CHINESE IMMIGRANTS’ FERTILITY IN THE UNITED STATES: AN EXAMINATION OF ASSIMILATION VARIABLES

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ABSTRACT

This research examines the effect of assimilation on fertility, i.e., the number of children-ever-born, of Chinese immigrant women to the United States, and examines if Chinese immigrants are more assimilated to the majority culture or to the Chinese subculture in the U.S., using the 1990 U. S. Census of Population 5 percent and one-in-10,000 Public Use Microdata Samples (PUMS). The fertility of Chinese immigrants, aged 15 to 49 years old, is compared with that of their U.S. non-Hispanic white and U.S. born Chinese counterparts. Results show that the fertility patterns of Chinese immigrants, U.S. born Chinese and whites significantly differ from each other, and that immigrants have the fewest children, followed by U.S. born Chinese. The lower fertility of Chinese immigrants can be accounted for by their lack of assimilation. Almost all the indicators of assimilation examined here (e.g. duration of residence in the U.S., adult immigration, ability to speak English/language spoken at home, employment status, and citizenship status) are found to have a significant impact on immigrants’ fertility. These findings provide a picture of the reproductive behavior of immigrant women that is partially the consequence of assimilation processes. The results suggest that immigrants are more integrated into the Chinese subculture in the U.S. than into the mainstream of the majority whites; with conventional determinants of fertility controlled, the fertility of immigrants is closer to that of U.S. born Chinese than that of whites.
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INTRODUCTION

Chinese American has been the largest Asian ethnic group in the United States since the 1970s. There were more than 800,000 people of Chinese origin in the 1980 U. S. census, accounting for 23 percent of all Asian Americans (U.S. Bureau of the Census 1984, 1988, 1993). In the 1990 census, the Chinese population increased to more than one and half million, making up 24 percent of the Asian population (U. S. Bureau of Census 1993). By 1997, there were over two million Chinese Americans, representing 24 percent of the Asian population in the United States (Lee 1998).

However, while the Chinese population in the United States is increasing over time, the pace of increase is slow compared with other Asian ethnic groups. For example, although Chinese Americans represented 24 percent of the total Asian population in both 1990 and 1997, the Asian population accounted for only 2.8 percent of the total U.S. population in 1990, but approximately 4 percent in 1997, indicating a reduced share of Chinese in the Asian population. The slow population growth may be a result of smaller population flow (Espenshade and Ye 1994) and/or a lower fertility level among Chinese Americans (Robey 1985).

The lower fertility rate of Chinese immigrants is attributed to such factors as minority group effect (e.g. Espenshade and Ye 1994; Jibou and Marshall 1997; Mookherjee 1998; Tang and Trovato 1998) or a quick adaptation of Chinese immigrants to the reproductive norms of the host society (e.g. Kahn 1988, 1994). However, the Chinese origin population is among the few minority groups that have lower fertility than American whites. In this sense, the minority group status hypothesis in itself is a
problematic explanation of fertility differentials across ethnic groups. Similarly, if Chinese immigrants are well adapted to the host society, we would expect that their fertility converges to American whites'. Nevertheless, current research finds that there is a statistically significant gap in fertility between Chinese immigrants and American whites (e.g. Espenshade and Ye 1994). Thus, it is necessary to identify how well Chinese immigrants have adapted to the American society in order to examine the relationship between assimilation and immigrants’ reproductive behavior. In addition, it is worth asking into which culture – the Chinese subculture in the U.S. or the mainstream of the majority culture – Chinese immigrants are more likely to be integrated.

This present study examines the fertility pattern of Chinese immigrants in the United States using the 1990 U. S. Census of Population 5 percent and one-in-10,000 Public Use Microdata Samples (PUMS). The Chinese immigrants’ fertility will be examined in comparison with that of American non-Hispanic white women and that of U.S. born Chinese, and in the context of the association with assimilation. Specifically, the three principal objectives are: (1) to examine to which culture Chinese immigrants are more likely to be assimilated, based on the comparison of the net effect of ethnicity-birthplace on fertility of Chinese immigrants with that of U.S. born Chinese and that of native American non-Hispanic white women; (2) to examine the independent effect of assimilation variables (e.g., duration of residence in the U.S., adult immigration, English ability/language spoken at home, employment status, and citizenship) on the reproductive behavior of Chinese immigrants; and (3) to establish on this basis the extent to which immigrants’ reproductive behavior is affected by assimilation. These objectives make this research unique and enable me to contribute to our understanding in this area in several
ways. Empirically, they increase our knowledge of how well Chinese immigrants are assimilated to American society. More specifically, they introduce the possibility that Chinese immigrants might assimilate to a Chinese American subculture rather than the majority culture. Theoretically, they extend our understanding of the nature of the effect of assimilation on fertility. Treating assimilation as a multi-dimensional variable allows for the possibility that different aspects of assimilation are differently related to fertility; e.g. does assimilation uniformly decrease fertility or can it decrease or increase immigrants’ birth rate depending on other factors such as the reproductive norms in the place of origin?

In the sections that follow, I first review the principal approaches to immigration and fertility to understand fertility variation among different ethnic and immigrant groups with my focus on assimilation. Secondly, I present my research design and develop my hypotheses. Thirdly, I describe the data and methods used to test my hypotheses, and present the empirical results. Fourthly, I discuss the major findings, and finally, I summarize my research and present my conclusion.

**BACKGROUND OF STUDIES ON ASSIMILATION AND IMMIGRANTS’ FERTILITY**

*STUDIES ON ASSIMILATION AND FERTILITY*

Prior work on the determinants of ethnic fertility differentials can be roughly divided into three competing yet complimentary approaches: (1) assimilation theory (e.g. Abbasi-Shavazi and MacDonald 2000; Gordon 1964; Lee and Lee 1959; Sly 1970), (2)
minority group theory (e.g. Goldscheider and Uhlenberg 1969; Halli 1987; Jiobu and Marshall 1977; Mookherjee 1998; Ritchey 1972; Roberts and Lee 1974; Tang and Trovato 1998; Trovato and Burch 1980), and (3) disruption theory (e.g., Goldstein 1973, 1978; Hervitz 1985). In this research, I test the assimilation theory, but I also make reference to the minority group status model, especially since the studies focusing specifically on the fertility of Chinese immigrants often make use of this alternate model.

The assimilation theory is derived from the theory first proposed by Park (Park and Burgess 1921), and is defined as the “gradual process whereby cultural differences (and rivalries) tend to disappear” (Cuber 1955, cited in Gordon 1964:66). Assimilation is a multi-dimensional phenomenon with each dimension intertwined with another. The most frequently discussed dimensions of assimilation in the immigration and fertility literature include acculturation and structural assimilation (Gordon 1964; Spicer 1968; Yinger 1994). Acculturation, or cultural/behavioral assimilation, refers to the process of “change of cultural patterns to those of host society” (Gordon 1964:71). It is regarded to be “the first of the types of assimilation to occur when a minority group arrives on the scene” and can occur in the absence of other types of assimilation (Gordon 1964:77). Structural assimilation refers to the process by which subgroups become distributed across the socioeconomic structure (e.g. occupational attainment) in ways similar to the majority group (Addai and Trovato 1999). When immigrants are incorporated into the work force of a host society, structural assimilation comes into play (Yinger 1994).

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1 This argument is not without controversy. Yinger (1994), for instance, suggests that structural assimilation comes before cultural assimilation. I suspect that, since acculturation involves many aspects, some aspects of cultural assimilation – such as language adaptation – can happen before, while other aspects – interracial marriage and listening to the host society's music, for example – may happen after, structural assimilation. This issue is also influenced by age of immigration: for child immigrants, acculturation comes before structural assimilation. In addition, both structural and cultural assimilation are presumably influenced by the extent to which immigrants are integrated into a minority group with the same ethnicity, as opposed to integration into the majority; exactly how the assimilation process is influenced by participation in minority enclave is less well known.
Applying the assimilation theory to the studies of fertility determinants of immigrants, it is argued that ethnic groups’ fertility largely depends upon the degree to which they have been integrated into the structures of the larger society (Addai and Trovato 1999). Ethnic groups have different fertility rates because they are situated differently with regard to fertility-related variables such as education and employment. This suggests that it is not ethnicity per se but the compositional characteristics associated with ethnic groups that cause fertility differentials. Once ethnic group members achieve the same socioeconomic characteristics as American whites, and practice the same social and cultural values as the majority, fertility differentials will disappear (Bean and Swicegood 1985; Bean et al 1981; Gurak 1980; Kahn 1988, 1994; Johnson 1979; Lee and Lee 1959; Sly 1970). Sly (1970) concluded that it is socioeconomic characteristics, among other factors, not ethnicity, that are the important factors affecting reproductive behavior.

Duration of residence in a host country is viewed as affecting the degree of assimilation (Gordon 1964). It is argued that as the years of stay in the host society increase, immigrants’ link to the place of origin is weakened; consequently their ties to the host society become stronger, which eventually affects immigrants’ reproductive behavior (Kahn 1988). So, the number of years exposed to American culture is considered by some studies to be an individual-level measure of assimilation (Ford 1990; Kahn 1988, 1994; Krishnan and Krotki 1992). This perspective suggests that, other things being equal, the most recent immigrants from a pro-natalist country (high-fertility country) will have the highest fertility. In contrast, a longer residence in the US reduces the birth rate of immigrants (Espenshade and Ye 1994; Ford 1990), as they become more
assimilated to American culture (Stephen and Bean 1992). Findings from empirical research generally support these assertions (e.g. Ford 1990; Stephen and Bean 1992). It is also found that, with regard to fertility, duration has a larger effect on immigrants who came to the U.S. as adults than on immigrants who arrived in the U.S. as children (Kahn 1988).

Similarly, age at which immigrants arrive in the host society is also identified to affect the extent of assimilation and level of fertility (e.g. Espenshade and Ye 1994; Hwang and Seaza 1997). Thus, age of immigration and/or adult/child immigration, are often used to measure the relationship between the extent of assimilation and reproductive behavior. The findings in this regard are not uniform. Some do not find a significant linkage between adult immigration and fertility (e.g. Espenshade and Ye 1994), while others find that immigrant women who migrated to the U.S. as children have lower fertility levels than more recent immigrants (e.g. Pagnini 1997). Typically, in addition to the direct effects on fertility, duration and age of immigration also indirectly influence the birth rate – for example, they impact acculturation, structural assimilation, and political assimilation.

Cultural assimilation or acculturation is typically operationalized as language spoken at home, bilingual ability, and interracial marriage between ethnic and majority group members. The ability to speak English has been cited by some authors as an important indicator of acculturation (Bean and Swicegood 1985; Portes and Bach 1980; Tienda 1980), but a significant linkage between English proficiency and fertility does not always show up (Krishnan and Krotki 1992). Research also shows that bilingual capacity contributes to explaining fertility differentials between ethnic groups and the majority,
and that speaking English at home decreases fertility (Slesinger and Okada 1984). Intermarriage is viewed as one of the strongest indicators of acculturation, and is considered to be both a consequence of cultural assimilation and an agent producing it (Blau et al. 1984; Hwang et al. 1997; Lieberson and Waters 1985; Pagnini and Morgan 1990). Presumably, persons who are inclined to assimilation are more likely to marry a person from the host society. It is found that interracial marriage between American whites and immigrants decreases fertility (Espenshade and Ye 1994) for both adult and child immigrants (Kahn 1988).

Structural assimilation, also termed socioeconomic assimilation (Addai and Trovato 1999), is typically measured by women's labor force participation, occupational achievement, and educational attainment. These indicators have consistently been found to be positively associated with assimilation but inversely related to fertility (e.g. Addai and Trovato 1999; Espenshade and Ye 1994; Slesinger and Okada 1984). Among these indicators, education is regarded as the key indicator of assimilation since it is also a strong predictor of occupational prestige and income. Once ethnic group members acquire the same education as the majority, their fertility should converge to that of the majority (Goldscheider and Uhlenberg 1969). In the long run, an increase in educational attainment and participation in labor force to the level of the majority group is likely to reduce family size (Addai and Trovato 1999).

The acquisition of a U. S. citizenship is sometimes considered an indicator of political assimilation. However, it is not as clearly related to fertility as some other indicators of assimilation. This is because the “failure to become naturalized does not necessarily signify an unwillingness to become integrated with the majority population; it
may simply mean that foreign-born individuals have not been in the United States long enough to qualify for U. S. citizenship” (Espenshade and Ye 1994:103).

The disruption hypothesis and minority group status hypothesis are the two alternative theories to assimilation. Unlike the assimilation model, disruption asserts that the number of years since immigration is positively related to fertility, reflecting the disruptive consequences of migration for reproduction. According to this approach, the process of migration interferes with fertility in the initial period following the move. This leads to a lower level of fertility of migrants due to disruptive factors. The possible disruptions include spousal separation during the early stage of migration (Goldstein 1973, 1978) and psychological stress usually associated with moving to a new place (Hervitz 1985). However, the drop in fertility is assumed to be temporary, occurring only for a short period of time after the move; after that a normal or even accelerated pace of fertility resumes to compensate for the disruption (Goldstein and Goldstein 1983; Bean et al. 1984; Kahn 1991; Stephen and Bean 1992). What is not clear in the current literature is if immigrants aim for the fertility level of the country of origin or of the new host country when they try to restore fertility, although the hypothesis seems to imply that immigrants aim for the fertility level of the country of origin. Nevertheless, temporary disruptions in childbearing may be severe enough to reduce cumulative fertility (Hervitz 1985). In this sense, disruption can be a competing model to assimilation because, although disruption, unlike assimilation, asserts a positive linkage between duration in the host society and birth rate, both approaches make the same prediction; that is, immigration decreases immigrants’ cumulative fertility. Thus, it is possible that disruption accounts for some empirical patterns of fertility that had usually been cited as
evidence of assimilation; or disruption could be another process and mask the effect of assimilation. Since this issue is beyond the scope of this research, I simply raise the question without further pursuing it.

The minority group status hypothesis proposes that belonging to a minority group per se has an independent and inverse effect on fertility, that is, minority status decreases fertility. Goldscheider and Uhlenberg (1969), the first proponents of this approach, argued that “under given social and economic changes and concomitant acculturation, the insecurities and marginality associated with minority status exerts an independent effect on fertility” (p.372). This argument has been tested since then (e.g. Jiobu and Marshall 1977; Mookherjee 1998; Ritchey 1972; Tang and Trovato 1998), and the results tend to support the above argument with few exceptions (e.g. Sly 1970). A development of this theory is that the minority group status has different effects on fertility depending upon the class location of immigrants; e.g. the minority group hypothesis does not predict a uniform relation between immigration and fertility, but instead one that is linked to class position (Ritchey 1972). Upwardly mobile immigrants are the ones subject to the fertility suppression, but this is not the case for people in lower socioeconomic positions.

The minority group status hypothesis is often applied to the study of Chinese immigrants’ fertility in the U.S. and Canada. Minority status is typically measured by socioeconomic insecurity, which is indicated by immigrants’ relatively low economic status (Tang and Trovato 1998). Economic insecurity and the feeling of powerlessness motivate Chinese immigrants to try harder, sacrificing time and energy in childbearing and childrearing for example, to overcome labor market discrimination and to achieve equality with the majority of the American population (Espenshade and Ye 1994).
Consequently, the most successful Chinese immigrants – women who have achieved the same socioeconomic status as American non-Hispanic whites – have fewer children than both other immigrants who have not acquired socioeconomic equality with whites (Espenshade and Ye 1994) and white women (Tang and Trovato 1998).

Even if lack of assimilation to the American culture is sometimes regarded as partly accounting for fertility differentials between the majority and Chinese immigrants, minority group status is viewed as having a substantially larger influence on fertility than assimilation (Mookherjee 1998). This is because, excluding social characteristics (such as duration of marriage), assimilation variables (such as ability to speak English) are sometimes found to be unrelated to the fertility of Chinese immigrants (e.g. Krishnan and Krotki 1992). Instead, minority status seems to better account for the fertility gap between Chinese immigrants and the majority (Espenshade and Ye 1994; Tang and Trovato 1998), and it is thus a better predictor of fertility difference between the majority and minority than assimilation theory (Krishnan and Krotki 1992).

Most research finds an inverse relationship between minority status and immigrants’ fertility (e.g. Espenshade and Ye 1994; Tang and Trovato 1998); that is, belonging to a minority group per se decreases immigrants’ fertility. However, the net effect of minority status is sometimes to raise the fertility of Chinese immigrants compared with that of native whites (Jiobu and Marshall 1977).

**PROBLEMS ASSOCIATED WITH CURRENT LITERATURE**

Four problems emerge from the literature on fertility in general and Chinese immigrants’ fertility in the United States in particular. The first refers to assimilation
theory and its application. The essence of assimilation theory is that if immigrants are
well integrated into the American society, their fertility is expected to converge to the
majority’s. In other words, if they came from high fertility countries, their fertility is
expected to become lower as they are assimilated into the host society, and vice versa.
However, current research typically assumes that, excluding the studies on European
immigrants, fertility in the place of origin is higher than that of the U.S. whites2, and
therefore, if immigrants’ fertility is found to be lower than the majority’s, it is usually
considered the consequence of assimilation or minority group status. Nevertheless, not all
sending areas have higher fertility than the U.S. Some Asian countries or regions (e.g.
Japan, Hong Kong and China), for example, have fertility rates no higher than the U.S.
So, if the effect of assimilation comes into play, the fertility of immigrants from these
areas, instead of decreasing, should increase to the level of host society. As of yet,
however, there are virtually no efforts to explain the persistently lower fertility level of
some immigrant groups beyond attributing it to assimilation, disruption or minority group
status. Thus, for example, the possible linkage between the lower fertility rate of some
minority groups and the carryover effect of the reproductive norms in the place of origins
remains largely unexamined (e.g. Kahn 1988, 1994).

The second problem is related to the conflicting findings of statistical analyses of
fertility. Although assimilation theory has stimulated lots of empirical research on the
relationship between assimilation and fertility, studies yield conflicting results. While
most research has found a significant linkage between fertility and assimilation, some has
concluded that assimilation does not increase our understanding of variations in fertility;

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2 This might be related to the fact that most research has examined immigrants from high-to-low fertility environments;
few have examined immigrants moving from one low fertility country to another.
this is especially so with regard to Chinese immigrants’ fertility (e.g. Krishnan and Krotki 1992; Cooney et al. 1981). One possible reason for this is that it is difficult to develop “testable hypotheses due to the looseness of assimilation theory in defining a time period for assimilation to occur” (Ford 1990:66). Also, as I will argue, assimilation is of a multi-dimensional nature, but current studies typically focus on only one or two aspects of assimilation. What this means is that different studies may pick different indicators of assimilation, with the findings differing across different studies. In addition, assimilation on one dimension does not necessarily mean the same degree of assimilation on other dimensions. As a result, research that tests only one or two aspects of assimilation and find no significant effects of assimilation cannot be used to conclude that assimilation has no impact on fertility rates. Thus, both the time period for assimilation to occur and multi-dimensionality of assimilation are aspects of the more general problem of how to define (theoretically) and operationalize (empirically) the concept of assimilation. Furthermore, lack of information on certain aspects of assimilation might also contribute to the conflicting findings. While we can operationalize some dimensions of assimilation, it is difficult to measure the whole spectrum of assimilation since some aspects are difficult to quantify. For example, immigrants may not aspire to total assimilation, although they may aspire to socioeconomic mobility (Mookherjee 1998). Also, the distinct cultural background of different immigrant groups might serve as an obstacle to full assimilation (Mookherjee 1998). These factors can impact immigrants’ reproductive behavior but are typically not included in quantitative studies due to lack of data.

The third issue is specifically related to the study on Chinese immigrants’ fertility. Little attention has been paid to the reproductive behavior of Chinese immigrants, despite
the growing number of Chinese immigrants. This is evidenced by the relatively few studies on this issue (Espenshade and Ye 1994; Hwang and Saenz 1997; Tang and Trovato 1998), and by the fact that Chinese fertility is typically discussed with other Asian ethnic groups (e.g. Jiobu and Marshall 1977; Kahn 1988, 1994; Mookherjee 1998). Since the Asian American category covers over 20 nationalities, each with its own cultural heritage (Gorden 1981) and with marked variation on socioeconomic characteristics, including reproductive behavior (Mookherjee 1998), it is less meaningful to examine the fertility gap between immigrants and the majority by treating Asian ethnicities as uniform group. Moreover, the very notion of “assimilation” suggests that immigrants change their behaviors and thoughts as a result of new influences in the place of destination, and that there is some sort of counter-pressure from the culture they left behind. Thus, if we speculate that assimilation will change immigrants’ fertility, we simultaneously assume that there will be interactions and/or conflicts between the reproductive norms at the place of origin and destination, and that eventually assimilation pressures will overcome the reproductive norms of the place of origin. Individuals generally internalize family ideals through the process of socialization. The social structure in which they spend their reproductive years is typically, although not necessarily, compatible with, and reinforce, these ideals. Assimilation into another social structure (e.g. through immigration) presents the individual with a social organization that, in so far as it is inconsistent with the original socialization, becomes a source of resocialization. This is because the new social structure might be of a deviance from the individual’s internalized norms (culture). Because China has had the restrictive family planning policies since 1979, an independent study of Chinese immigrants’ fertility may
help to assess how reproductive norms in the place of origin impact the pace and extent of assimilation of immigrants in the host society.

A final issue is related to the fact that Chinese immigrants in the U.S. (also in Canada) have not exactly duplicated the reproductive behavior of American whites, but have a lower fertility rate than them. The lower birth rate among Chinese Americans is attributed to such factors as their higher educational attainment, greater urbanization, and greater percentage of female labor force participation, meaning that Chinese immigrants are well integrated into the structure of U.S. society (Johnson and Nishida 1980). The problems is, according to the assimilation approach, once immigrants are assimilated into the host society, they presumably assume host cultural norms and values, including reproductive norm. The question remains: if Chinese are highly assimilated into the majority society, why is there a persistent fertility differential between Chinese immigrants and the majority? Due to the consistent fertility deviation between Chinese immigrants and American white women, one cannot avoid these questions: are Chinese immigrants really assimilated into the American society? If so, into which culture have they integrated – the Chinese subculture in the U.S. or the majority culture – with regard to fertility? How much variation in fertility of Chinese immigrants can assimilation theory explain?

**RESEARCH DESIGN AND STRATEGY**

The goals of this analysis are to achieve a better understanding of the effect of assimilation on the fertility of Chinese immigrants and to examine if Chinese immigrants
are more assimilated to the majority or to U.S. born Chinese. Because of these foci, there is a discussion of within group (within Chinese immigrants) as well as between group differences (among American whites, Chinese immigrants born in Mainland China,\(^3\) and U.S. born Chinese). In the first part of the analysis, I assess the explanatory power of ethnicity-birthplace on fertility variations among the three groups using Poisson regression. I use Poisson regression where fertility is my dependent variable because children-ever-born, my measure of fertility, has a truncated and skewed distribution. This approach allows for the estimation of fertility variations resulting from ethnicity-birthplace after controlling for the effect of other variables. However, it does not explain the effect of assimilation on immigrants’ fertility.

The second and third parts of my analysis are concerned with the links between assimilation and fertility. In the second part of my analysis, I examine socioeconomic status (SES) differences among the three groups to determine the degree of structural or socioeconomic assimilation among immigrants. Here I use ordinary least regression. I also can infer the impact of structural assimilation on the fertility of immigrants by logically considering the findings and those on the relationship between SES and fertility found in part 1 of the analysis.

In the third part of my analysis, I examine the effect of each individual assimilation variable on immigrants’ fertility in order to gain a better understanding of the links between assimilation and fertility. Due to the truncated and skewed nature of the data, Poisson regression is again performed to determine whether additional assimilation variables add explanatory power to variance in fertility. Unlike other researchers, who

\(^3\) Chinese immigrants born in Taiwan and Hong Kong are excluded from this research for reasons of simplicity.
usually test the different assimilation dimensions in relative isolation from one another, I integrate the effects of the three major dimensions of assimilation – acculturation, socioeconomic and political assimilation – on fertility. I am able to produce estimates of the net, individual contributions of acculturation, structural and political assimilation, when the other sources of influence are also taken into account. Incorporating multiple dimensions into the same statistical analysis is one of my aims. This allows me to avoid the errors of either contributing too much explanatory power to these variables, resulting from sum of individual factors, or downplaying their effect due to the exclusion of some factors. This integrative feature will be a contribution of this research and is used to test the following six hypotheses. While some of my hypotheses do address the question of which culture (minority or majority) immigrants are more assimilated into, other hypotheses, following the convention of how current researches measure assimilation, address only assimilation into the majority culture.

_Hypothesis 1._

1a. Chinese immigrants, U.S. born Chinese, and American white women are expected to differ from each other in fertility because of the difference in ethnicity and/or birthplace.

1b. Chinese immigrants and U.S. born Chinese are expected to be closer in fertility to each other than to American whites due to their shared ethnicity.

1c. U.S. born Chinese, compared with Chinese immigrants, are expected to have a more similar fertility rate to that of American whites due to the shared birthplace.

Chinese immigrants’ fertility is affected by their structural assimilation, i.e., by their degree of integration into the socioeconomic structure of the host society. I expect
immigrants to be less integrated socio-economically than U.S. born Chinese. Because SES is inversely related to fertility, I expect that this lack of assimilation is an upward pressure on the fertility of immigrants in comparison with American whites and Chinese. Thus, the following hypothesis:

**Hypothesis 2.** The socioeconomic status of Chinese immigrants is lower on average than that of comparable American whites or U.S. born Chinese.

Chinese immigrants’ fertility is impacted by the extent of assimilation, which is in turn affected by different length of stay in the U. S. and age of immigration, among other factors. Duration is positively related to assimilation. A longer duration is associated with a better ability to speak English, better educational and occupational opportunities, and greater possibility of becoming a U. S. citizen, which may, in turn, facilitate assimilation. In contrast, age of immigration is inversely linked to assimilation. Immigration at a younger age facilitates, while immigration at an older age constrains, assimilation. Therefore, adult immigrants presumably have more difficulties adjusting to American culture than child immigrants. This is because immigrants who come to the U.S. as adults have stronger links to the culture in the places of origin, particularly because of longer exposure to it. Two hypotheses follow from these considerations.

**Hypothesis 3.** A longer duration of residence in the U.S. is expected to bring immigrants’ fertility closer to that of the group to which they are more assimilated.

**Hypothesis 4.** Adult immigration is expected to prevent immigrants’ fertility from converging to that of the group to which they are more assimilated.

Assimilation is a multi-dimensional phenomenon, suggesting that a minority group may be assimilated along one dimension but not along another. Cultural
assimilation is reflected by English proficiency and interracial marriage; structural assimilation is typically measured by education, labor force participation, occupation and income and political assimilation by citizenship. All these factors are linked to assimilation, which in turn affects fertility.

Hypothesis 5. Immigrants who speak English well and only speak English at home are expected to have a fertility rate closer to that of American whites in comparison with immigrants who can neither speak English well nor speak it at home.

Hypothesis 6. Structural characteristics are positively associated with assimilation. Immigrants who are more integrated into the American society are expected to have a similar fertility to American whites.

Hypothesis 7. Naturalization is not only an indicator of political assimilation, but it also implies a longer duration in the U.S. Thus, the fertility of naturalized Chinese Americans is expected to be similar to both U.S. born Chinese and American whites because they are American citizens.

DATA AND METHODS

SAMPLE

I test these hypotheses with data from the 1990 U.S. Census of Population (1993) 5% and 1-in-10,000 Public Use Microdata Samples (PUMS). One advantage of PUMS is that it provides sufficient cases for the analysis of fertility of immigrant and minority populations. I identified Chinese immigrant women from China and U.S. born Chinese women from the 5% PUMS, and American white women from 1-in-10,000 PUMS – ranging from 15 to 49 years old. The rationale for the age selection is to insure that
Chinese immigrants spent at least part of their reproductive year in the U.S., and thus, their fertility can be tested in the context of the extent of assimilation.

Although the fertility of Chinese immigrant women is my primary interest, a proper evaluation of the assimilation hypothesis requires the identification of a reference group. Therefore, I use two different reference groups in this research. In testing the net effect of ethnicity-birthplace on fertility and the socioeconomic status of the three groups, I use U.S. born American non-Hispanic white women as the reference group. I limit the comparison group to U.S. born non-Hispanic white women rather than the entire population of American women because this group consists of not only majority women, but it also on average best reflects the socioeconomic characteristics of the majority. I also compare immigrants’ fertility with U.S. born Chinese. This group might be a more appropriate reference than the American whites in testing the effect of assimilation on fertility because it is a minority group which also faces problems of assimilation. Referring to the U.S. born Chinese will provide a better understanding of the impact of assimilation on immigrants’ fertility. More importantly, comparing immigrants with U.S. born Chinese in fertility allows me to test the possibility that if immigrants are more likely to be assimilated to the Chinese subculture in the U.S. than to the majority culture.

Using these selection criteria, I obtain a total sample of 16,017 women. These include 4,933 American white women, 4,603 U.S. born Chinese, and 6,481 Chinese immigrants.

**VARIABLES**

Dependent variables
The dependent variable of primary interest is fertility, which is operationalized by number of children ever born to each woman 15 years old and older. Included in this count are children born out of wedlock, children born abroad, and those who are no longer alive.

In the ideas being explored, socioeconomic status is used as the indicator of structural assimilation and is viewed as one the mechanisms producing differences in fertility among Chinese immigrants, American whites, and U.S. born Chinese. Hypothesis 2 relates to differences among these three groups in socioeconomic status and thus SES is the dependent variable in that hypothesis. In other equations, SES is used as a control variable.

SES is an index of socioeconomic status of immigrant women and is computed from educational attainment, women’s total personal income and occupational prestige\(^4\) using factor analysis\(^5\). In the 1990 census, educational attainment is a numerical variable, ranging from 0 (no school) to 17 (graduate school). Occupational prestige is measured as professional, technical and kindred occupations (85)\(^6\), managers, officials and proprietors (79), sales (66), clerical (56), production and craft (49), operatives (33), services (25), and farming, fishery and forestry (20). I assign “0” to the missing cases, which is equal to the category of not applicable in the census data, and mean prestige score to the three cases of military category. Women's total personal income is a numerical variable, ranging from –$9,999 to $226,538.

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\(^4\) Occupational prestige score used in this research comes from Miller (1991).

\(^5\) The loadings between SES and the three indicators are .788 (education), .835 (occupational prestige) and .763 (income). Since these loadings are very close to each other, they are weighted only slightly differently.

\(^6\) The numbers following each occupational category refer to occupational prestige score (Miller 1991)
Independent Variables

I construct variables that capture the relevant dimensions of each hypothesis. A list of those used in the analysis, along with their definitions, is included in Table 1. Since I have three tests – test of the net effect of ethnicity-birthplace on fertility, test of socioeconomic differentials of the three groups and test of the effect of assimilation on fertility – I use different key predictors and control variables for each test.

First, to test the net effect of race and birthplace on fertility and the SES of the three groups, three dummy variables are employed to compare the fertility level of Chinese immigrants, U.S. born Chinese and American white women. These include American whites born in U. S (= 1); Chinese immigrants (= 1); and Chinese Americans born in the U.S (=1).

Second, I introduce six variables to test the effect of assimilation on fertility. The first is duration of residence in the U.S. The numerical variable is a simple measure of exposure to American society, representing the length of stay in the U.S. It simultaneously measures the number of reproductive years immigrants have spent in the U. S.

I construct duration from the Years of Entry to the U.S., which is available only in groups of multiple years. I first assign to individual women a mid-point value corresponding to the year of entry category, then calculate duration by subtracting the midpoint from 1990 (the census year). For Chinese immigrants aged 15 to 49 years old in 1990, the difference is equal to the number of years of residence in the U.S. and reproductive years they have spent in the U.S. Duration might be a better measure of the
relationship between fertility and assimilation although studies of immigrant assimilation conventionally rely on the year of entry in this regard (e.g., Chiswick 1978; Hirschman 1994); women immigrating to the U.S. in the same year may spend a different number of reproductive years in the U. S. depending on their age at the time of immigration (Hwang and Saenz 1997).

Adult immigration is a dichotomous variable, created by first subtracting the computed variable, duration, from immigrants’ age in 1990, and then assigning immigrants who came to the U. S. at 18 years old or older as 1, and immigrants who were under 18 years old when they came to the U. S. as 0.
### Table 1: Variable Descriptions and Methods of Construction

<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
</tr>
<tr>
<td>Fertility</td>
<td>Number of children ever born</td>
</tr>
<tr>
<td>SES *</td>
<td>Ranging from -2.27538 to 6.03268</td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
</tr>
<tr>
<td><strong>(Demographic Compositions)</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>17.5; 22.5; 27.5; 32.5; 37.5; 42.5; 47.5</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1 = ever married; 0 = never married.</td>
</tr>
<tr>
<td>Spousal Presence</td>
<td>Married spouse present/spouse absent. 1 = present; 0 = otherwise</td>
</tr>
<tr>
<td><strong>Key Predictors</strong></td>
<td></td>
</tr>
<tr>
<td>Whites</td>
<td>Americans whites born in the US = 1; 0 = otherwise</td>
</tr>
<tr>
<td>U.S. born Chinese</td>
<td>Chinese Americans born in the U. S. = 1; 0 = otherwise</td>
</tr>
<tr>
<td>Chinese Immigrants</td>
<td>Chinese immigrants born in China = 1; 0 = otherwise</td>
</tr>
<tr>
<td>Assimilation</td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>Years of residence in the U. S.</td>
</tr>
<tr>
<td>Adult Immigration</td>
<td>1 = Immigration as adults; 0 = otherwise</td>
</tr>
<tr>
<td><strong>Cultural Assimilation</strong></td>
<td></td>
</tr>
<tr>
<td>English ability/language</td>
<td>1 = Do not speak English well and speaking Chinese at home</td>
</tr>
<tr>
<td>spoken at home</td>
<td>2 = Speak English well but speaking Chinese at home</td>
</tr>
<tr>
<td></td>
<td>3 = Speak English well and speaking English at home</td>
</tr>
<tr>
<td><strong>Structural Assimilation</strong></td>
<td></td>
</tr>
<tr>
<td>Employment Status, 1989 **</td>
<td>1 = in labor market in 1989; 0 = otherwise</td>
</tr>
<tr>
<td><strong>Political Assimilation</strong></td>
<td></td>
</tr>
<tr>
<td>Citizenship</td>
<td>1 = U.S citizen; 0 = otherwise</td>
</tr>
</tbody>
</table>

* Used as a dependent variable only for testing hypothesis 2. Used as a control variable for other hypotheses.
** Used as a control variable in testing hypotheses 1 and 2.
English ability/language spoken at home, a computed variable from the ability to speak English and the language spoken at home, is used to measure the extent of cultural assimilation and its impact on fertility. I first recode the ability to speak English, a self-reported categorical variable, as a dichotomous one – 1 for English well and 0 for English not well – from the original categorical measures\(^7\). I also recode language spoken at home into a dummy variable where 1 for speaking Chinese at home and 0 for speaking only English at home. Then, I compute English ability/language spoken at home by combining these two variables: 1 for English not well and speaking Chinese at home; 2 for English well but speaking Chinese at home, and 3 for English well and speaking English at home.

Although studies of the effect of assimilation on fertility conventionally rely on bilingual ability (e.g. Krishnan and Krotki 1992; Slesinger and Okada 1984) and/or language spoken at home (e.g. Espenshade and Ye 1994), I prefer my own measure. If immigrants can speak English well and use it as the home language, they are presumably more assimilated to American society than the ones who can speak English well but speak Chinese at home. Similarly, if immigrants cannot speak English well and they speak Chinese at home, they are apparently not well assimilated to the American society.

Therefore, this variable can simultaneously measure immigrants’ bilingual ability and their ties to both the host society and the place of origin. This variable can also be used as an imperfect measure of immigrants’ assimilation into the Chinese subculture in the U.S. If U.S. born Chinese – their English is presumably good – and Chinese immigrants speak Chinese at home, it suggests that neither of the two Chinese groups are fully integrated.

\(^7\) The original variable is measured as 1 = Speak English very well; 2 = Speak English well; 3 = Speak English not well; 4 = Speak English not at all.
into the American majority in this regard, and that immigrants are possibly more
assimilated into the Chinese American subculture.⁸

Women’s employment status in 1989⁹ is used as the only measure of the effect of
structural assimilation on fertility. It is constructed as a dummy variable, coding in labor
market in 1989 as 1, and 0 for not in labor market.

Citizenship is used to measure the dimension of political assimilation, and is
operationally defined as a dummy variable that distinguishes Chinese immigrants who
have become U.S. citizens (=1) from those who have not (= 0).

Control variables

Since I expect to know if, holding all the other factors constant, the fertility rate of
American whites, U.S. born Chinese and Chinese immigrants differ from each other due
to different ethnicity-birthplace, and due to the effect of assimilation, I control for
demographic variables that impact reproductive behavior, including age, marital status,
and presence/absence of husband.

Age is first recoded as seven groups (15-19, 20-24, 25-29, 30-34, 35-39, 40-44,
and 45-49). Then a corresponding middle point is assigned to each group to get the
measure used in the research: 17.5, 22.5, 27.5, 32.5, 37.5, 42.5, and 47.5. Marital status is
operationalized as 1 for ever married and 0 for never married. Presence of husbands is
measured as 1 for present and 0, otherwise. These three variables account for the chances

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⁸ What needs to be clarified is that just because Chinese immigrants speak Chinese at home does not in itself mean that
they have a Chinese American social network. That is, whether or not Chinese immigrants are assimilated into a
Chinese subculture, they are likely to speak Chinese simply because that is the language they know best.

⁹ Assimilation has two sides: immigrants have the intention to assimilate to, and they are accepted by, the host society.
Women’s labor force participation is used to measure this issue. Here, I do not consider the situation where immigrant
women work in Chinese businesses serving primarily Chinese clients because I suspect that the majority of documented
Chinese immigrant women work in American businesses.
of exposure to the risk of childbearing. Everything else constant, older women might have more children because they have spent more reproductive years. Similarly, other things being equal, ever-married women are expected to have a higher fertility than never-married women; the presence of husbands increases the chance of intercourse for women, which exposes them to a greater risk of childbearing.

In addition to demographic variables, I also control SES and employment in 1989 when testing the net effect of ethnicity-birthplace on fertility, employment in 1989 in testing the SES of the three groups, and SES when testing the net effect of assimilation variables on fertility. They are operationalized the same way as when I use them as either dependent variable or key predictor of assimilation.

**Weights**

Since I have obtained samples of American whites from one-in-10,000 PUMS while acquired samples of U.S. born Chinese and Chinese immigrants from 5% of PUMS, I would have to weigh the two Chinese groups and American whites differently. However, I do not. This is because both weighted and unweighted data yield similar results when a variable for the three groups is included in the regression equations. Therefore, I do not weight cases in the regression analyses.

**Alpha Level**

Following convention, I select .05 as the significant level in testing my hypothesis. Because my sample size is very large, I risk some of the statistically significant findings reflecting very weak influences on fertility. I attempt to
independently consider the theoretical significance of statistically significant findings and note where these findings seemed to reflect trivial differences.

RESULTS

The descriptive statistics table (Table 2) summarizes the characteristics of the three groups – whites, U.S. born Chinese and immigrants – along with the variables used in this research. The mean number of children ever born to an immigrant woman is 1.31, which is more than half a child higher than that for U.S. born Chinese (.61), but slightly lower than American whites (1.36). Although immigrants have the oldest age structure, the highest percentages of ever-married women, and spousal presence, they have the lowest socioeconomic achievements compared with U.S. born Chinese and whites. The socioeconomic index for immigrants for example, is -.18, which is lower than those for both U.S. born Chinese (.30) and whites (-.049). This suggests that, unlike many early studies which found that Chinese immigrants have achieved similar or even higher socioeconomic status than the majority, Chinese immigrants as a whole have not reached socioeconomic parity with American whites and U.S. born Chinese. In contrast, U.S. born Chinese exceed immigrants and whites in socioeconomic status although they have the youngest age structure, and are on average 3.33 and 6.26 years younger than whites and Chinese immigrants respectively.
Table 2. Descriptive Statistics and Frequency Distribution*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Whites (N=4,933)</th>
<th>U.S. born Chinese (N=4,603)</th>
<th>Chinese Immigrants (N=6,481)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>39.1</td>
<td>69.1</td>
<td>37.2</td>
</tr>
<tr>
<td>1</td>
<td>16.6</td>
<td>10.9</td>
<td>19.2</td>
</tr>
<tr>
<td>2</td>
<td>24.5</td>
<td>13.3</td>
<td>26.6</td>
</tr>
<tr>
<td>3+</td>
<td>19.8</td>
<td>6.7</td>
<td>17.0</td>
</tr>
<tr>
<td>SES</td>
<td>(-.049) (.85)</td>
<td>(.30) (1.04)</td>
<td>(-.18) (1.03)</td>
</tr>
<tr>
<td>Demographic Compositions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>(31.78) (9.62)</td>
<td>(28.45) (9.4)</td>
<td>(34.71) (9.14)</td>
</tr>
<tr>
<td>Marital Status</td>
<td>(.70) (.46)</td>
<td>(.43)(.49)</td>
<td>(.78) (.41)</td>
</tr>
<tr>
<td>Yes</td>
<td>70.2</td>
<td>42.6</td>
<td>78.4</td>
</tr>
<tr>
<td>No</td>
<td>29.8</td>
<td>57.4</td>
<td>21.6</td>
</tr>
<tr>
<td>Spousal Presence</td>
<td>(.56) (.50)</td>
<td>(.36)(.48)</td>
<td>(.65) (.48)</td>
</tr>
<tr>
<td>Yes</td>
<td>56.2</td>
<td>36</td>
<td>65.5</td>
</tr>
<tr>
<td>No</td>
<td>43.8</td>
<td>64</td>
<td>34.5</td>
</tr>
<tr>
<td>Assimilation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td></td>
<td></td>
<td>(9.53) (8.53)</td>
</tr>
<tr>
<td>Adult Immigration</td>
<td>(.7979) (.4016)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Assimilation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Ability/Language</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spoken at Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>56.6</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40.6</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.8</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Structural Assimilation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Status, 1989</td>
<td>(.773) (.42)</td>
<td>(.78) (.41)</td>
<td>(.70) (.46)</td>
</tr>
<tr>
<td>Yes</td>
<td>77.3</td>
<td>78.3</td>
<td>69.7</td>
</tr>
<tr>
<td>No</td>
<td>22.7</td>
<td>21.7</td>
<td>30.3</td>
</tr>
<tr>
<td>Political Assimilation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citizenship</td>
<td></td>
<td></td>
<td>(43) (.50)</td>
</tr>
<tr>
<td>Yes</td>
<td>43.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>57.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Numbers in parenthesis are the means and standard deviation respectively. Other column numbers correspond to percentage distribution. Some totals may not add to 100 percent because of rounding.
With regards to other assimilation variables, Table 2 shows that 80 percent of Chinese immigrants came to the U.S. as adults. Immigrant women have resided in the U.S. on average for less than 10 years. Approximately 38 percent of immigrants cannot speak English well or not at all and they speak Chinese at home; similarly, 59 percent of immigrants speak Chinese at home although their English is good; only 3 percent of immigrants who can speak English well use it as household language. Less than half of the immigrants have been naturalized (43 percent). Among U.S. born Chinese, 56.6 percent can speak English and use it as home language; 40.6 percent speak Chinese at home although they can speak English well, and the rest 2.8 percent cannot speak English well and thus speak Chinese at home.

However, the above comparison refers to the gross fertility differences as well as gross differences in the other variables examined here. Will these groups also differ from each other in fertility when the effects of other variables are taken into account? Will assimilation variables affect immigrants’ fertility? I perform Poisson regression and Ordinary Least Square regression to answer these questions.

Before I turn to the results, it is useful to review the interpretation of Poisson regression coefficients, $\beta_i$. For a continuous variable, the exponent of the coefficient, $\exp[\beta_i]$, is related to the proportionate change in the average number of children ever born when the value of the predictor variable increases by one unit, other things being equal. For example, in Model 2 of Table 3, the coefficient for the effect of age on fertility is .048. The exponent of .048 is approximately 1.049. Thus, for each additional year of increase in age, fertility goes up by approximately 5 percent, other things being equal. Similarly, the $[\beta_i]$ for a dichotomous variable also represents the proportionate change in
the mean number of children ever born when the value of a variable moves from 0 to 1, other things being equal. In Model 1 of Table 3, for instance, the $\beta$ for Chinese immigrants is -.041 and its exponent is approximately .96, indicating that a Chinese immigrant is expected to have 4 percent fewer children than her white counterpart.

For testing hypothesis 1, I use models 1 and 2. The Poisson regression coefficients are shown in Table 3 with the number of cases, Pseudo-$R^2$, Chi-square statistics, degrees of freedom, and log likelihood. $R^2$, calculated by dividing the observed fertility rate by the predicted fertility rate, is also presented here.

Model 1 tests the effect of ethnicity-birthplace on fertility differentials among the three groups without controlling for sociodemographic and socioeconomic factors. The $\beta$ coefficients indicate that both Chinese immigrants and U.S. born Chinese have a statistically significantly lower fertility rate than the whites (p= .05 for Chinese immigrants and .001 for U.S. born Chinese). This suggests that ethnicity-birthplace, without taking into account the effects of correlated variables, are significant predictors of birth rate, and can explain approximately 6 percent of the fertility variation among the three groups ($R^2 = .063$).

I introduce Model 2 to determine if the relationship between fertility and ethnicity-birthplace remains after holding constant demographic and socioeconomic variables, and also to test hypotheses 1a through 1c. I add demographic variables (age, marital status, and spousal presence) and socioeconomic variables (SES and women’s employment status in 1989) to the first equation. The result reflects the net effect of ethnicity-birthplace on fertility – it indicates fertility deviation of Chinese immigrants and the U.S. born Chinese from the mean fertility of non-Hispanic whites, after all controls...
have been included. Findings show that the fertility gap between the two Chinese groups and whites does not disappear; immigrants and U.S. born Chinese maintain a significantly lower fertility rate than whites (p = .001). Both conventional determinants of fertility and ethnicity-birthplace can account for more than half of the fertility variations of women of the three groups, as R² indicates (.53).

Since the two models treat whites as the reference group, they do not provide information on whether Chinese immigrants and U.S. born Chinese are significantly different from each other in fertility rate. In order to obtain this information, I ran a corresponding model, using U.S. born Chinese as the comparison group. The findings, not shown in the table, demonstrate that Chinese immigrants have a significantly different fertility rate from U.S. born Chinese, either higher or lower, depending on the presence or absence of control variables.

Thus, the Poisson regression coefficients indicate that, as expected, the fertility of the three groups is significantly different from each other. This suggests that variation in fertility among the three groups cannot be entirely explained by compositional differences among the three groups. Rather, ethnicity-birthplace jointly have a net effect on fertility, supporting hypothesis 1a. That is, the fertility rates of Chinese immigrants, U.S. born Chinese and American white women are significantly different from each other.

However, whether hypotheses 1b – immigrants and U.S. born Chinese are expected to have a similar fertility to each other compared to whites – and 1c – U.S. born Chinese, not immigrants, are expected to have a similar fertility to whites – are supported depends on the presence or absence of control variables. Model 1 in which nothing is
held constant does not support these two hypotheses. Neither the shared ethnicity nor the same birthplace converges the fertility of immigrants and U.S. born Chinese, or the fertility of U.S. born Chinese and whites. Rather, the $\beta$ coefficient of Chinese immigrants is more similar to whites’ compared with U.S. born Chinese. As Table 3 illustrates, the fertility of Chinese immigrants is approximately 96 percent of the whites’ while the fertility of U.S. born Chinese is only 44 percent of the whites’. However, when sociodemographic and socioeconomic compositions are put into the same equation as ethnic groups, the results show a substantial reduction in the magnitude of fertility deviation between U.S. born Chinese and the other two groups, but an increase between whites and immigrants. Concomitantly, the fertility rates of immigrants and U.S. born Chinese become more similar to each other than to whites, corroborating hypothesis 1b. Meanwhile, U.S. born Chinese exceed immigrants in fertility, and their fertility becomes closer to whites, substantiating hypothesis 1c. Hence, while the highest fertility level is consistently observed with the whites, the lowest fertility level shifts from U.S. born Chinese to immigrants when all control variables are included in the same equation. Therefore, sociodemographic and socioeconomic compositions explain a substantial amount of fertility variations among the three groups, although they cannot explain away all fertility deviations.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Exponent</th>
<th>Model 2</th>
<th>Exponent</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Born Chinese</td>
<td>-.81***</td>
<td>0.445</td>
<td>-.22***</td>
<td>0.80</td>
</tr>
<tr>
<td>Chinese Immigrants</td>
<td>-.041*</td>
<td>0.96</td>
<td>-.28***</td>
<td>0.76</td>
</tr>
<tr>
<td>Demographic Compositions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>.048***</td>
<td>1.049</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td>2.49***</td>
<td>12.06</td>
<td></td>
</tr>
<tr>
<td>Spousal Presence</td>
<td></td>
<td>.198***</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>Socioeconomic Compositions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td>-.22***</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td>.006</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.04***</td>
<td>1.49</td>
<td>-3.80***</td>
<td>0.02</td>
</tr>
<tr>
<td>R²</td>
<td>.063</td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.036</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-square Statistics</td>
<td>1,738.98***</td>
<td>15,038.83***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-23,514.972</td>
<td>-16,865.044</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p <0.05; *** p<0.001
Thus, although I do not find a fertility convergence among Chinese immigrants, whites, and U.S. born Chinese, the relationship between fertility and ethnicity-birthplace portrayed in Table 3 shows that the Chinese immigrants and U.S. born Chinese are more similar to each other in fertility rate than to whites. The net fertility gap among the three groups is presented in Table 4. As Table 4 illustrates, the fertility differences between U.S. born Chinese and Chinese immigrants is only 4 percent, which is smaller than the difference between U.S. born Chinese and whites (20 percent), and much smaller than the difference between Chinese immigrants and whites (24 percent). The smaller fertility difference between immigrants and U.S. born Chinese suggests that, with conventional determinants of fertility controlled, Chinese immigrants are more assimilated to U.S. born Chinese, i.e. the Chinese subculture in the U.S., than to the mainstream of the majority whites. This outcome also implies that ethnicity, compared with birthplace, is a more important fertility determinant.

Table 4. Fertility Differences among Chinese Immigrants, U.S. Born Chinese and American Non-Hispanic White Women (from Model 2)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Chinese Immigrants</th>
<th>U.S. Born Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese immigrants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. born Chinese</td>
<td>4%*</td>
<td></td>
</tr>
<tr>
<td>Whites</td>
<td>24%*</td>
<td>20%*</td>
</tr>
</tbody>
</table>

* Fertility is higher than the reference group
To test hypothesis 2 – Chinese immigrants have not structurally integrated into the American society and their socioeconomic status is lower on average than that of American whites and U.S. born Chinese – I perform an OLS regression equation. The result is presented in Table 5 with number of cases and $R^2$.

Table 5. Parameter Estimates for OLS Model of the SES of Chinese Immigrants, U.S. Born Chinese, and American Non-Hispanic White Women 1990 (N=16,017)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Born Chinese</td>
<td>.434 ***</td>
</tr>
<tr>
<td>Chinese Immigrants</td>
<td>-.121 ***</td>
</tr>
<tr>
<td><strong>Demographic Compositions</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.0245 ***</td>
</tr>
<tr>
<td>Marital Status</td>
<td>.0256</td>
</tr>
<tr>
<td>Spousal Presence</td>
<td>.0195</td>
</tr>
<tr>
<td><strong>Socioeconomic Compositions</strong></td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td>1.118 ***</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.732 ***</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.38</td>
</tr>
</tbody>
</table>

* p <0.05; *** p<0.001
As models 3 demonstrates, Chinese immigrants and U.S. born Chinese are significantly different from American whites in SES ($p = .001$). Immigrants have achieved the lowest socioeconomic status and the U.S. born Chinese the highest, other things being equal. Being an immigrant, SES goes down by .121, while being a U.S. born Chinese, SES goes up by .434. This finding corroborates hypothesis 2 and supports current research on immigrants’ SES. The notion of structural assimilation, having been developed from studies of immigrants from countries with higher fertility than the receiving country, for the most part assumes that immigrants have lower SES than the average host population; that is, they are not structurally assimilated. This lower SES is in turn an upward pressure on their fertility compared to the receiving population, holding constant other factors. Data shows (result not shown here) that SES operates on fertility the same for all three of the groups – all three display the same negative relationship between SES and fertility. However, it reduces immigrants’ fertility the least, indicating that the lower SES is an upward pressure on the fertility of Chinese immigrants. It is just not strong enough to offset other downward pressures from such factors as disruption of migration, minority group status effects, and self-selection, factors that may affect immigrants’ fertility but are not pursued in this research.

In order to see if the above findings for immigrants are consistent with the assimilation hypothesis and to ascertain how assimilation variables affect immigrants’ reproductive behavior, I introduce two other equations, Model 4 and Model 5. The only difference between Model 4 and Model 5 is that Model 4 uses duration as a measure of assimilation while Model 5 substitutes adult immigration. Replacing duration with adult immigration is to avoid the problem generated by colinearity between duration and age.
The regression coefficients are presented in Table 6 with the number of cases, Pseudo $R^2$, Chi-square statistics, degrees of freedom, and log likelihood and $R^2$.

As expected, $\beta$ coefficient for duration is significantly and positively related to fertility, confirming the existence of a positive association between duration and fertility. For each additional year of stay in the U.S., immigrants’ fertility goes up by 1.3 percent. This finding, together with the finding from Model 2 – the fertility rate of Chinese immigrants is lower than that of U.S. born Chinese and American white women, and Chinese immigrants are more integrated into the U.S. born Chinese in fertility – suggests that a longer duration of residence in the U.S. brings immigrants’ fertility closer to that of U.S. born Chinese, supporting hypothesis 3. This result is consistent with the assimilation theory; that is, if immigrants come from low fertility countries – Chinese immigrants in this case – their fertility goes up with the increase of year of stay in the U.S.

As expected, while adult immigration in Model 5 is also significantly associated with fertility ($p = .001$), its effect is negative; that is, the net effect of adult immigration is to reduce immigrants’ fertility. Immigrants who arrived in the U.S. as adults have 18 percent fewer children than those who arrived as children, implying that the fertility of adult immigrants is even more different from U.S. born Chinese and whites. This result supports hypothesis 4, which is that adult immigration, in comparison with child immigration, constrains the pace of assimilation and hinders a convergence of their fertility to that of the group into which they are integrated.

Both models 4 and 5 indicate that the measure of culture assimilation, English ability/language spoken at home, is inversely and significantly ($p = .001$) correlated to immigrants’ fertility. The $\beta$ coefficients for this variable in the two models are negative,
meaning that as immigrants become more assimilated to the American culture, their fertility goes down. This finding seems not to support hypothesis 5, which states that immigrants who speak English well and speak it at home are expected to have a fertility rate closer to that of American whites. However, since, as I have demonstrated above, immigrants are not primarily integrated into the majority culture, but instead the Chinese American subculture, this result does not necessarily contradict my expectation. This is so because approximately half of the U.S. born Chinese speak Chinese at home although they can speak English well, suggesting that neither of the two Chinese groups are well integrated into the mainstream of American society with regards to this measure of cultural assimilation. Also, the result implies that poor integration into the American majority with regards to language – can speak English well but speak Chinese at home; cannot speak English well and speak Chinese at home – increases immigrants’ fertility.
Table 6. Parameter Estimates for Poisson Regression Models of Chinese Immigrants’ Fertility 1990 (N=6,481)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 4</th>
<th>Exponent</th>
<th>Model 5</th>
<th>Exponent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic Compositions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.046***</td>
<td>1.047</td>
<td>.052***</td>
<td>1.05</td>
</tr>
<tr>
<td>Marital Status</td>
<td>2.69***</td>
<td>14.73</td>
<td>2.72***</td>
<td>15.18</td>
</tr>
<tr>
<td>Spouse Presence</td>
<td>.21***</td>
<td>1.23</td>
<td>.219***</td>
<td>1.24</td>
</tr>
<tr>
<td><strong>Socioeconomic Index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td>-.18***</td>
<td>0.84</td>
<td>-.18***</td>
<td>0.84</td>
</tr>
<tr>
<td><strong>Assimilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>.014***</td>
<td>1.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Immigration</td>
<td></td>
<td></td>
<td>-.19***</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>Cultural Assimilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Ability /Language Spoken at Home</td>
<td>-.17***</td>
<td>0.84</td>
<td>-.15***</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Structural Assimilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td>.054*</td>
<td>1.06</td>
<td>.05</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>Political Assimilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citizenship</td>
<td>.096***</td>
<td>1.10</td>
<td>.20***</td>
<td>1.22</td>
</tr>
<tr>
<td>Intercept</td>
<td>-4.18***</td>
<td>0.02</td>
<td>-4.21***</td>
<td>0.02</td>
</tr>
<tr>
<td>R²</td>
<td>.5129</td>
<td></td>
<td>.5047</td>
<td></td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.2538</td>
<td></td>
<td>0.2521</td>
<td></td>
</tr>
<tr>
<td>Chi-square Statistics</td>
<td>5,117.26***</td>
<td></td>
<td>5,081.19***</td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>8</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-7,520.76</td>
<td></td>
<td>-7,538.79</td>
<td></td>
</tr>
</tbody>
</table>

* p <0.05; *** p<0.001
In terms of women’s employment status in 1989, Model 4 and Model 5 show different results. In Model 4, when employment is in the same equation as duration, it significantly increases women’s fertility ($p = .05$). However, when duration is replaced by adult immigration, the significant association between employment status and fertility disappears although it is still positively associated with fertility. Both of the two models indicate that women who were in the labor market in 1989 have approximately 5 percent more children than women who were not, bringing their fertility closer to the U.S. born Chinese and whites, supporting hypothesis 6. The positive linkage between employment and fertility is quite astonishing in the sense that it is contradictory to the result of current research. What it suggests might be a longer duration of immigrants in the U.S., more assimilation and factors not examined here. A longer duration is associated with an increase of reproductive years that immigrants have spent in the U.S. and, therefore, it concomitantly enhances their chance of childbearing. However, the somewhat surprising, upward effect of work on fertility cannot be simply reduced to duration. Rather, it is possibly linked to the extent of assimilation. E.g., women who work are more likely to have contact with members of the host society, which facilitates assimilation and thus increases immigrants’ fertility. If so, this could also be an example of how the different assimilation aspects push fertility in different directions: work usually decreases fertility, but not necessarily in the immigration context.

Models 4 and 5 also show that becoming a U.S. citizen significantly increases immigrants’ birth rate ($p = .001$). A naturalized immigrant has 22 percent more children than an immigrant who is not naturalized. This corroborates hypothesis 7; that is, being

\[10\] A crosstabulation indicates that immigrants who have resided in the U.S. for less than 7 years have a higher percentage of “not in labor force in 1989” than “employed in 1989.” The percentage for both categories reverses when immigrants have stayed in the U.S. for 7 or more years.
politically assimilated brings immigrants’ fertility closer to that of the U.S. born Chinese and whites. Again, as aforementioned, naturalization also implies a longer duration and thus more reproductive years spent in the U.S., raising Chinese immigrants’ fertility.

As comparison of $R^2$ for models 4 and 5 shows, duration appears to have slightly greater explanatory power for immigrants’ reproductive behavior than adult immigration. Everything else being equal, the equation with duration (Model 4) can account for 51.3 percent of fertility variation of immigrants, which is approximately 1 percent higher than the equation with adult immigration (Model 5). The two assimilation models also demonstrate that the difference in average family size of Chinese immigrants can partly be explained by the degree of assimilation along with the variables examined here. Most of the findings are consistent with assimilation theory in that the current fertility level of immigrants is approaching that of U.S. born Chinese; that is, as immigrants have resided in the U.S. a longer time, they become more assimilated into the Chinese subculture in the U.S. In contrast, less assimilation to the Chinese subculture in the U.S. decreases immigrants’ fertility, everything else controlled.

**DISCUSSION**

The lower fertility of U.S. born Chinese and Chinese immigrants in comparison with whites may be partly explained by the fact that neither of the two Chinese groups is fully integrated into American structure and life. As Table 5 illustrates, U.S. born Chinese have achieved a much higher socioeconomic status than whites, indicating that they are not integrated into the majority – or they are over-assimilated. As is well established, higher socioeconomic achievements exert a downward pressure on fertility
because they compete with childbearing and childrearing time and energy. Women’s
education, occupational prestige and earnings can be interpreted as measures of the
opportunity cost associated with childbearing and rearing (Calhoun and Espenshade
1988). As might be expected, the higher the cost, the lower the fertility. Numerous
studies have already shown that lower fertility is typically accompanied by increasing
socioeconomic achievements. The high socioeconomic status and employment rate of
U.S. born Chinese partly contributes to their low fertility rate and prevents it from
converging to that of the whites.

The lower fertility rate of Chinese immigrants, compared with U.S. born Chinese
and whites, can partly be accounted for by their lack of assimilation to the American
structure. Unlike U.S. born Chinese who have achieved higher socioeconomic status and
have a higher employment rate in 1989 than whites, immigrants on average have not
achieved socioeconomic parity with either whites or U.S. born Chinese, thus suggesting
that they are not well integrated into the American structure.

As presented above, all the three dimensions of assimilation examined in this
research reflect an inadequate degree of assimilation of Chinese immigrants to the
American majority. As Table 2 indicates, only 3 percent of immigrants use English as
their household language; approximately 38 percent of immigrants cannot speak English
well or not at all; even immigrants whose English is good typically speak Chinese at
home. Speaking one's own language at home is an important aspect of ethnic cultural
identification and maintenance (Fishman 1977; Lopez and Sabagh 1979) and thus reflects
an attachment to cultural norms in the place of origin (Light 1972). Speaking Chinese at
home is both the result of inadequate assimilation of immigrants as well as one of the
causes of it. Bilingual capacity can either facilitate or constrain immigrants’ participation in socioeconomic opportunities. A lower ability to speak English is likely to contribute to a lower SES and employment rate of immigrants, which are both indicators of inadequate integration into the American structure. As Table 5 indicates, immigrants are significantly lower in socioeconomic achievements than both whites and U.S. born Chinese. Being less integrated into the American culture and structure partly contributes to the low percentage of naturalization, representing an inadequate political assimilation.

The lower fertility rate associated with inadequate assimilation is most likely linked to the impact of the reproductive norms in the place of origin, China in this case. While Chinese reproductive norms cannot explain the lower fertility of U.S. born Chinese (compared with U.S. whites), and there are obviously other factors not examined in this research that partly contribute to the lower fertility rate between the two Chinese groups and the majority whites, immigrants’ fertility is apparently constrained and lowered by the restrictive family planning policies in China. The influence of the reproductive norms in the place of origin on immigrants’ fertility is indirectly reflected in the links between fertility and age of immigration and/or adult immigration. The average age at which immigrants came to the U.S. is quite high, 25.2 years old. The relatively old age of entry has several implications. First, it can function as a constraint to a quick integration of immigrants into the American society. As reviewed above, immigration at a younger age facilitates assimilation while immigration at an older age constrains it. This is because immigrants who migrated at an older age or as adults have more difficulties adjusting to

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11 Age of immigration and adult immigration are closely linked to each other. The latter is derived from the former. I chose adult immigration to test the effect of assimilation on fertility to avoid the problem caused by colinearity – age and age of immigration are highly correlated.
the new life in the place of destination because of such factors as language barriers and a relatively stronger link to the place of origin. Kahn (1988, 1994) has convincingly demonstrated that the links of immigrants to the place of origin inversely and significantly affect their assimilation and reproductive behavior.

Secondly, and related to the first point, age of immigration implies an extensive exposure of immigrants to the reproductive norms, i.e. the family planning policies, in China, prior to their arrival in the U.S. China has advocated a small family norm since the early 1970s, when the government instituted and expanded the policy of “later marriage, longer spacing, and fewer children”, and promoted the norm of “one is not too few, two is enough, three is too many.” These family programs can be seen as the precedents of the more restrictive one child policy implemented in 1979, and led to a fertility decline in China (Banister 1987; Chen 1979; Peng 1991; Peng 1997; Wu 1997). When family planning policies were first enforced in the early 1970s, immigrants on average had approached or were reaching their reproductive years. Crosstabulation shows that 82 percent of immigrants who came to the U.S. in the 1970s and 85.2 percent of immigrants who arrived in the U.S. in the 1980s were adults, suggesting that immigrants were more or less affected by this as well as earlier policies. Since all family policies have a much stronger effect on urbanites than on rural people, knowing immigrants’ registration background in China could help to discern how these reproductive norms in China affect their pace of adaptation to the American culture. As of yet, this information is not available in the census data. However, numerous studies have found that international migrants tend to be disproportionately urbanites due to migration selectivity (e.g. Chiswick 1978). It can, therefore, be inferred that most Chinese immigrants are from
urban areas where the one child policy has been most rigidly enforced. This might be especially true with documented immigrants since the majority of them came to the U.S. as graduate students, visiting scholars and employees who were residing in urban areas before moving. Thus, while there is no information on the extent to which the Chinese immigrants in the sample had embraced the low-fertility ideal of their country of origin, there are strong reasons to assume that many, perhaps most, of them had lived their pre-immigration lives under the close scrutiny of family planning policy agencies and thus presumably accepted the policies. This eventually impacts immigrants’ reproductive behavior and reduces their cumulative fertility, irrespective of where they are. Of course, the ties of immigrants to the place of origin wear off, as they stay longer in the U.S.; in the meantime the link to the U.S. society is developed and becomes stronger over time. As a result, immigrants become more assimilated to the American society, and their fertility increases, as the effect of duration and citizenship on fertility demonstrates.

The age structure of immigrants when they first came to the U. S. may also explain the inverse relationship between adult immigration and fertility. As Table 6 shows, adult immigration decreases fertility. This outcome can be interpreted in two ways. On the one hand, it supports the hypothesis that if immigrants came to the U. S. as adults, they have more difficulties to be assimilated into the American society and therefore their fertility is less likely to converge to that of the group to which they are more likely to be assimilated. On the other hand, the inverse relationship might be viewed as an outcome of carryover of the reproductive norms in China. The age of entry indicates that immigrants on average had spent most of their prime reproductive years in China. As a result, immigrants are likely to have already had children before they moved
to the U.S. For each additional year of increase in age of immigration, immigrants’ possibility to have had children prior to their arrival in the U.S. increases. Due to the restrictive one child policy, the majority of them could have one child, regardless of their age. What this implies is that they may have a lower birth rate than their American counterparts prior to their arrival in the U.S., and that their reproductive year in the U.S. decreases. Concomitantly, immigrants who came to the U.S. at an older age have a reduced possibility to compensate for their low fertility rate in the U.S. and they are less likely to converge their cumulative fertility to that of the group to which they are assimilated. Other research has found that immigrants from Mainland China, when they first came to the U.S., had a lower fertility rate than American whites and Chinese immigrants from Taiwan and Hong Kong because of the impact of the family planning policies (Hwang and Seanz 1997). While a longer stay in the U.S. increases their fertility, their cumulative fertility remains lower. In this sense, the lower fertility rate of Chinese immigrants, compared with U.S. born Chinese and American whites, might be viewed as an outcome of the carryover of reproductive norms in the place of origin.

**SUMMARY AND CONCLUSION**

While the study on Chinese immigrants’ fertility in the U.S. has focused on assimilation and minority group status, the effect of assimilation as a multi-dimensional phenomenon on fertility has seldom been researched. Moreover, Chinese immigrants typically appear as an Asian ethnic subgroup in current research. The first purpose of this research, based on the examination of the net effect of ethnicity-birthplace on fertility by
comparing the fertility levels of Chinese immigrants with that of U.S. born Chinese and whites, is to examine, in term of fertility, to which culture Chinese immigrants are more likely to be assimilated – the Chinese subculture in the U.S. or the majority culture. The second goal of this research is to discuss the relative importance of different facets of assimilation on fertility by examining the effect of assimilation variables on their fertility of Chinese immigrants.

This research yields several interesting findings. First, it confirms existing research on the relationship between fertility and ethnicity-birthplace, which have a significant net effect on fertility. The fertility of Chinese immigrants is significantly lower than those of both U.S. born Chinese and American whites, holding constant sociodemographic and socioeconomic compositions. However, as evidenced by the findings, the magnitude of fertility variations between Chinese immigrants and U.S. born Chinese is much smaller than those between whites and U.S. born Chinese, and between whites and immigrants. The similar fertility pattern between Chinese immigrants and U.S. born Chinese is one of the most important findings emerging from this research, implying that Chinese immigrants are substantially assimilated to the Chinese subculture in the U.S, instead of being integrated into the mainstream of the majority whites. This suggests that sharing the same ethnicity, and thus a similar cultural heritage, has a stronger impact on reproductive behavior than sharing a birthplace, other things being equal. Also, compared with Chinese immigrants, U.S. born Chinese are more convergent to whites in fertility, implying that both ethnicity and birthplace have independent effects on fertility.
This research also indicates that, by regressing SES on ethnicity-birthplace, immigrants, not surprisingly, have a significantly lower socioeconomic achievement than whites and U.S. born Chinese, other things being equal, indicating an inadequate integration of immigrants into the American structure. The lower socioeconomic attainment is expected to function as an upward pressure on immigrants’ fertility, but it is not strong enough to offset the effect of other factors such as migration selection and disruption. Regressing the fertility of Chinese immigrants on each assimilation variable, holding constant demographic composition and SES, shows that almost all assimilation variables have a strong impact on immigrants’ fertility, either increasing or decreasing it. As expected, as immigrants stay in the U.S. a longer time, their fertility becomes more convergent to that of U.S. born Chinese. In contrast, being less assimilated to the American society makes immigrants’ fertility even further deviate from U.S. born Chinese, as illustrated by the variable of adult immigration. Results also show that the three dimensions of assimilation have different effects on immigrants’ fertility. Both employment status in 1989 and political assimilation bring the fertility of immigrants closer to that of U.S. born Chinese. The result of the measure of cultural assimilation is somewhat perplexing. Immigrants who can speak English well and use it as their home language have lower fertility than the ones who cannot speak English well and who can speak English well but speak Chinese at home. What this means is that as immigrants become more linguistically (culturally) assimilated into the American majority, their fertility goes down, supporting conventional understanding of assimilation on fertility. This seems to contradict the hypothesis proposed in this research. However, immigrants, instead of being assimilated to the mainstream of the majority whites, are more integrated
into the minority culture of U.S. born Chinese. Given this situation, the language variable in itself is a problematic measure of cultural assimilation, and, thus, the findings do not necessarily conflict with my hypothesis.

The comparison and discussion of these groups’ fertility is entirely based on the U.S. census data, which implies limitations of this research. First and foremost, the dependent variable, fertility, is only available from the 1990 census as the number of children ever born. Although this represents a direct measure of fertility, it does not provide the timing of each birth. Therefore, it is unknown if the child was born before or after immigration. Although births before and after immigration can be inferred from the census data in some way, by linking mothers to their children based on relationships in the primary family or subfamily for instance, it is almost impossible to acquire an accurate estimation of post immigration birth due to several reasons (Hwang and Seanz 1997). Lack of this information constrains the analysis of assimilation. Also, the unavailability of information about immigrants’ background in the place of origin – such as registration types (urban vs. rural, large city vs. small town), education and occupation – and lack of information on their original and current immigration status (e.g. F-1, F-2, J-1, J-2, H1 and green card holders) – limit the interpretation of assimilation.

In addition, many possible indicators of assimilation are not available to this research. These include the extent of attachment to the place of origin and ties to the destinations, what music – American music or Chinese music – to listen to, which movies and TV programs (political debates, soap opera, etc) to watch, whose and which holidays to celebrate, whose (American or Chinese) and which parties (political gathering, etc) to go to, and whom to marry (inside or outside ethnic group), for example. These are more
specific measures of cultural and political assimilation, but are not available in census data. Although acculturation and political assimilation do not directly impact immigrants’ fertility, they gradually affect the kinds of behaviors and ideologies that eventually may influence immigrants’ reproductive norms. Lack of such information also limit my discussion on assimilation and fertility. Since census data typically do not cover these important questions, in-depth interviews with Chinese immigrants would be required to fully understand the relationship between assimilation and fertility.

While it would be desirable to test the assimilation theory with longitudinal data because it would allow me to determine a more precise effect of assimilation on fertility, such data are not presently available for immigrants. In the absence of such data, a close examination of the effect of each individual assimilation variable on immigrants’ fertility provides an alternative way to test how assimilation affects immigrants’ reproductive behavior. While my findings do not necessarily suggest a complete fertility convergence of the Chinese immigrants in the U.S. to those of U.S. born Chinese and whites, immigrants’ reproductive behavior does imply substantial movement in that direction – as immigrants stay in the U.S. longer, their fertility becomes closer to those of other two groups. Assimilation processes are evident in the fertility pattern of Chinese immigrants examined here, as illustrated by the effects on fertility of duration, adult immigration, employment status and citizenship. Therefore, support for the assimilation hypothesis emerges from this research.

Several interesting and important questions are raised from the findings in this research. The first is to whom immigrants are assimilated – the majority or the minority with the same ethnicity? This study finds that, rather than being assimilated into the
majority, Chinese immigrants tend to be integrated into the Chinese subculture in the
U.S. The second question pertains to understanding the effect of assimilation on
immigrants’ fertility, i.e., does assimilation consistently reduce fertility or can it either
raise or decrease fertility depending on the origin of immigrants? Unlike most relevant
researches which typically argue that the extent of assimilation is inversely related to
immigrants’ fertility, this research tends to support the latter idea. If immigrants come
from lower fertility countries, their fertility should increase, as they have resided in the
host society a longer time and concomitantly become more assimilated to the host
society. The majority of Chinese immigrants discussed in the research came to the U.S. at
a time when the fertility rate in China is not higher than that of the U.S. 12 Being more
assimilated to the American society, the Chinese subculture in the U.S. in this case,
increases immigrants’ fertility. These questions are not settled, however, there is clearly a
need to focus future research on these salient issues. A final issue is related to the
possible interplay between assimilation, disruption, minority group status and selectivity.
While this research focuses on the effect of assimilation on fertility, it is not meant to
imply that other factors have no impact on immigrants’ fertility. Assimilation is a long
term process. Facing possible discrimination as members of a minority group, immigrants
have to find a way to adjust to the host society. Meanwhile, in the process of assimilation
or integration, many factors come into play that either facilitate or disrupt the process and
shape immigrants’ behaviors, including reproduction. Hence, the interlocking links
between assimilation, disruption, selectivity and minority group status with regard to
immigrants’ reproductive behavior also deserves further attention in future study.

12 Approximately 86 percent of Chinese immigrants came to the U.S. after 1970, that is, after China started to
promoted a small family size. Since immigrants are disproportionately from urban areas, they are more affected by the
family planning policies, and thus, their fertility is lower than their American counterparts even if they stayed in China.
BIBLIOGRAPHY


