is positive and significant. This effect means that the greater the intermarriage rate in a minority group, the weaker the association between permanent migrant status and CEB. That is, an increase in the level of intermarriage rate will tend to decrease the association between permanent migrant status and fertility. Both interaction effects are significant only among rural minority women.

In this chapter, I first presented a simple ANOVA model to partition the variance in fertility across individuals and minority groups, and also examined the applicability of multilevel analysis in this study. Then, I estimated twelve multilevel models, with the first six multilevel models used to examine the main effects and the interactions among all women. The main effects of both the micro- and macro-level variables on women's CEB support the hypotheses of this dissertation. To further control for the rural/urban effect, six additional multilevel models were estimated to examine the same effects among rural women. Among rural minority women, five cross-level interactions were shown to be not statistical significant, and two interactions become statistical significant.

The multilevel analyses show the following three patterns: First, the effect of the one-child policy remains statistically significant in every set of variables used in the HGLM analysis, and its magnitude remains about the same in both the rural and full models. Second, the strong policy effect in every multi-level model does not cover the effect of assimilation. After controlling for policy, the impacts of each assimilation dimension are still statistically significant. Third, the direct effects of assimilation, at both micro- and macro-levels, on fertility are statistically significant among rural minority women. However, seven cross-level interactions in the rural models are not the same as in the complete models. This suggests apparently that some indirect effects of assimilation on minority fertility occur mainly among urban minorities, indicating that the implications for rural and urban minority women may be different.

In the next, and last, chapter of this dissertation, I attempt to bring all the results of these multilevel analyses together and explore some of their implications. I also entertain various issues that should be addressed in future research.

CHAPTER VIII

CONCLUSIONS AND IMPLICATIONS

The primary purpose of the research conducted in this dissertation has been to advance our understanding of the fertility patterns of minority women in China. I have focused on the general idea that the assimilation process will serve to influence the fertility behavior of minority women in China even after considering the unique one-child family planning policy. I am interested not only in studying the extent and nature of fertility behavior differences among the thirty major minority groups, but also in investigating how the assimilation hypotheses, originally formulated mainly in the context of fertility dynamics in the United States, might be used to explain differences in minority fertility in China.

In the early part of my dissertation, I provided a historical review along with background characteristics of China's minority population. This was followed by a presentation of a brief vignette for each of the thirty minority groups. The background information regarding the minority groups was helpful in outlining my expectations regarding fertility. Next, I reviewed theoretical and empirical literature in the assimilation perspective and minority fertility, and noted that only limited studies have applied the assimilation approach to the minority population of China. Particularly, none have considered both micro and macro factors on this issue. I then outlined the empirical utility of multilevel analysis in developing explanations of minority fertility patterns in considering both individual- and group-level effects on fertility. I believe

that the assimilation framework can contribute substantially to understanding the forces lying behind fertility reduction outside of policy control among minority women in China.

Summary of Findings

The most significant finding of this dissertation is that the contextual characteristics of minority groups have strong correlations with fertility across thirty major minority nationalities in China. Prior to the multilevel analysis, I presented descriptive analyses exploring the relationship between assimilation predictors and fertility across different minority groups.

In comparing socioeconomic characteristics, I found that urban minority women have higher levels of education than rural minority women. In addition, there are wide gaps of educational improvement across different minority groups. For example, the Miao, Yao, and Li have the greatest improvements in decreasing their illiteracy from 1982 to 1990, and less improvement occurred among the Korean, Manchu, and Tibetan groups. Some minorities, such as the Uygur, Yi, Tibetan, and Hani, still maintain the customs of early marriage, which directly reflect on their fertility patterns compared to that of the Han.

Owing to more dispersed and less segregated residential patterns in urban regions, the percentage of intermarriage is higher in urban regions than in rural regions. There is great variation in intermarriage rates among all ethnic groups. Some groups, such as the Manchu, Mongolian, Tujia, and She, have very high rates of intermarriage,

compared with some groups with very low percentages of intermarriage, such as the Tibetan, Kazak, Uygur, and Dongxiang. In examining the distinct fertility patterns between these highly exogamous and highly endogamous groups, it is very obvious that the highly exogamous group women have lower fertility. Moslem culture, particularly for the Kazak, Uygur, and Dongxiang, has a strong influence upon the choice of intermarriage and reproductive behavior.

In addition to marital, cultural, and educational factors, some structural characteristics of minority groups provide other dimensions of assimilation. I found that most minority groups are highly segregated from the majority Han. The levels of segregation, in terms of residential location and educational level, have clear correlations with fertility. High levels of residential segregation and educational segregation are reflected in high levels of fertility. The Tibetan and Dongxiang, for example, have high segregation indexes and high levels of fertility. The level of illiteracy for each group provides another structural impact on fertility.

In the findings of the multilevel analysis, the ANOVA model revealed that a significant amount of variance (12 percent) lies among minority groups. Overall, the multilevel analyses show the following three patterns:

First, the effect of the one-child policy is positive and highly significant on minority women's fertility. For every change of .01 in the proportion of childbearing years started before 1979, minority women's children ever born was shown to increase by 1.9 percent. Since the policy index measures the "pre-policy effect," this result also suggests that the greater the women's childbearing years experienced after the family

planning program started, the lower their fertility. The policy effect remains statistically significant in every set of the multilevel analyses, and its magnitude remains almost the same in both the complete models and the rural models. Clearly, the strong policy effect in each multilevel model does not cover the effect of assimilation. After controlling for policy, the impact of each assimilation dimension still remains statistically significant.

Second, all direct effects of individual- and group-level variables affect minority fertility in statistically significant ways. This suggests that not only do individual characteristics of assimilation affect minority women's fertility behavior. More importantly, the characteristics of the minority group have important impacts on individual women's fertility behavior. This suggests that community power and subculture have strong influences on women's decisions regarding their number of children.

Third, the direct effects of assimilation, at both the micro- and macro-levels, on fertility are statistically significant among rural minority women. However, seven cross-level interactions in the rural models are not consistent with the complete models. This suggests that some indirect effects of assimilation on minority fertility may come from the urban minorities. This suggests somewhat different implications for rural and urban minority women.

Exploring the findings of the cross-level interactions in the multi-level analyses raised additional issues. First, the effect of Moslem culture shows strong effects on the intermarriage-CEB and migrant-CEB slopes (Figure 7 and Figure 9), which suggests that the effects of intermarriage and migration on fertility are stronger among Moslem

women than among non-Moslem women. Minority women who intermarry may not

increase the number of their birth limits according to the family planning policy (Zhang

2001). So, the policy impact stays unchanged when minority women intermarry to Han.

Although women migrants may be subjected to different family planning policies, this

explanation is not strong enough to support the finding that the effect of migration on

fertility is stronger among Moslems (Figure 9). Both Moslem and non-Moslem migrants

would face the policy change. Additionally, the policy effect is controlled at the

individual-level. We can argue that the policy variation is not the reason that explains

the above findings. Then, why do exogamous Moslem women experience lower

numbers of births than exogamous non-Moslem women? Why do Moslem women

migrants experience lower numbers of births than non-Moslem women migrants?

The hypothesis of "minority group status", I think, provides a very reasonable

explanation. As discussed in Chapter IV, the minority group status hypothesis proposes

that the fertility behavior of minorities tends to converge to that of the mainstream

society. However, the fertility of some minority group members still falls below that of

the majority when they experience discrimination (Bean and Swicegood 1985: 146).

Compared with non-Moslem women, in general Moslem women have lower

socioeconomic status and higher fertility. They are not encouraged to, and at times even

prohibited from, out-marrying non-Moslems. However, I found that the average

education of exogamous Moslem women is higher than that of exogamous non-Moslem

women. A similar pattern was found between Moslem and non-Moslem women

migrants as well. The higher level of average education among Moslem exogamous and

migrant groups suggests that Moslem women who out-marry to Hans or move away from their homelands tend to be more assimilated than their endogamous and non-migrant counterparts. Once the opportunity to interact with the mainstream becomes available, such as through intermarriage and migration to urban cities, Moslem women with higher socioeconomic standing are more likely to accept the majority culture. This is due to the generally low level of socioeconomic status and widespread disadvantaged living conditions that Moslems experience in the larger society, which will more likely lead to their lower fertility.

The same hypothesis of minority group status can be applied to explain the other interactions in the multilevel analysis. In Figures 11, 12, and 17, the results show that the effects of intermarriage and migration on fertility are stronger among more residentially and educationally segregated groups. In Figure 15 and Figure 16, the interactions suggest that the effects of intermarriage and professional occupation on fertility are stronger among highly illiterate groups. Minority women who come from more residentially isolated and highly illiterate societies will perhaps be more likely to feel marginality and insecurity because of their disadvantage minority membership, particularly, those with higher socioeconomic standings. The feelings of marginality and insecurity "..are experienced most acutely by those who aspire to greater mobility and who are therefore more sensitive to the obstacles placed in their paths by patterns of discrimination (Bean and Swicegood 1985: 7)".

This explanation supports two of the different findings among rural minority women. The interactions of γ_{32} and γ_{43} are not statistically significant in the rural model,

which suggests that the effect of residential segregation on the slope of intermarriage and CEB may come mainly from urban minority women; and the effect of illiteracy on the slope of professional occupation and CEB comes from urban minority women as well. Minorities who reside in the city are mostly clustered in their own communities. Urban minority women who come from highly illiterate and highly segregated communities are more likely to be aware of their minority status. Especially, those women who are intermarried to Han or have higher socioeconomic standing (e.g., with professional occupation) are more likely to having inspirations of social mobility, so they will be more sensitive psychologically about their minority group status. Accordingly, they are more likely to compensate for the above considerations by lowering their fertility.

Second, the effect of professional/leadership jobs on women's fertility is weaker among Moslem groups than among non-Moslem groups. Figure 8 shows that Moslem women with professional or leadership occupations do not decrease their number of births more than non-Moslem women with professional occupations. After controlling for the direct effects of policy and various assimilation variables, this cross-level interaction suggests that "subculture" may be the major reason explaining why the effect of occupational status on fertility does not have a stronger effect among Moslems. The subcultural hypothesis proposes that the higher fertility of a minority group is due largely to cultural norms and values that support large families (Bean and Tienda 1987; Poston et al. 2003).

Traditional Moslem cultures encourage women to bear more children to bring more joy and wealth to their family since children are "gifts from the God" (Zhang 2001:

133). This cultural merit may be reserved for Moslem women with professional or leadership jobs, since their relatively more prestigious position may allow them to afford more children and fulfill this expectation of traditional Islamic family values. In addition, after controlling for the rural effect, the results show that this interaction is not significant among rural women (γ_{41}, Table 11), which suggests that the effect of Moslem women on the slope of professional occupation and CEB more likely stems from urban women. That is, the effect of professional occupation on urban Moslem women's fertility is weaker than that of urban non-Moslem women.

So, we might ask, why does Moslem culture increase the effect of intermarriage and migration on fertility, but decrease the effect of professional occupation on fertility? The reasons, I believe, are due to different aspects of assimilation measures. Intermarriage and migration reflect marital and structural assimilation. Moslem women who are intermarried to Han or migrate to other regions show a clear pattern of mobility. Their contacts with the mainstream culture will increase and lead to more opportunities for upward mobility. On the other hand, Moslem women with prestigious occupations represent another type of social mobility and assimilation. Different from exogamous Moslem women and Moslem women migrants, professional Moslem women do not necessarily move away from their homelands. Consequently, the Moslem culture and other community effects may affect the decision making of professional Moslem women in their reproductive behavior. This provides somewhat of an explanation that the effect of education on fertility is weaker in highly residentially segregated groups (shown in Figure 13).

Third, the interaction effect involving the level of illiteracy on the slope of policy and CEB suggests that the illiteracy level of minority groups tends to decrease the effect of policy on women's fertility (Figure 14). However, this interaction is not significant for the rural model. That is, the main effect shown in Figure 14 apparently lies among urban minority women. Generally speaking, high illiteracy rates are related to high level of residential segregation. As mentioned earlier in Chapter VI, almost 40 percent of rural minority women are illiterate, and an additional 40 percent only have primary school education (Figure 3). Little variation in educational levels among rural minority women perhaps explains why the interaction effect is not significant among rural women. Urban minority populations with high illiteracy levels may lead to a lack of knowledge about family planning programs, and may indirectly challenge the practical outcome of the family planning policy.

However, the finding shown in Figure 10 is not consistent with the finding shown in Figure 14. The effect of policy is stronger on women's fertility among highly segregated groups. After comparing it with the same effect for rural models, the findings provide a clearer answer. This interaction is not significant among rural minority women; it is understandable since there is no evidence to support that the policy effect on fertility will increase among highly segregated groups in rural areas. The effect also lies mainly among urban minority women. As mentioned previously, many minority groups in urban areas are highly segregated from the Han. Many of them live in their autonomous counties or cities. However, they may be subject to strict family planning restrictions because of their urban residences. For example, the Manchu

in Heilongjiang and Liaoning provinces have the same family planning policies as the Han. In addition, living in the highly segregated enclaves is very likely to make minorities feel residentially isolated and discriminated. Such feelings will reinforce the impact of family planning program on their fertility behavior.

Conclusions and Implications

The success of China's family planning program in reducing the fertility of its people has been evidenced since the 1980s. We have to admit that the one-child policy does play an important role in reducing a minority's fertility under such an "administratively induced family planning program." In my findings, the policy index indeed shows the strongest impact on minority fertility, compared with other assimilation variables. However, China's family planning program is not the only reason for the fertility decline. Particularly, for minority populations, the ethnic relations between the minority and majority are important and should not be neglected when we study the fertility behavior of minority women. The multilevel analyses in this study have shown that the strong policy effect does not cover the effect of assimilation. After controlling for the family planning policy, the direct effects of all assimilation variables, at both the micro and macro levels, remain statistically significant. All the findings support the previous hypotheses that socioeconomic, marital, and structural assimilation among minority women leads to a convergence in their levels of fertility.

Note that there are a few implications and limitations in my analysis. First, the 1990 census of China provides only limited information about assimilation and fertility.

Some basic but important variables, such as religion, language usage, and income, are not available in the census data. Questions about fertility are also limited. In addition to the most common variable of children ever born, the birth of 1989 is the only other available measure in the 1990 census.

Second, this study did not permit a satisfactory measure of assimilation. Several of the measures of assimilation used here are indirect and rough. In particular, information about access cultural assimilation is very restricted using census data. The only cultural assimilation variable in my dissertation is an aggregate measure of Moslem culture. This rough measure surely misses certain amounts of variance among individual women.

Third, I developed a very crude measure of the effect of fertility policy on minority fertility and introduced this measure as a control variable in the multilevel analyses. It was found to have an effect larger than any of the assimilation variables. This policy measure, or as I named it "the pre-policy index," is based solely on age differences among minority women. This is indeed a crude measure, and it may overcompensate for the effect of policy. However, there is no better aggregate method available in the census data to judge the effect of family planning policy on the fertility behavior of minority women.

Among currently available data, only little contains information of family planning policy. One available data set which collects more detailed information about one-child policy is The China Health and Nutrition Survey (CHNS). The 1991 and 1993 CHNS asked whether local cadres had implemented the family planning responsibility

system, "a system by which cadres sign a contract agreeing to met certain birth planning targets" (Short and Zhai 1998: 375). The CHNS asks questions about whether or not couples are allowed to have more than one child according to four specific exceptions (Short and Zhai 1998: 376). However, the CHNS do not identify each of 55 minority nationalities. The 1990 Census is the only available data that includes all minority nationalities.

In addition to using the crude measure of "pre-policy index", there is one other approach could be used. A technique applied in many demographic studies (Haines 1978; Retherford and Cho 1978; Luther and Cho 1988; Morgan 1991; Brass 1996), the so-called "own children" method, could be used to record the number of own live children by age for each mother within each household. By counting children's age records as well as their mothers', we could determine which children were born prior/ and after the one-child policy had started. Our analyses could be run for the two suitable subgroups. This strategy provides an alternative way of controlling for the one-child policy effect on minority women's fertility.

Fourth, given the availability of the 2000 Census in the next one or two years, further analysis should be undertaken to improve our understanding of ethnic fertility over time. With increasing modernization and socioeconomic development in China since the 1990s, the fertility patterns among the minority populations are expected to have changed in the past decade. In addition, there are important changes in the 2000 Census questionnaire. In addition to the questions included in the 1990 Census, further information collected in the 2000 census includes housing registration, migration, and

employment (Lavely 2001). Therefore, the use of 2000 Census data would allow us to access more information and improve our understanding of the ethnic relations and fertility of minority population.

Fifth, a potential methodological limitation, the so-called "simultaneity bias" (Greenwood 1975: 519), may exist in this dissertation. In this dissertation, I have attempted to explain minority women's children ever born in 1990 by means of variables defined for 1990. Since women's fertility, or children ever born, may influence the levels of explanatory variables (e.g., education and migration) by influencing the behavior of these variables over the period of having births, "simultaneous-equations bias may be inherent in the parameter estimates of the multiple-regression analyses" (Greenwood 1975: 531). Unfortunately, China's census data do not provide sufficiently detailed data to allow me to use data at two points in time.

Nevertheless, there is one way to address this problem. The 1990 Census collects two types of fertility data, number of children ever born and whether children were born during the last 18 months. So, instead of using children ever born as the measure of fertility, data of "recent fertility" might be used to avoid simultaneity bias.

These findings provide an important contribution to the minority fertility literature, theoretically and methodologically. I have shown that the assimilation perspective that has been widely tested in western societies can also be used in China. In particular, a sophisticated approach of multilevel analysis enable me to handle as many as 30 minority groups simultaneously in one single equation. This technique fills

a methodological void to not only link micro-and macro-level predictors, but also provide a more reliable estimation of minority fertility.

One of the most significant findings is that the contextual characteristics of minority groups have strong effects on fertility across the thirty major minority nationalities in China. Especially, group-level assimilation effects not only have direct effects on women's fertility behavior, but more importantly, they have cross-level impacts on the associations between individual-level factors (e.g. professional job, permanent migrants, and intermarriage to Han) and women's fertility.

Thus, the results suggest to policy makers that fertility decline is not limited to the administratively induced policy, but it can also be reached through the process of assimilation. For example, increasing the educational levels of the minority populations, relaxing migration restrictions, encouraging intermarriage between minority and majority populations, shortening the geographic distance from the majority, decreasing the educational gaps within each group, and improving socioeconomic development in the rural areas, should all be taken into consideration.

In fact, China's government adopted assimilation policies in the 1960s during the Cultural Revolution in an attempt to force minority groups to learn the Han language, culture, and customs. During the Cultural Revolution (1966-1976), the government arranged a special type of urban to rural migration for city middle school graduates. They were sent to rural areas, army reclamation farms, and urban suburbs for "reeducation" (Banister 1987: 308). Many of these migration flows were sent to minority autonomous regions. This forced migration and forced assimilation increased

the urbanization of the minority regions. In many minority regions, such as the Xingjiang Uygur Autonomous Region, the rapid growth of the urban population was surely influenced by in-migration from Han majority regions, natural increase among the urban residents, and rural-urban migration of local minorities (Banister 1987; Gamer 1999; Zhang et al. 1993). Consequently, because of Han migration into minority regions and minority migration into cities, minority members gradually adapted to urban life and integrated with the Han (Gamer 1999). The People's Republic has been able to exert greater control over those minorities that have been assimilated into Chinese culture, especially in the frontier regions. It can be expected that the Party will continue to encourage voluntary migration, both temporary and permanent, and to assimilate the more "troublesome" minorities. So far, only limited literature has examined the impact of migration, whether legal or illegal, in relation to minority's assimilation and fertility behavior. Issues on the relations between minority and majority populations provide much opportunity for future study.

Therefore, my dissertation on minority fertility can be expanded in several ways. First, the fertility study of China's minorities can be further examined by comparing different theoretical approaches of ethnic fertility. As I discussed previously in Chapter IV, the comparative approach in minority/majority differential in the area of ethnic fertility has been widely adopted in the U.S. The "minority group status" hypothesis, as formulated by Goldscheider and Uhlenberg (1969), has been tested by many researchers in comparison to other perspectives, such as the social characteristic hypothesis, subcultural hypothesis, and economic hypothesis. The results of cross-level interactions

from my multilevel analysis have revealed partial support for the minority group status hypothesis and partial support for the subculture hypothesis. Examining these four hypotheses will provide insights beyond those of my dissertation. Currently, only one study tested these four hypotheses on the fertility pattern of Chinese minority populations (Poston et al. 2003). In their study, Poston and his colleagues (2003) use Poisson regression models to test different hypotheses, and their findings tend to support the subculture hypothesis. I may expand on the findings in my dissertation to shed light on this line of research by later examining these four hypotheses using multilevel analyses.

Second, the impact of assimilation on minority fertility should be further explored in a mutual direction. The results of my dissertation provide strong support for the assimilation perspective; I have shown that the process of socioeconomic, marital, cultural, and structural assimilation are negatively associated with fertility among minority women, after controlling for the effect of the family planning policy. However, it would strengthen my argument if the assimilation effect could also be shown among the majority Han women. If minority women would lower their fertility via intermarriage, what about Han women? Will exogamous Han women increase or decrease their number of births because of marrying minority men? Research in this area would provide interesting insights into the assimilation perspective. In addition to assimilation, issues of social mobility, marriage market, family planning policy, patriarchy, and women status should also be addressed and explored.

Third, this minority fertility study can be further extended to other countries. Except China and the United States, many countries in the world are multiethnic in character, such as, Russia, India, Indonesia, Brazil, Singapore, Canada. It would be meaningful to explore how assimilation processes affect the fertility patterns among cross-national minority populations. For example, comparative research involving China and Russia could be conducted. With similar economic and political backgrounds, most of China's minority policies (e.g. the system of autonomous areas) were borrowed from Soviet practices. Russia has long had a pluralist form of integration of the Russian language and socialist economy, which is very similar to the diversity of the minority populations in China. One major difference between the two countries, however, is that China's minority constitutes a far smaller percentage of the national population than is the case in Russia. It would be fascinating to investigate how modernization and assimilation affect fertility patterns and the attitudes of reproductive behavior among the minority populations in these two countries. There is certainly a great deal of work remaining in the area of minority fertility. The research in my dissertation is only the beginning.

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