Do Sub-Cultural Norms Survive Immigrant Transition?

Fertility of Cantonese and Mandarin Chinese Immigrants*

By

Ping Ren

University of California, Irvine
Department of Sociology

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* Direct all correspondence to Ping Ren, Department of Sociology, 3151 Social Science Plaza, University of California, Irvine, Irvine, CA 92697 (pren@uci.edu). An early version of this paper was presented at the 100th annual meeting of American Sociological Association, Philadelphia. August 2005. I thank Philip Cohen, Joy Pixley, Susan Brown, Wang Feng, and Judith Treas for their valuable comments.

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Abstract

This paper examines whether subcultural norms survive immigrant transitions to affect fertility of the two biggest Chinese immigrant subgroups, Cantonese and Mandarins, by analyzing the Census 2000 PUMS. The research finds that Cantonese, who are believed to be more pronatalistic and have higher fertility than Mandarins in China, continue to exhibit these tendencies in the United States. Part of the fertility disparities between Cantonese and Mandarins can be explained by their differences in migration experiences, demographic characteristics and socioeconomic status. Higher Cantonese fertility, however, persists even when all these factors are controlled for, suggesting the effect of pronatal subcultural norms. Furthermore, levels of education and degree of assimilation, which play very important roles in depressing fertility, can also be associated with their regional culture by cause and effect. Some possible causes of the Cantonese pronatal norms and their persistence and changes are explored as well.

Key Words: Asian Americans, Chinese, Fertility, Immigration, Subcultural Norms

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Immigrant fertility has received a great deal of scholarly attention over the years. A large number of studies examine the role of ethnic cultures and subcultures, and found them to be influential in immigrant fertility and other family patterns (Espenshade & Ye 1994; Fischer & Marcum 1984; Swicegood, Bean, Stephen & Opitz 1988; Tang 2001). These studies typically treat individual immigrant ethnic groups or subgroups as homogeneous, even though important subgroup differences often exist within each ethnic group. For instance, immigrants from China are believed to be influenced by a Chinese culture that is characterized as familistic, pronatal, and with strong emphasis on education and upward mobility (Greenhalgh 1988; Liu 2001). In fact, wide provincial and regional variations in culture and language exist in China. For instance, Cantonese are commonly believed to be more familistic and pronatal than Mandarins, who are the majority in China (Lee 2004), and research has shown that Cantonese tend to have high fertility that cannot be explained by their economic and education levels (Birdsall & Jamison 1983; Feeney & Wang 1993).

Subgroup differences among Chinese immigrants have rarely been attended to in immigrant studies. This is partially due to methodological difficulties. Qualitative studies, for example, often focus on early Chinese immigrants, who are overwhelmingly Cantonese. Quantitative studies, on the other hand, largely rely on Census data which, until recently, have not provided detailed information on Chinese cultural subgroups. This

situation, however, has changed for the most recent census. Census 2000 for the first time provides detailed information on several major Chinese dialects, including Cantonese, Mandarin, Fukienese / Taiwanese, and Shanghaiese. This paper will utilize such information to compare the fertility of Cantonese and Mandarins and explore how their fertility behaviors are influenced by subcultural norms and immigration process.

Culture, Subcultural Norms, and Fertility

There is a long history of debate on the role that culture plays in fertility behaviors. Some scholars, for example, believe that culture has little to zero independent effect and conclude that fertility behaviors can be well explained by "concrete" variables such as socioeconomic, political and demographic factors (Friedlander, Schellekens & Ben-Moshe 1991; Hammel 1995). Other scholars use culture simply to wrap up the residual parts that can not be explained by those concrete variables. Still other scholars take culture as an indispensable determinant (Fischer & Marcum 1984; Siugo-Abanihe 1994; Tang 2001), although they usually acknowledge the importance of structural factors.

Many studies on ethnic fertility examine the effects of ethnic subculture. This particular strain of inquiry has gained prominence in recent years as scholars argue that contemporary immigrants from Asia and Latin America are less likely to be assimilated into the United States compared with early European immigrants (Massey 1995). Within this scholarship, ethnic resilience and cultural heritage are thus emphasized (Bean, Swicegood & Berg 2000; Liu 2001). They correlate immigrant fertility behaviors to particular subcultural norms regarding family and children. For instance, Mexican culture is believed to be familistic and pronatal, which explains at least partially the higher Mexican fertility rates in both Mexico and the U.S. (Fischer & Marcum 1984; Swicegood

et al. 1988). Confucianism, which dominated Chinese society for more than two thousand years, is also strongly pronatal and familistic. Its influence is evidenced by China's enormous population and its high fertility throughout much of its history. Accordingly, the total fertility rate (TFR) in China was above 5 in the early 1960s. During 1970-1974, TFR was 3.5 in Taiwan, 3.3 in Hong Kong, and 4.9 in Mainland China (Espenshade & Ye 1994). In recent years, some demographers noticed that fertility levels in all areas of Chinese culture are declining coincidentally and rapidly (Leete 1987). They attribute this to some other components within Confucianism: pragmatic rationalism and a strong drive for upward mobility (Greenhalgh 1988; Liu 2001).

A major problem in examining the effects of culture is that culture is often over-generalized. Research often treats ethnic groups as culturally homogenous. Further, immigrant studies often use sending countries, such as Mexico or China, as proxies of culture. While this is a big improvement from aggregated racial categories like "Asians" or "Hispanics" prevalent in earlier studies, these national designations can still blur many differences among subgroups within an ethnic group. Many immigrant sending countries are culturally diverse and norms often vary with subgroups (Kahn 1988). For instance, China is a country known for its wide internal variations due to its long history, large population, complicated linguistic system, and unbalanced regional developments. The provincial differences in China often approximate the differences between countries in Europe, as many areas in China have their own dialects that are not mutually intelligible. For instance, the Cantonese dialect differs from Mandarin (based on the Beijing dialect) similar to the way that French differs from Spanish (Macionis 2006). As region and language are both important factors in defining cultural boundaries (Murphy 2003; Yuval-

Davis 1997), regional dialects in China often identify distinct regional subcultures (Ye 2005). Major regional subcultures that are commonly acknowledged in China include Beijing subculture, Cantonese subculture, and Shanghaiese subculture.

This over-generalization of culture in immigrant studies is partially caused by methodological difficulties. Qualitative studies have typically focused on early Chinese immigrants, who were overwhelmingly Cantonese because Canton was the earliest and major immigrant sending area. Also, because Chinese Americans only account for one percent of the US population, no data other than the Census provides enough cases for quantitative studies. However, the Census in the past did not provide detailed information on Chinese cultural subgroups. Only in recent decades is there a new influx of Chinese immigrants that brings in large numbers of Mandarins, along with Fukienese, Shanghaiese, and many other groups. The US Census data also increasingly detail Chinese immigrants. PUMS 2000 recorded eight Chinese dialects and for the first time documented a large number of Cantonese and Mandarins. It is with this new information that this research utilizes as I probe into the diverse Chinese immigrant subgroups to examine their fertility behaviors.

While there is little work on the fertility behaviors of Chinese immigrant subgroups, several theories have been posited that could be used to predict such behaviors. These are Assimilation Theory, the Fertility Transition Theory and some more general family economic theories.

Assimilation Theory is an often applied approach in immigration fertility studies (Bean & Swicegood 1985; Glusker 2003; Rumbaut & Weeks 1986). It postulates that the longer immigrants stay in the United States, the more they will be assimilated into American

society culturally and structurally, and the more they will converge to the majority group in various respects (Gordon 1964; Park & Burgess [1921] 1969). This theory is also known as "characteristics hypothesis" in fertility studies because it attributes fertility differences between majority and minority groups to their differences in socioeconomic and demographic characteristics. In other words, if we control for these characteristics, we should find that their fertility differences disappear or are reduced. Applying Assimilation Theory to Chinese immigrants can be problematic because their fertility is actually lower than fertility rates for native whites, but several studies have found that assimilation indicators would still reduce Chinese immigrant fertility (Espenshade & Ye 1994; He 2000).

The Fertility Transition Theory, on the other hand, is infrequently applied in immigrant fertility studies (Liu 2001; Rumbaut & Weeks 1986), even though it has broad use in general fertility studies. This theory postulates that economic development has historically lowered human mortality rates and made having a large number of children unnecessary. Couples thus traded quantity of children with quality of children. Industrialization also significantly changed the value of children. In agricultural societies they were valuable family laborers and provided guarantees for old age security, but in industrial societies children became economic burdens to parents rather than assets (Caldwell 1982). Furthermore, modernization brought mass education and its close cousin, secularization, (Weeks 2002), which dramatically changed people's attitude towards children and family. Fewer children and smaller families became more desirable.

Economic theories have also been applied to fertility studies to explain the role of work and income. Employment often decreases fertility because of the role incompatibility

between working and parenting (Rindfuss, Brewster & Kavee 1996). Higher income increases the opportunity cost of disrupting work by childbearing and thus further reduces fertility; but as an economic resources, income sometimes enhances childbearing by increasing its affordability, especially husbands' income (Easterlin 1980; Weeks 1998, 2002;).

Cantonese, Mandarin, and Their Fertility

In China

Mandarin and Cantonese are the two largest dialects in China, among dozens of others (see figure 1). While Mandarin is based on a Beijing accent, it is widely spoken in the north, northeast, east, central and southwest regions of China with various different accents. Mandarin has been designated the official language in both mainland China and Taiwan. Cantonese, on the other hand, was originally spoken in the Canton[1] Province, and became the official Chinese dialect in Hong Kong and Macau because most of their residents were from Canton. Cantonese is also widely spoken among overseas Chinese in many countries because of the Cantonese diasporic tradition.

As the southernmost province in mainland China, Canton was incorporated politically into China during the Han Dynasty (206 BC-AD 220), but still exhibits cultural distinctions in various ways. Some people believe that the Cantonese culture is more traditional and pronatal than many other regional cultures in China (Lee 2004), although

[1] Canton's now official spelling is Guangdong (based on its Mandarin pronunciation). Cantonese language is also called "Guangdong Speech". To avoid confusion, I use "Canton" to refer to the Guangdong Province.

some argue that the Cantonese culture is seriously misinterpreted (Ye 2005). At first glance, the Cantonese in China demonstrate familistic and pronatal patterns. The fertility of Canton Province is high compared with many other parts of China, where people mostly speak Mandarin. This is especially striking when we consider Canton's relatively high economic development. Scholars find that China's regional variations in fertility generally follow the common pattern in which fertility is lower in places where income is higher, but Canton seems to be an exception. Canton has an above-national-average income and an above-national-average fertility; its economic development in recent years has been rapid but fertility decline is very slow or even stagnant (Birdsall & Jamison 1983; Feeney & Wang 1993). Canton is one of the wealthiest regions in China, with economic development comparable to Shanghai and Beijing, but its fertility level is significantly higher than the two. In 1990, the crude birth rate was 13.35 in Beijing and 11.32 in Shanghai, while it was 21.96 in Canton (Zheng, Yu, Guo & Xie 1991). In fact, Canton's fertility level comes very close to or surpasses Guizhou and Gansu Provinces, which are among the least economically developed and have high percentages of ethnic minorities who receive special lenient family planning policies (Canton has a negligible percentage of ethnic minorities). Unlike the inland and relatively closed Guizhou and Gansu, Canton is a coastal province with an international trading tradition and communication with the outside world since at least the Ming Dynasty (1368-1644). Canton also has an above-national-average educational level. While education is found to be significant in predicting fertility levels in many parts of China as it is all over the world, it is not significantly associated with fertility in rural areas of Canton (Choe, Guo, Wu, & Zhang 1992); which indicates the existence of some strongly persistent pronatal patterns.

Very few researchers have paid specific attention to the higher fertility of Cantonese. Even though many scholars acknowledge that cultural differences account for fertility variations across Chinese provinces (Birdsall & Jamison 1983), it is difficult to test it in China. The very strict and far-reaching family planning policies in China have largely changed people's fertility behaviors. The United States thus provides a better setting for a study like this because Chinese immigrants in the U.S. are not restrained by such as policy. If Cantonese and Mandarins have differences in fertility norms and preferences, such differences will be manifested to a fuller extent.

In the United States

Since Canton was among the earliest Chinese regions opened to international trade and the presence of foreigners, it was, for a long time, one of the few Chinese areas that Western missionaries and scholars could access easily. Therefore many early Western studies on Chinese society were based on the situation in Canton (e.g. Freedman 1970). Patterns common in Cantonese culture, such as large families, extended households and close-knit kinship, were largely generalized to all of the Chinese society even though they may not have been as common in other parts of China.

A similar tendency also exists in studies on Chinese immigrants in the United States. Because the Cantonese were the earliest Chinese arrivals, studies on Chinese immigrants had been largely based on this group. Although Mandarin is the official Chinese dialect in both mainland China and Taiwan, in the United States, people initially regarded the speech of Toishan (the earliest immigrant sending city in Canton Province,) as standard Chinese, then later thought Cantonese to be standard Chinese. Such ideas are reflected in the Census coding. For example, the Census1990 PUMS recorded eight categories of Chinese

dialects: Chinese, Hakka, Kan, Hsiang, Mandarin, Fuchow (Fukienese), Formosan (Taiwanese), and Wu (Shanghaiese). The largest Chinese dialectal group in the United States, Cantonese, was not listed as a category. Apparently, Cantonese was equated to the first category "Chinese". IPUMS 2000 also combined Chinese and Cantonese into one category, while putting Mandarin and other Chinese dialects in different categories.

Such Census coding reflects the historical composition of Chinese immigrants, in which Cantonese was the overwhelming majority. This picture, however, has been changed in recent years. Since the changes in immigration law, as a result of the Hart-Cellar Act of 1965, a great deal more people have emigrated from Asian countries. Among these, Mandarins and other Chinese dialect groups are seeing increased numbers in the United States. These new immigration is adding increasing variations to Chinese American population and necessitates research that considers such variations. As Chinese immigrants come from different regional and cultural backgrounds, they carry different norms into this host country, although exposure to the US culture will indubitably change their outlook and smooth out some differences over time. This paper examines such processes and the related fertility patterns.

Hypothesis

I expect that Cantonese immigrants continue to have higher fertility than their Mandarins counterparts, as they did in China. Further, I hypothesize that the fertility behaviors of Cantonese and Mandarins will be partially explained away by their immigration experiences and socioeconomic status in the United States, but Cantonese higher fertility should persist after all these concrete factors are controlled for due to the effect of subcultural norms. For those diasporal Chinese, their previous host countries will

also affect their outlook and thus their fertility behaviors. Furthermore, the Cantonese pronatalism and other related attitudes can be associated with their social environments in China.

Data and Methodology

Sample

Although a rapidly growing group, Chinese Americans account for only about 1% of the total US population, thus only Census data contains enough cases for meaningful statistical analysis for this group. I use the Census 2000 because this was the first Census that identifies a large number of Cantonese. The 5% Public Use Microdata Sample (PUMS) is used to obtain a Chinese sample that is as big as possible. I include only Cantonese and Mandarins, the two largest Chinese dialect groups. Other Chinese dialect groups, such as Fukienese / Taiwanese (Min), are substantially smaller and have too few married women in childbearing ages for a multivariate regression analysis.

Chinese are defined as those who self-identified as "Chinese" in their race or ancestry. I use both race and ancestry because Chinese have a long diasporic history and there are "overseas Chinese" in many countries with complex identifications. In the United States, some of those diasporal Chinese identify their race as Chinese, but some others identify with their previous host countries (such as Malaysia) and reported their ancestry as Chinese (He 2000). Those who are Chinese mixed with other races are also included as long as they speak Chinese at home.

Cantonese and Mandarins are identified by both languages spoken at home and ancestry. While language is an important factor in defining cultural boundaries (Murphy

2003; Yuval-Davis 1997), speaking an ethnic language at home indicates identifying with and maintaining an ethnic subculture (Espenshade & Ye 1994; Swicegood et al. 1988). The 2000 Census documented several distinct Chinese dialects, but one category was problematically labeled as "Chinese : Min". Min is a dialect that includes Fukienese and Taiwanese, but Chinese can mean any dialect. I identify from this group some Cantonese who reported Cantonese as their ancestry. The rest of "Chinese : Min" group will be excluded because I cannot tell which linguistic and subcultural group they belong to (not one reported Mandarin as an ancestry in my sample). In total, I identify 12249 Cantonese and 7888 Mandarins from the 5% PUMS.

Following the tradition of fertility studies, I restrict the sample to non-institutionalized married women of childbearing age between 15 and 44. I include only those whose husbands are present in the same households because otherwise children may reside with their father in another household and thus add inaccuracy to the dependent variable, which I will explain in the following section. After these restrictions are applied, the final sample has 2615 cases with 1177 Mandarins and 1438 Cantonese.

Dependent Variables and Regression Methods

A drawback of using Census 2000 for fertility studies is that this Census no longer uses the variable "children ever born", which has been widely used to measure cumulative fertility (Espenshade & Ye 1994; Kahn 1988; Rumbaut & Weeks 1986). To obtain a proxy for cumulative fertility, I apply the approximate "own child technique" (Cho, Retherford & Choe 1986; Swicegood et al. 1988). I match married women with their natural born children presented in the subfamilies and calculate the number of children. This proxy is not perfect because children do not always co-reside with their biological mothers, and

chances of not co-residing may vary among different groups and may thus confound the explaining variables. Certain anecdotal evidence indicates that some Chinese immigrants send their very young children to their older parents in China for babysitting and retrieve the children after a few years. This may pose a particular problem in using this method on Chinese immigrants. However, the low divorce rate among Chinese offsets this problem. My experimental statistics using PUMS 1990, which still has the variable "children ever born", shows that Chinese immigrant mothers are no more likely than Whites to be separate from their own children. Although it possesses some disadvantages, this dependent variable can nonetheless measure the overall tendency of cumulative fertility. To make this proxy as close as possible to the real cumulative fertility, I restrict children's age to 17 or younger, because 18 is generally when children start to leave home. I also restrict the sample to married women whose husbands are present in the household to reduce the chances that the children are living with their fathers in other households. The cumulative fertility models are estimated by Ordinary Least Squares (OLS) regression.

Because cumulative fertility lacks information on fertility timing, many demographers also look at current fertility, which is often measured by children under 3 years old present in the household (Cho, Grabill & Bogue 1970; Hwang & Saenz 1997; Swicegood et al. 1988). I code current fertility dichotomously to represent whether or not a woman has a child under 3 in the household (Ford 1990). Logistic regression is used to estimate this variable.

People's fertility decision is related to their attitude towards family in general (Weeks 2002); higher fertility often coincides with more traditional family ideals, characterized by larger and more complex family structures. Therefore I will also compare the average

family size and prevalence of living with elderly and subfamilies among Cantonese and Mandarins, but these will only be in descriptive statistics.

Independent Variables

The Cantonese subgroup is represented by a dummy variable and will be in all models to assess how Cantonese subculture affects fertility and whether its effect can be explained away by the socioeconomic, demographic and immigration-related differences between Cantonese and Mandarins.

I add birthplaces from model 2 onward. Many foreign-born Chinese women spend portions of their formative years in their birthplaces. Their exposure to the local sociocultural factors affects their reproductive outlooks, and they often bring such outlooks when they immigrate (Espenshade & Ye 1994; Siugo-Abanihe 1994). Birthplaces are coded into dummy variables with "born in the United States" as its reference category. The first dummy variable is "born in China", a developing country with a relatively low total fertility rate of 1.7 (Population Reference Bureau 2005), but only achieved so under strict family planning policies. The second category is "born in Hong Kong", which is a highly modernized metropolis with a very low TFR of 0.9. Hong Kong has been deeply indoctrinated by Western culture due to a century of British colonization, but still keeps some Chinese traditions that were shattered in mainland China by the communist ruling, in general, and the Cultural Revolution, in particular. The third dummy is "born in Indochina". Indochina includes Vietnam, Laos and Cambodia, all of which are less developed countries with relatively high fertility (Rumbaut & Weeks 1986). I expect that Chinese immigrants who are born in less-developed and higher-fertility places have more children because they are indoctrinated with higher-fertility norms.

In model 3 I add assimilation and immigration factors. I measure assimilation by English ability, intermarriage, and age at arrival in the United States, all commonly used proxies for assimilation, especially cultural assimilation. English ability is believed by many scholars to be one of the most predictive indicators of cultural assimilation because it is the key to learning American mainstream cultural norms; it typically lowers immigrant fertility (Rumbaut & Weeks 1986). Intermarriage with Whites is an indicator of integration into the American society (Gordon 1964) and it is also found to lower Chinese immigrants' fertility (Johnson & Nishida 1980). Age at arrival in the United States measures the number of years exposed to the US culture, which is often negatively related to fertility level (Bean et al. 2000; Ford 1990). Particularly, the so-called 1.5 generation immigrants, who come before 12 years old and spend their formative years in the U.S. are often more acculturated than adult immigrants (Allensworth 1997; Rumbaut & Ima 1988) and their fertility tend to be lower than the latter (Liu 2001). Alternatively, age at arrival may be positively related to fertility because of the disruptive effect of immigration (Espenshade & Ye 1994). The reproduction of immigrants is often disrupted, especially at the beginning of arrival which is often the most stressful period. After immigrants settle down they often resume or even accelerate their delayed childbearing (Carlson 1985; Ford 1990). Those who arrive at younger ages should be able to resume their reproduction earlier or even avoid such disruption. I code age of arrival into dummy variables "before 12 years old" and "between 12 to 23", with "after 23 years old" as the reference category.

Immigration status is also considered in model 3. Chinese women without citizenship may depress their fertility because they may have to return to the strict-family-planning China (Hwang & Saenz 1997). Furthermore, having no citizenship may cause them to feel

unsure about the future, and thus make discreet family plans. I expect that Chinese will depress or delay childbearing until they obtain citizenship, and citizenship should be positively related to fertility.

Model 4 incorporates education, which is of leading importance in fertility decline according to the Fertility Transition Theory. Education is a source of individual secularization and modernization, which will significantly change people's attitudes towards the world in general and towards family in particular. Education enhances people's personal autonomy and the confidence to control their own fertility (Caldwell 1982; Coale 1973). Furthermore, education prepares people for the non-family labor market and weakens familistic ties that are often conducive to high fertility (Rumbaut & Weeks 1986). It can also weaken the traditional subcultural norms and lead to acculturation. On the other hand, pursuing education often leads to delayed marriage and childbearing.

The last model of cumulative fertility incorporates factors associated with opportunity cost and affordability of children. Women's employment is known to increase the opportunity cost of childbearing and depress fertility. Income is also related to opportunity cost and it generally depresses fertility (Weeks 1998, 2002), but its effect may also be positive because it enhances the affordability of children. In a binary statistical analysis not shown here, I found fertility of both Cantonese and Mandarin being lowest at the lower-middle level of personal income, but higher at the two ends. To catch this non-linear curve I categorize income into three levels: lower than $20,000, in between $20,000 and $60,000, and above $60,000. Husbands' income is related more to affordability of children and thus should increase fertility (Easterlin 1980). Finally, home ownership may

also increase fertility because it makes Chinese immigrants feel more settled, secure, and ready to have children.

Controlled variables

Age is controlled for in all models because it is a basic demographic factor known to affect fertility significantly. I use age plus age-squared to describe its non-linear relationship to fertility.

Findings and Analysis

Descriptive statistics

Fertility and Family Structure

(Table 1 about here)

Cantonese women on average have 1.42 natural-born children under 18 present at home. This is significantly higher than the 1.19 level of Mandarins (table 1), but is partially due to their older ages. Cantonese also tend to have bigger and more complex families with more persons in the household, more elders and a greater likelihood to have subfamilies. However, these could be a result of their longer immigration history. Lengthy settlement and a higher percentage of citizens make it easier for Cantonese to bring in family members. To eliminate the possible confounding effects of immigration history and status, I break the sample down into native-born (citizens), naturalized citizens and non-citizens. The second part of table 1 shows that Cantonese have more children and bigger families in all three immigration categories, all are significant in T-test. In particular, Cantonese are about two to three times more likely to live with elders and have subfamilies in the

households. Note that Cantonese are older in most cases and this probably contributes to their higher fertility. The small sizes of each immigration categories do not facilitate the calculation of age-standardized fertility. Age will be controlled for in the regression analysis so its effect can be eliminated.

Independent Variables

Table 2 shows the descriptive statistics of independent variables. Although Cantonese are earlier immigrants and tend to be US-born or have immigrated at younger ages, they have lower rates of intermarriage, and are much less likely to marry Whites than Mandarins are. Mandarin women report higher rate of speaking English well and holding bachelor or advanced degrees. Cantonese women do better in some economic indicators, with more of them employed and living in houses owned rather than rented, but Mandarin women are more likely to earn a high annual income above $60,000.

(Table 2 about here)

Multivariate Regression Analysis

(Table 3 about here)

The first model in table 3 assesses only the effect of being Cantonese. Controlled for age, Cantonese have about 0.8 more children than Mandarins do.

Birthplaces

After birthplaces were added to model 2, the positive effect of being Cantonese was almost doubled. This is largely because those who are born in Hong Kong have very low fertility, although the majority of them are Cantonese. In model 1, the negative effect of being born in Hong Kong and the positive effect of being Cantonese partially cancelled each other out.

Being born in Hong Kong has a persistently significant effect in depressing fertility through all models, regardless what other factors are controlled for. As mentioned earlier, Hong Kong has an extremely low TFR of 0.9, thus women from that city are likely to be socialized into low fertility norms, which continue to influence theirs behaviors in the United States. Furthermore, they may have emigrated with fewer children than women from other places. Immigrants from Hong Kong are mostly comprised of Cantonese, and this shows that Cantonese could have low fertility in certain situations.

Chinese from other birthplaces all have higher fertility than those who are born in the United States. Being born in Indochina has the most significant and largest effect on increasing fertility, which is consistent with Indochina' less development and higher fertility level compared with other birthplaces.

Assimilation and Immigration Status

Assimilation measurements are added from model 3. Two of them, intermarriage with Whites and speaking good English depress fertility significantly, as the assimilation hypothesis would predict. The effect of English ability is considerably reduced by education (model 4) and again by employment and income (model 5). This shows that English ability represents human capital as well as assimilation per se (Swicegood et al. 1988). Earlier age at arrival, however, is positively related to fertility. This is consistent with the disruption hypothesis, which would predict that childbearing of those who arrive at younger ages is disrupted less by immigration and settle-down process than those who came at older age. Citizenship is also positively related to fertility.

After assimilation and immigration factors are controlled for, the effect of being Cantonese is reduced by more than one third. As we can see in the descriptive statistics

(table 2), Cantonese are less like to marry Whites and speak English well, but more likely to be naturalized and immigrate at younger ages, which all contribute to their higher fertility.

Education

Education again reduces the Cantonese effect by more than one third (model 4). This shows that a large part of Cantonese higher fertility is due to their lower education. Cantonese women in my sample have, on average, 2.9 years less education than their Mandarin counterparts. Cantonese also have much higher rates of not finishing high school, lower rates of holding bachelor degrees and much lower rates of advanced degrees (table 2). A closer look shows that educational gaps between Cantonese and Mandarins are most pronounced among the foreign-borns. US-born Cantonese and Mandarins average 15.2 and 16.1 years of education, while the foreign-born Cantonese and Mandarins average 12.6 and 15.7 years of education, respectively. Their educational disparity can be at least partially explained by immigration history and selectivity. Cantonese have been coming to the United States for more than a century, and a large number of them have settled down and obtained citizenship, which has enabled them to bring in their families and kin. Therefore most Cantonese came here through family reunification, which does not require higher education. Mandarins are mostly first cohort immigrants who have no settled relatives in the United States to sponsor their immigration. They often have to come under professional or student visas and thus are selected by higher education (Portes & Rumbaut 1996).

However, even among those foreign-born, educational gaps vary with birthplaces; hence factors other than immigration selectivity are probably involved. Among those who

are from China, Mandarins have an average of 15.1 years of education, four years more than the average of 11.1 years that Cantonese from China have. Similar but smaller gaps (from 1.2 to 2.1 years) can be found among those from other developing countries such as Malaysia and the Philippines. On the other hand, Cantonese born in developed regions such as Hong Kong, Canada, Singapore and the United States average more than 14 years of education, very similar to Mandarins from those places respectively. This indicates that the Cantonese-Mandarin education disparity may be a reflection of the educational patterns in sending areas. In the case of China, although Canton province has an above-nation-average education at high school level, its college education ranks low (Du 2000).

Cantonese are regarded to be less interested in education than average Chinese (Ye 2005). This can probably be traced back to Canton's historical position as a business center. The Confucianism that dominated Chinese culture and government policies for two thousand years is strongly pro-education and anti-business. Furthermore, government officials in imperial China had many privileges over ordinary people; as a result Chinese regarded becoming official as the most important way, and almost the only way for upward mobility. The path to a government office was education and examination. Since the late *Tang* Dynasty (AD 618-907), China has been dominated by gentry-scholar officials, who were chosen by a *Ke-Ju* (civil service examination) system (Moore 1967). Theoretically, anyone, regardless of social class, who passed the *Ke-Ju* examination would become a government official. This system fostered a widespread and long-lasting passion for education in Chinese society. However, the situation in Canton was different. Being geographically distant from the central government, Cantonese are much less interested in politics and political power. Furthermore, Canton has traditionally been the outlet of

Chinese international trading since the *Han* Dynasty (206BC-AD219). This fostered a trading and business tradition in Canton, which is seldom seen in other parts of China. Since economic reform started in China in late 1970s, Canton again became a major business center. Many Cantonese thus regard business as a better path to success than education. Structural factors also contribute to Canton's lower college level education since the number of universities that a province can establish is subject to central government's approval, and the quota given to Canton was lower.

Since both cultural and structural factors in China contribute to the educational gap between Cantonese and Mandarins, it is not surprising that similar gaps exist but to a lesser degree among those born outside China. Particularly, the gaps almost disappear among those born in developed societies. This is probably because developed societies are able to assimilate Cantonese and Mandarins and such assimilation overwrites the original disparity between them; on the other hand, those societies that are less developed are unable to exert such influence.

Opportunity Cost and Economic Resources

When factors concerning opportunity cost and economic resources are incorporated into model 5, the effect of being Cantonese increases slightly. This is because Cantonese women do better in some economic indictors that reduce fertility. They have higher rates of employment and earn an annual income of $20,000 to 60,000, without which their fertility would be even higher. Overall, the effects of opportunity cost and economic resources are not as strong as those of education, assimilation and immigration status factors.

Current Fertility

The effect of being Cantonese on the likelihood of having children under 3 is not significant and its sign actually changed to negative. A lower current fertility can be the result of having children earlier, but a conclusion is hard to reach with an insignificant coefficient. The effects of all education attainment also change their signs to positive, indicating delayed childbearing from pursuing higher education. All foreign birthplaces also have positive effects, which is consistent with the immigration disruption thesis postulating that immigrants often delay their childbearing. Another finding that is consistent with the disruption thesis is the negative effect of naturalization. Those who have been naturalized are likely to have children earlier and thus tend to have children older than 3. The only other factors that significantly depress current fertility are "in school" and "being employed", as we can reasonably expect.

Conclusion and Discussion:

This paper makes the first attempt to explore Chinese immigrant subgroups based on dialects and regional subcultures, by analyzing the Census data. The results are striking, as the two biggest groups, Cantonese and Mandarins, demonstrate marked differences in many respects, including education, English ability, intermarriage, and family structure. Particularly, I found considerable disparity in their fertility levels, as Cantonese immigrants still have higher fertility than Mandarins in the United States as they did in China.

A large part of the Cantonese-Mandarin fertility gap can be explained away by their different levels of assimilation and education, as well as their different immigration status and economic attainment. However, Cantonese higher fertility remains when all these

concrete factors are controlled for, suggesting the existent of Cantonese subcultural norms favoring higher fertility. Furthermore, the differences in assimilation and education may also be a result of different attitudes towards these issues, which can be attributed to different cultures of Cantonese and Mandarins.

Social Settings and Fertility Norms

Before concluding that Cantonese are more pronatal, or more attached to pronatalism, we should look at an "exceptional" case: those who are born in Hong Kong, the city with extremely low fertility. Those born in Hong Kong are mostly Cantonese, but being Hong-Kong born has downward effects in all cumulative fertility models. How should we explain this paradox? I believe that this can be traced back to the different social settings in Canton Province and Hong Kong. After all, culture and structure are not fundamentally separate issues, and often regional cultures can be traced back to the natural and social settings in these regions.

At first glance, the high fertility in Canton Province is inconsistent with its developed economy. It cannot be explained by income or even education in many areas of Canton as it can in many other places as postulated by fertility theories. However, one thing distinguishes Canton from other Chinese areas with developed economy and low fertility: Canton's considerably low urbanization rate (Choe et al. 1992). Pronatal and familistic norms often develop in agricultural societies where labor-intensive production prevails and economy is organized around families and clans (Caldwell 1982). Although businesses have been flourishing in many areas of Canton in recent decades, they are often small businesses that rely heavily on family and kinship. Family labor and ties remain very important in such an economy. Furthermore, these small family businesses do not require

very high levels of education; in fact they provide a shortcut to wealth without pursuing higher education. In contrast, in those more closed provinces with underdeveloped economies, education remains one of the few ways of achieving upward mobility and is very much valued as it was in traditional Chinese society. In Canton, business rather than education leads to wealth and thus many young people leave school early to enter business. Leaving school early often means early childbearing and more children. Wealth in such social settings can increase fertility rather than depress it because it increases affordability of children.

The situation in Hong Kong is very different. It is a highly urbanized and Westernized metropolis. While we can still see many signs of Cantonese cultural heritage in Hong Kong, the socioeconomic structure in this modern city no longer makes children good investments for parents. Rather, its highly competitive economy, one of the world-highest population densities, and very expensive housing all generate high stress that often dampens fertility. The extremely low fertility of Hong Kong exemplifies that even persistent subcultural norms will be changed by structural factors, and people typically have to adjust their behaviors to accommodate the changes in social structure. The findings in this paper are consistent with this argument, as a considerable part of the Cantonese higher fertility went away when structural factors are controlled for. However, Cantonese' higher fertility did not disappear in the United States as it did in Hong Kong, probably because the U.S. society has a more favorable environment for these subcultural norms to survive. It has a much lower population density, more work opportunities, more affordable housing, and more low-cost or free programs for mothers and children. Women with children do not face as much disadvantage in the US job market as in they do in Hong

Kong. Although immigrants often delay, depress or even forgo childbearing in coping with the stress associated with immigration, the stress in the United States is not strong enough to make many Chinese immigrants shake off their subcultural norms on reproduction. This probably indicates that people are likely to preserve their subcultural norms, at least to some extent, if their environment allows them to do so. In other words, people do not prefer to give up their subcultural norms when they do not have to.

Subcultural and Dialect Preservation

Another factor that contributes to Cantonese cultural persistence is their strong attachment to the Cantonese speech. The central government in China has been promoting Standard Chinese (Mandarin) nationwide for decades, and Canton is much more resistant to that change than many other dialect regions. For instance, Shanghaiese is another major Chinese dialect group with their own regional subculture that is well-known in China; but Mandarin speech is widely used in Shanghai, especially at work and in school. Today, many Shanghaiese teenagers even speak Mandarin at home with their parents and some are actually losing their ability to speak the dialect. In Canton, however, local people are typically proud of their own dialect, and speak it even at work and in school (which is often technically against the rule), not to mention at home. There are a number of Cantonese TV channels in Canton, whereas such dialect TV channels are very rare in other parts of China (except in ethnic minority autonomous districts). Being located at the southeast edge of China, Canton is far away from the central government and this geographical distance also contributes to its linguistic isolation and cultural preservation. Meanwhile, the pride of Cantonese language is backed by a strong economy in Canton, a

highly developed international metropolis that speaks Cantonese—Hong Kong, and a large number of overseas Cantonese who are wealthier than the average in China.

The Cantonese attachment to their dialect can also be seen in the United States. In the U.S. Census 2000 there were only 13 people who reported speaking Shanghaiese at home, compared to 12013 people who reported speaking Cantonese. Since we do not know the exact number of people who have Cantonese and Shanghaiese origins, we cannot tell the accurate proportion of Cantonese and Shanghaiese who are holding on to their dialects, but we can still make a comparison according to anecdotal evidence. There is no doubt that the Cantonese group is larger than Shanghaiese in the United States, but the number of Shanghaiese has seen a rapid increase after 1970s. Shanghai is a port city with strong connections to the Western countries dating back to the early 20th century, and its people also have a tradition of emigration. Today large numbers of Shanghaiese immigrants reside in some new Chinese immigrant settlement areas, such as southern California. The large gap between the 13 people who reported speaking Shanghaiese and the 12013 who reported speaking Cantonese is likely to reflect the fact that Cantonese are particularly attached to their own dialect. Anthropologists also find that Cantonese people regard Cantonese speech as the most important mark of their identity (Ye 2005). Attachment to ethnic languages often contributes to ethnocultural preservation, thus the strong persistence of Cantonese subculture is not surprising.

Another manifestation of holding on to their own culture or strong ethnic identity among the Cantonese is their lower rates of intermarriage. Cantonese women are considerably less likely to marry Whites than Mandarins, which is striking given their much longer settlement in the United States and much higher rate of being US-born.

One problem in this study warrants cautions: Most respondents who filled in "Chinese: Min" as their home language are not included in the analysis because their dialect and subcultural group membership are not identifiable. This may bias the results if those Cantonese who filled in "Chinese" and those who filled in "Cantonese" differ in significant ways. However, reporting "Cantonese" specifically instead of a general "Chinese" may indicate a stronger identification with Cantonese culture; in this sense, reporting Cantonese can still be a good measurement of holding on to subcultural norms. My descriptive statistics (not shown here) show that the characteristics of those who filled in "Chinese" are generally very similar to those of Cantonese, but moving towards the characteristics of Mandarins. A likely inference from this pattern is that Cantonese are the majority in this group. Again this is expected since Cantonese are the earliest and largest Chinese immigrant subgroup.

This study is only a beginning in exploring dialect and cultural subgroups among Chinese immigrants. I believe that there is much more to explore in the differences between Cantonese and Mandarins (and other Chinese dialect groups), such as family structure, marriage timing, intermarriage, education, employment, among other assimilation and socioeconomic profiles. In the future study of Chinese immigrants, understanding of subgroup variations will enable us to achieve more accurate descriptions and analysis of this fast-growing group.

Table 1. Fertility and family patterns of Cantonese and Mandarins married women age 15-44 (*m*).

Immigration status	All		US-born		Naturalized		Non-citizens	
Dialect groups [a]	C	M	C	M	C	M	C	M
	(1438)	(1177)	(103)	(34)	(918)	(533)	(417)	(610)
N of children under 18	1.42***	1.19	1.19**	0.68	1.52	1.44	1.27**	1.01
N of family members	4.15***	3.49	3.54**	2.83	4.24***	3.79	4.11***	3.28
N of 65 yr+ in family	0.22***	0.09	0.15†	0	0.25***	0.14	0.17***	0.06
Have subfamily (%)	0.13***	0.06	0.10*	0	0.12***	0.06	0.14***	0.05
Mean age	36.21***	35.40	34.27**	30.91	36.83	37.17	35.30***	34.17

Note: All Cases are weighted.

[a] C: Cantonese, M: Mandarins; Number of cases in parentheses.

† .05<p<0.1; * p < .05; ** p < .01; *** p < .001.

Table 2. Descriptive Statistics of Independent Variables (m and %).

Variables	Mandarins (n=1177)	Cantonese (n=1438)
Intermarriage		
Married to Chinese	80.37	83.92
Married to Whites	16.32	10.65
Married to others	4.97	7.28
Birthplaces		
Born in the US	3.13	6.88
Born in China	23.63	30.53
Born in Hong Kong	1.01	39.40
Born in Indochina	0.90	15.26
Citizenship		
Naturalized citizen	44.32	63.91
Non-citizen	52.56	29.22
Age of immigration		
< 12 yrs old	9.63	20.54
12-23 yrs old	35.04	40.46
>23 yrs old	54.31	37.27
Speak English well	85.13	69.44
Education Attainment [a]		
Less than HS	4.99	26.08
Some college	16.90	21.56

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Table 2. *(Continued)*

Variables	Mandarins (n=1177)	Cantonese (n=1438)
HS graduate	8.39	17.61
Bachelor degree	34.94	26.06
Advanced degree	34.78	8.69
Mean Year of Education a	15.72	12.80 ***
Enrolled in school	13.14	8.78
Employed b	67.99	75.39
Person Annual Income b		
<$20,000	51.47	51.55
$20,000-$60,000	33.55	37.81
>$60,000	14.98	10.64
Husband's income	63809 (295875)	50307 (262736)***
Own housing	70.09	73.21

Note: All cases are weighted. Numbers in parentheses are Standard deviations.

*** $p < .001$ (two-tailed tests).

[a] Excluding high school students; [b] Age>=16, excluding high school and undergraduate students.

Table 3. Unstandardized coefficients from OLS and logistic regressions of fertility.

	N of children under 18					N of Children under 3
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	
Cantonese	0.155***	0.300***	0.177**	0.106†	0.113*	-0.034
Birthplaces						
US						
China		0.215*	0.116	0.085	0.108	1.073***
Hong Kong		-0.172†	-0.235*	-0.228*	-0.223*	0.574*
Indochina		0.335**	0.180	0.139	0.174	0.910**
Elsewhere		0.223*	0.130	0.117	0.090	0.588*
Speak English well			-0.219***	-0.123*	-0.098†	-0.114
Intermarriage						
To Whites			-0.341***	-0.324***	-0.304***	0.161
To others			-0.085	-0.092	-0.066	0.366†
Naturalized citizen			0.163***	0.158***	0.172***	-0.360**
Age immigrated						
< 12			0.251***	0.267***	0.274***	0.806***
12-23			0.172***	0.182***	0.168***	0.156
>23						
Education						
Less than HS						

(Continued on next page)

Table 3. *(Continued)*

	N of children under 18					N of Children
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	under 3
HS graduate				-0.001	-0.003	0.461*
Some college				-0.116	-0.114	0.721***
Bachelor degree				-0.212**	-0.214**	0.598**
Advanced degree				-0.276***	-0.268**	0.942***
In School					-0.136*	-0.516**
Employed					-0.203***	-0.389**
Person income						
<$20,000					0.160**	0.120
$20,000-$60,000						
>$60,000					0.138*	0.002
Husband's income ($1000)					0.001*	0.001
Own housing					0.160***	0.318**
Adjusted R^2	0.137	0.158	0.186	0.191	0.214	
X^2 (df)						347.49 (23) ***

Note: N=2615. Age is controlled for in all models

† p<0.1; * p < .05; ** p < .01; *** p < .001 (two-tailed test).

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