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MINORITY GROUP STATUS AND FERTILITY:
THE CASE OF ASIAN INDIANS IN THE UNITED STATES

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MINORITY GROUP STATUS AND FERTILITY:
THE CASE OF ASIAN INDIANS IN THE UNITED STATES

By
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ABSTRACT

MINORITY GROUP STATUS AND FERTILITY: THE CASE OF ASIAN INDIANS IN THE UNITED STATES

By
Vandana Kohli

Fertility differentials between minority and majority group members in the United States have been explained through two perspectives: the characteristics hypothesis and the minority group status hypothesis. According to the characteristics hypothesis differential minority fertility reflects unequal socio-economic characteristics while the minority group status hypothesis holds that social-psychological insecurities associated with status attainment operate to elevate or depress the fertility of minority groups relative to the dominant group.

In this dissertation I have compared the validity of the minority group status hypothesis and the characteristics hypothesis for the Asian Indian population residing in the United States. A first order analysis of the national 5-in-100 sample 'A' United States census microdata, revealed that Asian Indian non-farm women between the ages of 14 and 44 presently married and living with spouse had fewer number of children (1.6) than non-farm white women (1.9), with similar characteristics. However, after controls for compositional variables minority group membership exerted a positive impact

Vandana Kohli

on Asian Indian fertility. These results did not support the minority group status hypothesis, which in this case, predicted lower Asian Indian fertility after appropriate statistical controls. But they also did not support the characteristics hypothesis which predicted equal Asian Indian and white fertility after statistical controls.

Fertility differentials within the Asian Indian population were also examined. Specifically I tested for the effect on fertility of country of birth, language other than English spoken at home and inter-ethnic marriage. Controlling for the effects of compositional variables, multiple regression results revealed that Asian Indian women born in India had fewer children than did Asian Indian women born in the United States or any other country. Similarly, Asian Indian women who spoke a language other than English at home had lower fertility rates than did their ethnic counterparts who spoke only English. In most cases, intermarried couples had fewer children than endogamously wed Asian Indian couples. These results did not support the minority group status hypothesis since it was shown that a high level of primary ethnic group interaction resulted in reduced fertility.

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CHAPTER ONE

Introduction and Historical Background

Introduction

Fertility differences between more developed and less developed countries (MDCs and LDCs respectively), have attracted the attention of demographers interested in the social-structural determinants of fertility. However, as Long (1970:148) noted,

"one is struck by the fact that intergroup fertility differences within a nation may be as great as fertility differences between developed and under-developed nations. And among developed nations inter-group fertility differences may account in large part for differences in family size between two nations."

Many researchers examining inter-group fertility differences have focussed on minority groups in MDCs but the theoretical principles can be applied to any country regardless of the level of national development. These studies provide evidence of the independent influence of minority status on fertility for a variety of minority groups.

Demographers have operationalised fertility in diverse ways, which will be specified in the third chapter, yet there is a high degree of theoretical consensus among them regarding the term which will be specified in the third chapter. In contrast, the conceptualisation of minority group is theoretically conflictual. Consequently a central concern for demographers interested in the study of sub-populations is the conceptualization and the operationalisation of 'minority

group' (Bean and Frisbie, 1978; Roberts and Lee, 1974; Halli, 1987; Kennedy, 1973). This paper, therefore, begins by clarifying some salient characteristics of minority groups, the ways in which the concept has been operationalised in previous research, and the manner in which it is utilised in this dissertation.

The size of a group does not necessarily determine minority group status even though the majority/minority dichotomy implies the numerical preponderance of one group over the other. While some minority groups may be smaller in size than the majority group it is less than equal access to societal resources that distinguishes minority group members from those in the majority group. The classic example, of course, is whites in South Africa who comprise only sixteen percent of the population of that country yet disproportionately control South Africa's economic and political power (The Report of the Study Commission on U.S. Policy Toward Southern Africa, 1981:42). In addition to invidious treatment (Yetman and Steele, 1982; Geschwender, 1978), minority group members can also be identified by special physical or cultural characteristics (Tumin, 1964; Wirth, 1945) and ascribed membership (Gordon, 1964).

According to Peterson (1964:237) a minority group is one that shares, "(i) a historical pattern of opposition from and discrimination by the dominant population [and] (ii) a

relatively clearly defined subculture and separate pattern of social interaction". Kennedy (1973:86) maintains that a minority group is, "a coherent subculture whose members interact with one another and distinguish themselves from the rest of the population". In this dissertation I will use minority group to refer to any group characterised by some or all of the elements discussed in the preceding paragraphs. Thus, for the purposes of this dissertation, minority groups are those identified on the basis of distinct physical and cultural characteristics, and/or ascribed group membership, and discrimination and persecution by members of the host society.

The forestated operationalisation of minority groups still leaves unresolved the differences between minority groups which can sometimes be as significant as differences between majority and minority groups. For example, it is certainly true that in the United States the Black, Amerindian, and Hispanic groups are confronted with inferior life chances when compared to other minority groups such as the Japanese and Asian Indians. The Japanese and Asian Indian groups have higher socio-economic status than Blacks, Amerindians and Hispanics yet their assimilation into the economic institutions of the host society has not resulted in their occupying positions at all levels proportionate to their numbers in the general population, greater political power to the group or even access to membership in white primary groups

such as social cliques or inter marriage. Additionally the Japanese and Asian Indians continue to remain culturally distinct from American whites. To conclude, a minority group may be more or less integrated into a society's economic institutions but as long as its members continue to define themselves or be defined by others as distinct, and continue to perceive that they are being discriminated against on the basis of that distinction, their minority group membership may influence their fertility behavior.

In this dissertation I will examine the relationship between minority group status and fertility for the Asian Indian sub-population in the United States. In order to understand the effects of minority group status on Asian Indian fertility it is necessary to look at the context within which Asian Indians operate. I will, therefore, begin this chapter by presenting a historical overview of the Indian presence in the United States from the 1800s to the current period. Some important issues that will be addressed are: changes in immigration policy toward India; factors leading to these changes; the socio-economic characteristics of Indian immigrants during each period of immigration history; and changes in the pattern of discrimination against Indians by the host population.

Asians in the United States: A Brief Overview

Asian Indians, according to the 1980 census categorization,

belong to a larger group collectively referred to as Asian Americans. The population of Asian Americans in the United States has increased from 1.4 million in 1970 to 3.5 million in 1980 to 6.9 million in 1989 (U.S. Bureau of the Census, 1990: table C), increasing at a rate of 6.5 percent every third year between 1980 and 1989. The projected size of the total Asian American population for 1985 is 5 million. While Asian Americans comprised only 1.5 percent of the total United States population, at the time of the 1980 census, they stand as America's third largest minority group after Blacks (11.7 percent) and Hispanics (6.4 percent) (Census, 1980, Detailed Characteristics, Table 262; New York Times Magazine, 1982:22; Bell 1985:24). According to a recent study, the six largest Asian American groups are the Chinese, Filipinos, Japanese, Asian Indians, Koreans and Vietnamese.

"Combined, they accounted for over 95 percent of the 3.5 million Asian Americans counted in the 1980 census. Their numbers were: Chinese, 812,000; Filipinos, 782,000; Japanese, 716,000; Asian Indians, 387,000; Koreans, 57,000; and Vietnamese, 245,000" (Gardner et al., 1985:4).

Many Asian Americans are recent arrivals who usually bring with them their native cultural beliefs and practices (see New York Times May 4th and June 29th, 1986 for this aspect of the Indian-American community). In parts of Asia large family size is a norm. India and China have the world's largest population size with annual growth rates of 2.1 and 1.2 percent respectively. Growth rates for the Democratic Republic of Korea are 1.4 percent; for Vietnam, 2.6 percent;

and for the Philippines, 2.5 percent (World Development Report 1989, Table 26). The prevalence of high fertility rates in Asian Americans' countries of origin has generated concern about their contribution to the total population of the United States. In fact since the early 1900s there has always been a drive to limit Asian immigration to the United States on the basis of similar data and the underlying paranoia of an 'imminent Asian takeover'.

David Bell (1985:24) recounts a scene from a science-fiction movie, Ridley Scott's 1982 'Blade Runner', disliked by most Asian Americans, which reflects popular impressions of the Asian presence in California.

"It is the year 2019. In the heart of downtown Los Angeles, massive electronic billboards feature a model in a kimono hawking products labeled in Japanese. In the streets below, figures clad in traditional East Asian peasant garb hurry by, speaking to each other in an English made unrecognisable by the addition of hundreds of Spanish and Asian words. A rough mannered policeman leaves an incongruously graceful calling card on a doorstep: a delicate origami paper sculpture."

Scott's vision of future American society is exaggerated but not altogether impossible. The number of Asian Americans, as a percentage of the total United States population, remains small.

"Yet, their influence is already spreading rapidly, from the concert music we listen to, to the foods we eat and how we prepare them, to the clothes we wear, to the way we decorate our homes, to the sense of revitalization that Asians have given to the scores of urban communities across the country, to a hard driving entrepreneurial spirit that America hasn't seen in decades" (New York Times Magazine, 1982:23).

The image of the hard driving spirit of Asian Americans is reflected in and reinforced by higher median family incomes for the entire category compared to all other major racial and ethnic groups in the United States. Table 1 indicates that in all four of the United States census regions the median Asian American family income is higher than that of any other comparable minority group and even exceeds the median family income of whites. In the North Central region the median family income of Asian Americans is more than \$2,500 higher than that of whites. It should be remembered that when the median family income of the entire Asian American group is disaggregated some Asian Americans, such as the Vietnamese, are at or near the very bottom of the class hierarchy.

Table 1

Median Family Income in 1979 for United States
Regions by Race and Spanish Origin of Householder

Population	Region			
	Northeast	North Central	South	West
Asians and				
Pacific Islanders	\$21,819	\$24,053	\$20,091	\$23,369
White	\$21,492	\$21,462	\$19,257	\$21,713
Spanish Origin	\$11,879	\$17,639	\$14,119	\$15,791
Black	\$13,288	\$14,694	\$11,595	\$14,888
American Indian, Eskimo and Aleut	\$14,072	\$13,238	\$13,879	\$13,745

Source: Bureau of the Census, PC80-1-C1 Figure 29:1-10t.

Indian Immigration History: The First Period (1900-1965)

In recent years, global migration has grown to high levels. By 1981, for example, approximately 50-55 million people were living outside their country of birth, sixty percent of whom came from underdeveloped nations. India's share of the emigrants from developing countries was nearly twenty percent (Madhavan, 1985:457). However, wide scale emigration from

India is a relatively recent phenomenon. As Melendy (1977:184) notes Indians traditionally regarded migration or crossing 'blackwaters' as a danger to one's soul. It should be mentioned, however, that Indian merchants who travelled widely along Asian land routes, primarily for trade, had established small settlements in important commercial centres such as Kashgar, Khotan and Turfan in western Asia in the early nineteenth century (Thapar, 1966:107). Yet, even in these instances the migratory stream and subsequent development of Indian social formations were numerically insignificant.

The fact of migration as well as its nature and dimension underwent a transmutation for the first time after the advent of British colonial rule in India. Beginning in the mid-nineteenth century, for example, approximately 700,000 indentured Indian laborers were transported to Mauritius, Guyana, Trinidad and Jamaica to compensate for the paucity of labor in these colonies following the anti-slavery legislations (Saha 1970:22; Melendy 1977:184). Additionally, Indians went to Singapore and Hong Kong as members of the British army to fight British wars (Melendy, 1977; Hess, 1976). Trade relations between India and other British colonies also facilitated out-migration of Indian shop keepers and small business entrepreneurs who settled in British controlled territories in Africa and Asia (Madhavan, 1985:461). Asian Indian immigration to the United States, however, did

not begin until 1897, with the arrival of a few Sikhs on the western coast of the United States. These new immigrants were members of the British Sikh regiment many of whom landed in the United States still garbed in British military uniforms, bedecked with emblems earned in foreign wars (Jensen, 1988:24). Some of these men felt they had not received just treatment by the British officers during the Boxer rebellion in China and decided to travel to North America before returning home. Most of them liked the area and decided to stay. Their favorable letters to friends and family in India coupled with the propaganda by American railroad and steamship companies resulted in increased migration to the United States, albeit their numbers were extremely small. At the end of 1906, for example, only 885 Indians had immigrated to the United States, chiefly to California. Table 2 summarises the Asian Indian immigration trend between 1898 and 1914.

Prior to 1924 most Indian immigrants were agricultural laborers. Many were also employed by the lumber mills throughout the western states. Others worked as farm operators chiefly in gangs where a chosen leader conducted negotiations with the local farm owners. Since many farm owners were interested in breaking the monopoly of Japanese farm workers Indians had little difficulty in procuring jobs.

Although the Asian Indian population was mainly concentrated in California anti-Hindu sentiments were rampant throughout

the country and were expressed by violent acts of discrimination. At Bellingham, Washington, a few hundred Indian employees of local

Table 2

East Indian Immigration to the United States, 1898-1914.

Fiscal Year	Number	Fiscal Year	Number
1899	15	1907	1,072
1900	9	1908	1,710
1901	20	1909	337
1902	84	1910	1,782
1903	83	1911	517
1904	258	1912	165
1905	145	1913	188
1906	271	1914	172

Source: Melendy, 1977:186.

lumber companies were attacked by some five hundred white men who wished to drive them out of town. On September 5, 1907 these white men raided the Indian quarters and caused some seven hundred Indians to flee to Canada, six Indians to be hospitalized and an additional four hundred to seek protective custody (Hallberg, 1973). In St. John, Oregon and Live Oak, California similar incidents compelled the resident Indian population to escape from their new homes (see Melendy

1977:193-4). Learning of these reports of racial violence members of the Asiatic Exclusion League concluded that "the insolence and presumptions of Japanese, and the immodest and filthy habits of the Hindoos are continually involving them in trouble, beatings and otherwise...we may say the Oriental is at fault" (Proceedings of the Asiatic Exclusion League 1908:12). The restrictionists utilised the incidents of racial violence by the host population against Asian Indians to further their own agenda. They argued with renewed vigor that while Asian Indians were of the same racial group as American whites they were not an assimilable group and their entry into the United States had to be limited. The following quotation from an Asiatic Exclusion League meeting connotes this view bluntly.

"As a matter of fact, we, the people of the United States are cousins far removed of the Hindus of the northwest provinces, but our forefathers pressed to the West, in the everlasting march of conquest, progress and civilization. The forefathers of the Hindus went east and became enslaved, effeminate, caste-ridden and degraded, until today we have a spectacle of the Western Aryan, the "Lords of Creation", if we may use the simile, while on the other hand the Eastern Aryans have become the "Slaves of Creation", to carry the comparison to its logical conclusion.

And now we, the people of the United States, are asked to receive these members of a degraded race on terms of equality. Or if they come under the law they may become citizens, and what would be the condition in California if this horde of fanatics should be received in our midst" (Proceedings of the Asiatic Exclusion League, April 1910:8).

The Asiatic Exclusion League petitioned the state government of California which in turn pressured the federal government to limit 'Hindu' migration to the United States on economic,

racial, cultural and demographic grounds. The first immigration act of 1917, consequently, while continuing to prohibit the entry of eastern and southern Europeans also proclaimed most of Asia as a 'barred zone' for the immigration of labor. This law severely curtailed future immigration from India but more important, it implied that Asian Indians were not considered worthy of attaining United States citizenship. According to Hess (1976:171), the racist campaigns against East Indians were so successful that many were forced to return to their native land or flee to Canada. Between 1920 and 1940, for example, a few hundred Indians were deported while nearly 2,500 returned voluntarily. Additionally, between 1923 and 1966 almost seventy naturalised Americans of Indian origin had their citizenship revoked on the grounds that the certificates had been obtained in an allegedly illegal fashion.

The Johnson-Reed Act of 1924, the first comprehensive United States immigration act, continued racist exclusion policies and imposed a national origins quota system from which most of the countries in Asia continued to be excluded. The quota system was revised by the McCarran-Walter Act of 1952. According to this law there was no ceiling imposed on immigration from the western hemisphere but for those countries outside the preferred zones a quota system proportionate to the number of immigrants from various countries already residing in the United States at the time of

the 1920 census was established (Keeley and Elwell 1981:182). According to this act Indians were granted a quota of one hundred immigrants a year. This minimal quota continued in effect until 1965.

In spite of the limited number of immigration visas allotted to India, the size and composition of the Indian immigrant population in the United States underwent significant changes between 1952 and 1965 at which time a revised immigration law was introduced. Although there is a dearth of descriptive information about the factors that contributed to increased Asian Indian immigration, and although only 1900 Asian Indians were legally allowed to enter, during the period lasting from 1947 to 1965 nearly 6,000 immigrants from India arrived in the United States. This growth was composed of a new kind of immigration stream encompassing Indian professionals and their families as well as the wives and children of many of the older immigrants.

The Second Period (1965-present)

Since 1880, the first year that free migration to the United States was terminated, the issue of immigration has always excited opposing claims and ideologies. As McCarthy and Rodfelt (1983:381) put it, "the interests of humanitarianism versus protectionism, pluralism versus maintenance of national identity, business versus labor, local versus federal

government, clash with such force that priorities are obscured". Likewise there were those in the United States that attempted to oppose the introduction of the McCarran-Walter Act of 1952. The critics of this Act attacked the quota system arguing that it was a racist philosophy. This philosophy, the liberals contended,

"is founded on the assumption that America is under the constant threat of losing her Anglo-Saxon character because of immigration, and that the so-called bloodstock of America, described as Anglo-Saxon and Nordic, is the basis of America and must be preserved from contamination by foreign immigrants" (Congressional Report, May 11, 1952:5102).

The official American immigration policy continued to emphasize preference for immigrants from those countries which had "historical and cultural" similarities with the resident European population of the United States. However, between 1952-1965 the liberals, under the leadership of John F. Kennedy, added many modifications to the 1952 immigration law which set the stage for introducing a more open policy in later years. Following the Kennedy Administration, Lyndon Johnson assumed the Presidency and furthered Kennedy's immigration reforms. Addressing Congress in 1965, he said:

"We must lift by legislation the bar of discrimination against those who seek entry into our country, particularly those with much needed skills and those joining their families. In establishing preferences, a nation that was built by immigrants of all lands can ask those who now seek admission: 'What can you do for your country?' But we should not be asking: 'In what country were you born?'" (New York Times, January 14, 1965:38).

Johnson's perspective on the national origins system was not shared by all members of the Congress. The socio-political

climate of the sixties, however, characterized by an expanding economy and the civil rights movement, facilitated the incorporation of an ethnically tolerant immigration policy and simultaneously silenced the restrictionists who could no longer argue for the preservation of the Anglo-Saxon identity because it simply wasn't fashionable.

The main features of the 1965 immigration act were the elimination of the quota system; the establishment of a rigid labor certificate requirement; and family re-unification. In place of the national origins preference quota, Western Hemisphere residents were for the first time numerically restricted to 120,000 annually. In addition 170,000 visas were to be issued to the Eastern hemisphere with no more than 20,000 visas issued to any one country. While the 1965 law appeared to be more open toward immigrants from the Eastern hemisphere its main emphasis was on the joining of 'brothers and sisters' to their United States citizens. Seventy-four percent of the visas were reserved for family reunification.

The immigration policy of 1965 resulted in an increase of the total population of Indians in the United States to the present figure of nearly 400,000. Most of this increase in the population was a direct result of relaxed immigration criteria and not natural increase since the Asian Indians residents were mostly single or had not been able to bring their wives from India. Additionally the 1965 law, while

continuing to give greater significance to family reunification than to occupational skills, allowed the gradual entry of new immigrants from India who differed from the group already residing in the United States.

Unlike the initial period of Indian immigration that was chiefly centred in California, today's Indian-Americans are rather well dispersed (Vasegh, 1984). As Table 3 below illustrates approximately 17 percent or 60,000 live in New York and 16.2 percent or 58,000 are in California. The other states with a relatively large Asian Indian population are Illinois, Texas, and New Jersey. Asian Indians are likely to settle in suburbs than centre cities (New York Times, Dec. 14, 1986:1; White 1986), marry endogamously (Siddiqi and Reeves, 1986), and be politically active, both in United States affairs (Mohapatra, 1984; Mohan, 1976) and in political events in India (Banerjee, 1969; New York Times, Nov. 5, 1984, Sec.I).

Newspapers, census reports and scholars of the field all agree that the new arrivals from India are overwhelmingly affluent, well educated and integrated into the economic institutions of United States society. Although Asian Indians are prominent in the small business sector they also excel in science, medicine, farming, music and business. This success is reflected in the average income accruing to Asian Indian

Table 3

Top Nine States with a Large Asian Indian Population, 1980.

	Total	Percent	Males	Females
<hr/>				
States				
<hr/>				
All Nine States	262,609	72.60%	137,784	124,825
New York	60,505	16.74%	31,622	28,883
California	57,901	16.02%	30,506	27,395
Illinois	35,749	9.90%	19,157	16,592
New Jersey	29,510	8.16%	15,484	14,026
Texas	22,231	6.15%	11,744	10,487
Pennsylvania	15,212	4.21%	7,710	7,502
Michigan	14,690	4.06%	7,660	7,030
Maryland	13,705	3.79%	7,115	6,590
Ohio	13,106	3.62%	6,786	6,320

Source: Bureau of the Census, PC80-1-B1, Table 62:125.

American households. In 1980, for example, Chinese and all-U.S. households earned median incomes of \$18,544 and \$16,841, respectively, while Indians earned \$25,644. Median incomes for select groups are summarised below in Table 4.

Table 4

Median Income of Full Time Worker by Race and Ethnicity 1980

Median Income of Full Time Worker	
<hr/>	
Racial/Ethnic Group	
<hr/>	
Asian Indian	\$18,707
Japanese	\$16,829
Chinese	\$15,753
White	\$15,572
Black	\$11,327

Source: Gardner et al., 1985:23.

Asian Indians are also better educated than other groups. Table 5 indicates that while the average white person completes nearly thirteen years of school an Asian Indian person finishes nearly sixteen years. Among whites approximately seventy-three percent of males graduate from high school yet nearly eighty-four percent of Chinese and ninety percent of Asian Indian males have earned a high school diploma.

Perhaps speaking, thinking and dreaming in English and coming from a democratic country has helped some Indians achieve high social status in United States society although this could

Table 5

Educational Characteristics of Select Groups, 1980

	Asian Indian	White	Black	Japanese	Chinese
Median Years of School Completed	16.1	12.6	12.1	12.9	13.4
Percent of High School Graduates Males	88.8	72.9	54.2	84.2	75.2
Percent of High School Graduates Females	71.5	69.9	54.2	79.5	67.4

Source: Bureau of the Census, PC80-1-C1, Table 164:161 and Table 123:97.

also be a result of the selective immigration policy toward India. For example among those Asian Indians who immigrated between 1975 and 1980 only 10 percent occupy low paying, low social status jobs. This figure is considerably less than Blacks, Hispanics and even whites. Forty-seven percent of

Asian Indians entering the United States are in the highest occupational status group composed of professionals such as doctors, scientists and engineers, unparalleled by any other group. Among those who immigrated between 1965 and 1980, 36 percent are employed in these high paying jobs. Only recently arrived Japanese immigrants have a higher representation (Gardner et al., 1985:11).

The composition of Asian Indian immigrants and naturalised citizens of Indian origin by major occupational categories has changed somewhat during the period 1965-1980. In Table 6, for example, the decline in professional, technical and kindred workers between 1965 and 1979 is almost wholly absorbed by housewives, children and others with no occupation category. This is a result of the 1965 immigration law's emphasis on family reunification.

Present Period

During the 1970-1980 decade there were further changes in United States immigration policies. The new United States immigration law has removed the western regional bias and limited the total number of immigrants entering the United States to 290,000 annually. The family reunification emphasis has continued but under the new revision the numbers allowed under this category remained outside the 290,000 ceiling (Keeley and Elwell 1981:1).

Table 6
Composition of Indian Immigrants Admitted to the United States
By Major Occupational Categories

Occupational Category	1965-69	1970-74	1975-79	1965-79
Professional, technical and kindred workers Percentage	9,174 50.3	30,638 45.6	26,742 29.1	66,554 37.5
Managers and Administrators except farm Percentage	252 1.4	1,171 1.7	4,055 4.4	5,478 3.1
Sales, Clerical, craft, and operatives Percentage	869 4.8	2,844 4.2	6,209 6.8	9,922 5.6
Laborers, service, household and farm laborers Percentage	311 1.7	838 1.3	2,614 2.8	3,763 2.1
Housewives, children, and others with no occupation Percentage	7,635 41.9	31,661 47.2	52,358 56.9	91,654 51.7
Total Percentage	18,241 100	67,152 100	91,978 100	177,371 100

Source: U.S. Department of Justice, Annual Report, Immigration and Naturalization Service, 1965-1980. Note: Percentages may not equal one hundred because of rounding off of numbers.

Further, the Simpson-Mazzoli bill which was first introduced in 1980 accords amnesty to illegal immigrants. However, this aspect of the Simpson-Mazzoli bill has not had a significant impact on the composition of the Asian Indian population in the United States.

The preceding figures and statistics of the Indian American 'success story' mask significant disparities within the

community. While the "Who is Who Among Indians in North America", reads like a list of international and national celebrities, there are many within the community whose lives tenuously hang on the activities in the ethnic enclaves. Even more educated and affluent Indians complain of discrimination in employment particularly in the administrative and technical service sectors (Mohapatra 1984:40). In a recent conference designed to address the immigrant experience of Indians in the United States, Johanna Lessinger a New York based sociologist, pointed out that "an increasing number of new arrivals are facing loss of status, personal anguish and downward mobility" (New York Times, April 20, 1986, Sec. 1:37). In the same conference an Asian Indian sociologist, Amrita Basu, reflected that the formation of new Indian associations is an organisational attempt to counteract discrimination in the process of gaining professional upward mobility.

Since there is a paucity of 'scholarly' literature documenting the Asian Indian experience in the United States we have to go to other types of sources to extract and then synthesise the pieces that form the picture of the Indian immigrant in the United States. In order to arrive at a holistic view we have selectively drawn from reports in the ethnic newspaper, that highlight some of the difficulties faced by Indians during their residence in the United States. The source of the material may be biased. But perhaps it is the only source that presents an honest view from the perspective of the

Indian immigrant.

The reports from India Abroad paint a picture of discrimination similar to that experienced by Asian Indians during the first period of their immigration to the United States. For example in Jersey City at least three members of the community have been physically attacked by a gang calling itself Dotbusters. The racial violence in Jersey City has resulted in the death of Navroze Mody. Similar incidents have been reported in Hoboken. These crimes are considered hate crimes provoked by religious, ethnic and racial considerations. The data on hate crimes maintained by the Los Angeles County Human Relations Commission revealed that Asian Americans were the target of at least 24 percent of all hate crimes in 1986 (India Abroad, Nov. 20, 1987:1). Attacks against Indians in New Jersey and California have awakened feelings of fear among members of the community throughout the country. Many Asians who remained silent are now speaking out against discrimination and questioning the viability of assimilation. As Alok Dixit, a member of the Asian Indian community puts it, "[E]mbracing American traditions and changing my outward appearance have been relatively simple tasks, but how [do I] change my skin color or my Indian look ... logically speaking assimilation is not the answer" (India Abroad, Dec. 25, 1987:3).

Residential discrimination which is a good indicator of

difficulties faced by minority groups in integrating into the primary structures of the host society, has also been reported in India Abroad. In Long Island, New York, Indian homes were attacked and their properties vandalized. Racist slogans were painted on an apartment building owned and chiefly inhabited by Indians. Small Indian stores in Newark were destroyed and another apartment building in Jersey City occupied mostly by Indian tenants was wrecked. In the Jersey City incident an eye witness reported that vandals wrote "racist slogans on the lobby walls -"Indians go back" and "Hindus go back" - and opened all mail boxes with Indian names on them" (India Abroad, Jan. 22, 1988:28). The police in Jersey City are alleged as being slow to respond to Indians' complaints of racial threats. Indians also encounter difficulties in holding ethnic meetings where they share and teach Indian children and young adults their own religious and social values. It is of no wonder that Jagdish Patel of Las Vegas argued that "we and our children may have to live under incessant threat of harassment and a feeling of insecurity" (India Abroad, Nov. 20, 1987:10).

Discrimination against Indians in the United States is not confined only to primary group activity areas. It is omnipresent and affects Asian Indians' capacity to contribute fully to the United States economy. Examples of such cases are readily available. Damayanti Keesani was dismissed during her probationary period at the Naval Drug Screening Laboratory

at the Navy Medical Command in Oakland, California. The investigating team concluded that indeed her dismissal was based on racial grounds since her work performance was at par with other probationary workers (India Abroad, March 11, 1988:26). Dr. Seretu Nanavati brought and won a case of discrimination against him by the authorities of the Burdette Tomlin Memorial Hospital. The court ordered that Nanavati be reinstated and allowed to continue his services as a cardiologist. Eleven Indian engineers sued and won a discrimination in employment and promotion charge against the Fluor Engineers and Constructors Inc. of Houston. The Federal District Court found the company guilty of discrimination in their hiring procedures and in forcing already employed Indian engineers to work in positions for which they were over qualified (India Abroad, Dec. 25, 1987:12). Kumar Patel, a well known laser technology expert working with AT&T, thinks that Indians have achieved success in technical jobs but are restricted from employment in administrative and managerial positions on the basis of their skin color. An Indian doctor, on the other hand argues that even in professional positions, "the brown man can reach the second highest position in a large company here or become the associate dean of a school, but not the boss" (India Abroad, June 1988:15).

Conclusion

Although aggregate statistics reveal Asian Indians' prosperity in the United States we have tried to demonstrate, in the preceding discussion, that they are not a single homogenous, securely prosperous group. For example, a primary distinction can be drawn between those who arrived in the early period of immigration to the United States and those who arrived later. Among the native born Asian Indians, there is a high concentration of workers in low paying, low social status jobs which exceeds the rate for both whites and Hispanics (Gardner et al, 1985:7). There are additional differences based on occupation, and income even within a pool of immigrants who arrived in the United States during the same period. The nature of discrimination against Indians has also changed over the years even though it still remains a significant aspect of the Indian experience in the United States.

These and other dimensions of the Asian Indian experience in the United States invite in depth questions about the nature of their community. While many facets are analytically important the essential questions I wish to address in this dissertation are what impact does the social environment in the United States have on an Asian Indian couple that sets out to form a family? Are some elements associated with being an Asian Indian important in understanding the attained family size of this minority group? And finally, given the diversity

of the group, are there any variations in family size within the Asian Indian community and if the answer is yes then how can we explain this difference?

CHAPTER TWO

Literature Review and Hypotheses

Literature Review

Theoretical explanations for the decline in fertility in more developed countries have typically concentrated on the relationship between the process of development experienced in these countries over the past century and the concomitant changes in peoples' desires for children. Of these various explanations the most significant is the demographic transition theory. There are many reasons given by the proponents of the demographic transition to explain how development affects fertility. These can be classified under two categories depending on the source of motivation. The first set of reasons is associated with changes from an institutional control over fertility practices to one where rationality prevails over a couple's decisions to reproduce. On their own, freed from traditional norms and practices, couples begin to consider the pros versus the cons of having children. Rising costs of children's education, increased problems of housing, conflicts between traditional and new gender roles, particularly for women, all figure into a world where children are simply not desired at least in large numbers.

Another category of reasons explaining declining fertility is the institutional changes accompanying industrialisation. The most significant of these is the structure of the family. In

early nineteenth century Europe, improvements in agricultural productivity meant that fewer people were required to till the same field as was true earlier. Masses of unemployed or under-employed agricultural workers migrated to the city seeking jobs in factories. This eroded the structure of the extended family giving way to wide scale emergence of nuclear families. Left on their own to care for themselves and their children couples started to invest in the quality as opposed to the quantity of children. Other structural factors which affect fertility behavior are education through which the future generations adopt the small family norm, weakening religious controls, urbanization, female participation in the labor force, and widespread availability of contraceptives.

The demographic transition theory serves as a useful framework for analysing fertility differentials between more developed and less developed countries. However, an examination of fertility rates within any one developed country illustrates significant sub-group variations which cannot be accounted for by differences in macro developmental variables. For example there is a large discrepancy in black and white fertility in the United States. The distinctive fertility of minority groups in the MDCs has been explained through two perspectives. According to the **characteristics hypothesis**, fertility differences between minority and majority groups exist only because of differences in social and economic characteristics. For example, blacks are thought to have a

higher rate of fertility than white Americans because black Americans are, on average, poorer and because poorer people have more children than do richer people. An implication is that as blacks assimilate into the broader American society they will have the same rate of poverty as whites and their fertility patterns will resemble those of whites.

An alternative explanation, known as the minority-group status hypothesis, holds that even when socio-economic characteristics have been rendered similar for minority and majority groups, the fertility of the minority group will remain unique. Since the publication of Goldscheider and Uhlenberg's article, "Minority Group Status and Fertility" (1969) there has been a proliferation of literature affirming the explanatory power of the minority group status hypothesis over the characteristics hypothesis. Hence, we will review recent research attempts to test the minority group status hypothesis over the characteristics hypothesis for a variety of minority groups. In the latter half of the chapter we will summarise major research findings and state the hypotheses that will be tested in the present study.

The original formulation of the minority group status hypothesis was to explain why Catholics had higher fertility than Protestants in European countries where Catholics formed a significant minority. Holding constant the effects of ethnicity, Coward (1980) compared the fertility of Irish

Catholics in Northern Ireland (where they are a religious and political minority group) to that of Irish Catholics in the Republic (where they are a religious and political majority group). Catholics in Northern Ireland had a greater concentration in low status occupations than did their coreligionists in the South. However, Coward's study revealed that the former group had higher fertility than the latter even when comparisons were made between occupational categories. The higher fertility of Northern than Southern Irish Catholics in the Republic is all the more impressive, in light of the presence of a family planning program in Northern Ireland and the absence of one in Southern Ireland. Thus, Coward (1980:41) concluded "that the minority status of Northern Irish Catholics exerts an independent effect on fertility". Since the 0.5 million Catholics in Northern Ireland constituted 38 percent of the total population and because they were a 'socially cohesive group', Coward suggested that they maintained higher fertility in order to become a majority by conforming "more closely to the Church's teaching on family life".

Coward's conclusion reinforced that from an earlier study by Kennedy. Kennedy (1973:86) identified several social-psychological conditions which could induce minority groups to have higher fertility than the majority group. These conditions are: "(1) the group's members believe they can increase their political influence by increasing their share

of the total population; and (2) the group's members believe their chances for individual upward social mobility are much less than that enjoyed by the rest of the population". According to Kennedy these conditions would operate to diminish the relevance of upward social mobility as a motivational factor for limiting family size and concomitantly increase the significance of a large number of group members as a method for achieving political ends. Thus, minority couples confronted with these social circumstances would have less incentive to reduce their family size and this would result in higher fertility for the group. Kennedy argued that these conditions can exist for a large national minority group such as Catholics in Northern Ireland as well as smaller groups who are regionally concentrated such as blacks in the southern region of the United States.

Long (1970) concluded that minority-group status could account for the higher fertility of French Canadians compared to both Protestants and other Catholic groups in Canada. Since the Irish, Polish and Italian Catholics included in Long's study had a smaller family size than those of Catholic-French Canadians, Long (1970:143) concluded that the higher Catholic fertility in Canada was really a "Catholic-French Canadian pattern". Further (1970:148), he went on to say that "[E]thnicity, which is also tied to regionalism, may well be cited as the major explanation of the wide religious differentials in fertility in Canada", demonstrating that,

"even the apparent effect of religion on fertility can either be weakened or strengthened by ethnic and other group influences". Thus, the higher fertility of French-Canadians relative to other Catholic groups is a direct result of their minority group status. The French are Canada's largest and oldest minority group and they are regionally concentrated in the province of Quebec which was previously a French colony. These factors should combine to heighten French-Canadians' perceptions of their minority-group status and reduce the impetus for them to plan rationally to reduce family size since the size of their group is thought to be instrumental in attaining political influence.

Minority-group status appears to account for the higher fertility of Catholics compared to Jews and Protestants in the United States. Catholic-Protestant fertility differences were evidenced by the Princeton Fertility study (1957), the Growth of American Families study (1960), and the National Fertility Study (1965), even though the latter found that this difference was declining in the United States. Thus higher Catholic fertility has long been in evidence. Westoff et al. (1964:238), who used data from the second panel of the Princeton longitudinal survey, concluded that denominational differences had "the strongest of all major social influences on fertility". Whelpton et al. (1966) found that over a period of five years lasting from 1955 to 1960 the average number of children ever born and the expected number of

children increased more for white Catholic women than it did for white Protestant women in the same age groups. The first National Fertility Study (in 1965) also found that the expected number of children was higher for Catholics than Protestants, a fact indicating the continuation of a trend documented almost fifteen years earlier (Andorka, 1978).

However, in 1970 the second National Fertility Study was conducted and on the basis of its data, "Jones and Westoff (1979) reported that the Catholic-non-Catholic differential in fertility was very small (only one-tenth of a child per woman), and the differential by frequency of communion among Catholics wives was negligible (only .05 children per woman)" (cited in Mosher and Hendershot, 1984:185). From this analysis Jones and Westoff concluded that the Catholic-Protestant fertility differential would disappear. Yet, when Mosher and Hendershot (1984:189) replicated Jones and Westoff's study with data from the 1973 and 1976 National Surveys of Family Growth, they found that

"the fertility of white Catholic and non-Catholic wives was indeed converging in the early 1970's, but the difference was larger than in the earlier study...Also...the effect of religious participation on the fertility of Catholic wives was still important and was not narrowing".

Westoff and Potvin (1967) found, from a sample of 15,000 college freshmen and senior women, that seniors at sectarian colleges desired fewer children than freshmen at sectarian



colleges. They argued that the opposite should be true if sectarian education were pronatalist. However, Johnson (1982:496) objected that "smaller desired family sizes among college seniors than among freshmen may have represented the influence of selective attrition on these freshmen-senior comparisons and may thereby have masked true pronatalist effects of religious institutions". She analysed once married, spouse present, white Protestant and Catholic wives who were wedded to men of their same religion. Furthermore, she examined only women who had attended college. College educated Catholic women had higher net fertility (.28 more children on average, per woman) than their Protestant counterparts. More significantly, the average number of children ever born to a Catholic respondent increased for every year she spent at a Catholic college or university. In fact, the higher Catholic than Protestant fertility among these college educated white wives could be completely explained by the greater tendency of Catholics to attend sectarian colleges or universities. The importance of this research was its evidence that even among the more privileged segments of United States Christians (i.e., college educated women), fertility differences had not vanished and that integration into a religious minority institution had an impact on reproductive behavior. These findings supported the minority status hypothesis.

The process of Catholic socialization has also been examined

by Janssen and Hauser. According to them (1981:512) "[It] may be that the most influential religious teaching occurs within the family of origin; it may occur in primary or secondary school; or it may be the religious affiliation of the couple during the childbearing years that has the greatest influence " (p. 512). Consequently, Janssen and Hauser examined the effects of the period of religious socialization on fertility with a sample of Wisconsin high school seniors. Their additive model revealed that when the effects of current religious preference are controlled, then both Catholic men and women are likely to have a third or fourth child. On the basis of these results they concluded that the effect of adult religious preference on fertility was stronger than childhood religion for both men and women. Their study also indicated that Catholic religious socialization, including sectarian education in the case of Catholic women, was positively correlated with fertility. Jansen and Hauser's study provides support for the minority group status hypothesis since it demonstrates that a sectarian Catholic education has a positive effect on fertility.

A different formulation of the minority-group status hypothesis was developed by Goldscheider and Uhlenberg to specify conditions under which minority status might depress fertility below majority levels. They (1969:272) argued that racial minorities had lower fertility when:

- (i) Acculturation of minority group members had occurred

in conjunction with the desire for acculturation;

(ii) Equalisation of social and economic characteristics had occurred particularly in middle and upper social class levels, and/or there was a desire for social and economic mobility;

(iii) There was no pronatalist ideology associated with the minority group and no norm discouraging the use of efficient contraceptives.

The minority group status hypothesis outlined by Goldscheider and Uhlenberg relies on the model of assimilation introduced by Milton Gordon (1964). According to Gordon and others (for example see Yinger, 1981; van den Berghe, 1978; Wilkie, 1977; Isaacs, 1975), assimilation (see table 7) is a multi-faceted phenomenon by which members of a minority group are gradually incorporated into the host society. The following table illustrates the successive stages involved in the process of assimilation.

Table 7
Milton Gordon's Stages of Assimilation

Subprocess or Condition	Type or Stage of Assimilation	Special Term
Change of cultural patterns to those of host society	Cultural or behavioral of assimilation	Acculturation
Large scale entrance into cliques, clubs and institutions of host society on primary group level	Structural assimilation	None
Large scale intermarriage	Marital assimilation	Amalgamation
Development of sense of peoplehood based exclusively on host society	Identificational assimilation	None
Absence of discrimination	Attitude receptional assimilation	None
Absence of value or power conflict	Civic assimilation	None

Source: Gordon (1964:71).

Gordon argues that structural assimilation usually follows the cultural assimilation stage except for geographically isolated groups, such as Amerindians, or those groups that encounter severe discrimination, such as blacks. Additionally, recent research suggests that structural assimilation may occur without prior acculturation for those groups that have achieved a high degree of economic success in the host society through private ethnic based enterprises (Wilson and Portes, 1980). Cubans in Miami illustrate this case rather well (see

Portes et al. 1985). The case of Amerindians and Blacks satisfies the first precondition outlined by Goldscheider and Uhlenberg, viz. acculturation has occurred. Similarly, even though Cubans in Miami have become structurally assimilated without being acculturated, their peculiar circumstances would not invalidate the expected relationship between minority group status and fertility UNLESS it could be demonstrated that this minority group desired acculturation but had not realised it.

Gordon (1964:81) further argues that it is "structural assimilation rather than acculturation [which] is seen to be the keystone of the arch of assimilation". Structural assimilation refers to the degree of association that minority groups have with the broader social structure which is defined as "the set of crystallized social relationships which [the society's] members have with each other which places them in groups, large or small, permanent or temporary, formally organized or unorganized, and which relates them to the major institutional activities of the society, such as economic and occupational life, religion, marriage and the family, education, government and recreation".

Minority group members, however, can be associated with the broader social structure at two levels: primary and secondary (Marger, 1985:72; van den Berghe, 1978; Hunt and Walker, 1974). Minority members may simply become incorporated into

the secondary groups of the host society such as the educational, political and economic institutions, which are typically characterised by segmented, formal and non-intimate social contact. Structural assimilation at the secondary level does not imply complete integration into the host society unless it is accompanied by structural assimilation at the primary group level as well. Primary group level contact is typified by the social interactions found in the family, play group and/or social cliques. Group affiliation at the primary level occurs when minority and majority group members interact at the face to face, personal and/or intimate level. It is not at all uncommon to find that while some minority groups attain secondary structural assimilation they continue to remain isolated, at the primary level, from members of the host society. For example, non-whites have achieved a certain degree of secondary structural assimilation in the United States yet their primary group associations, for the most part, are still limited to the ethnic group (Marger, 1985:72-3).

Goldscheider and Uhlenberg implicitly differentiate between secondary and primary structural assimilation. They argue that the second precondition for lower minority compared to majority group fertility is relatively similar economic and social characteristics (see second condition above). They noted, for example, that among urbanites in the 1960 United States census, the greater the amount of college education,

the lower was actual fertility of nonwhites in contrast to whites. Since this lack of racial convergence to white reproductive behavior among college-educated people could not be accounted for by different socio-economic characteristics, the interpretation they ventured was that barriers to status attainment are higher for racial minorities than for whites in the United States and provoke important feelings of insecurity in those minorities who try to 'climb up'. They reasoned, for instance, that college-educated blacks had been acculturated into the economic-achievement norms of white United States society and had realized a high degree of actual success. Because no norms in the black subculture expressly proscribe artificial contraception, highly educated black women would employ such means to reach lower fertility rates than white peers (Goldscheider, 1971). Thus those minority members who desire upward mobility or simply wish to maintain their attained positions will offset the perceived disadvantages of minority status by deferring childbirth, sometimes indefinitely, more so than upwardly mobile whites.

Goldscheider and Uhlenberg's hypothesis has been tested for a wide range of minority groups, even those that do not necessarily fulfill Goldscheider and Uhlenberg's three pre-conditions. For example, Bean and Swicegood (1982) examined the hypotheses that the fertility of Mexican American women, historically characterised by high fertility decreased with the length of stay in the United States and that this

effect is more pronounced in higher status groups of Mexican Americans. They used data from the 1976 Survey of Income and Education to measure both the current and cumulative fertility of Mexican American women. While the cumulative fertility measure indicated higher fertility of Mexican women for both earlier and later generations, the current fertility measure indicated "lower fertility among the second-and-later-generation group" (Bean and Swicegood, 1982:138). Bean and Swicegood also found that among women who had high levels of education, current fertility was lower for both the first and second generation. Thus, education might interact with minority status to reduce the fertility of Mexican American Catholics. The source of this interaction could be the feeling of 'marginality' experienced by women who have acquired some education. Since women with intermediate levels of educational attainment have one foot in the culture of their own minority group and the other in the culture of the majority population, they may be the ones to reduce their fertility in order to achieve upward social mobility.

Similarly, Cooney et al. (1981:1096) examined the relationship between assimilation and fertility for another ethnic group in the United States: Puerto Ricans in the Bronx and nearby areas. Three aspects of assimilation were examined in relation to fertility: (1) social ethnicity (having friends mostly from within the ethnic group); (2) media ethnicity (watching and listening to Spanish programs on television and radio); and (3) context ethnicity (ethnic homogeneity in the

neighborhood and in the husband's place of work). Using data initially collected for examining Puerto Rican family structures Cooney et al. identified two sets of women: older Puerto Rican women who had completed their fertility by the time of their survey; and younger generation women who were either daughters or daughters-in-law of the older women.

For the younger generation of Puerto Ricans, an unfulfilled desire to have non-Puerto Rican friends explained some of the variation in fertility, even after such important factors as education, age at marriage, and duration of marriage had been controlled. These young Puerto Rican wives had 0.37 fewer children on average than did their ethnic age mates, despite the fact that both groups of young Puerto Ricans were Catholic. This difference in reproduction suggests that, under certain conditions, minority status could depress the fertility of some members of a Catholic group. Thus even religious groups characterized by their adherence to pronatalist norms could, under certain conditions, be subject to the minority group status effect of reduced fertility.

Johnson (1979) argued that both the characteristics and the minority-status hypothesis could be cast in a strong form and a weak form. As mentioned earlier, the characteristics hypothesis predicts that majority-minority fertility differences will disappear once socio-economic conditions are rendered similar for both groups. This effect can be achieved

by statistically controlling the influence on fertility of the socio-economic variables, thereby isolating the unique contribution of minority status to fertility. The "strong form" of the characteristics hypothesis would be supported if the resulting effect of minority status on fertility is equal to zero. Alternately, if the characteristics of the majority and minority group have converged as a result of social change then those members who occupy high status positions will be the first to adopt reduced fertility practices. The "weak form" of the characteristics hypothesis, accordingly, predicts that the fertility of upper class, highly educated members of a minority group will not differ from that of the upper class members of the majority group but among the lower class groupings the fertility of racial minorities will be greater than that of their counterparts in the majority population.

According to the minority-group status hypothesis, fertility differences between a majority and minority group exist because of diverse social circumstances within which reproduction occurs. The minority group status hypothesis addresses the important question of "what happens when the discrepancies in [secondary] social characteristics are eliminated and no longer operate to differentiate fertility" (Goldscheider and Uhlenberg, 1979:370). An implication is that the fertility of lower class members of a minority group is a function of their social characteristics. Thus, according to Johnson, this hypothesis can have a "weak form" which would

predict lower fertility of upwardly mobile minority group members compared to their majority-group peers but no fertility difference between lower class majority and minority members. On the other hand, the "strong form" of the minority group status hypothesis predicts an interaction between fertility and minority-status for every socio-economic level: higher minority compared to majority fertility for lower classes, presumably because minority group members tend to be characterised by higher fertility in the absence of incentives for reducing their family size relative to whites; and lower minority as compared to majority fertility for upper classes.

Johnson (1979), controlling for the effects of age at marriage, nonfarm residence, family income, duration of marriage, religion and region, tested for the relationship between race, education and fertility. She formulated and tested the following hypotheses (1979:1391):

"hypothesis 1 - for each level of educational attainment below college, the mean number of children born to blacks will be larger than the mean number born to whites; and hypothesis 2 -for each level of educational attainment involving college attendance, the mean number of children born to blacks and whites will not differ".

Indeed, in Johnson's sample (the 1970 National Fertility Study data), black women who had some elementary school or secondary education had more children than did their white counterparts. But among those who attended or completed college, no statistically significant difference was found in the average numbers of children ever born to whites and blacks. Thus

Johnson's results provide support for the 'weak' form of the characteristics hypothesis.

St. John and Grasmick (1985), argued that similar black/white fertility among college educated women still in the childbearing ages (15-44) does not prove the absence of a strong minority-status effect on reproductive behavior, as Johnson (1979) had concluded, because that similarity could be temporary. If college educated black women get a "head start" by having an earlier age at first birth, they will initially appear to have higher fertility than white college graduates. But as whites begin parenthood, their cumulative fertility may catch up with or may eventually surpass that of blacks. They argued that the total number of lifetime births are achieved in four broad stages, the timing of which could be empirically gauged by (respectively): (1) the likelihood of remaining childless; (2) age at initiation of childbearing; (3) the spacing of subsequent children; and (4) the age at termination of childbearing. The crucial questions that St. John and Grasmick addressed are: do black college women space higher-order births further apart and/or bear the last one earlier? If the answer to either question is yes, then a difference in cumulative fertility might reappear in the later years of childbearing, with white college graduates reaching menopause with higher cumulative fertility than their black counterparts. This timing pattern would also suggest that the blacks were postponing higher order births moreso than whites.

Based on data from the 1976 National Survey of Family Growth St. John and Grasmick found, like Goldscheider and Uhlenberg and Johnson, that black women who had not attended college possessed "a combination of the fertility process variables that contribute to a high level of fertility relative to white women, and which plausibly reflect the disadvantaged position of low status blacks in America" (p.144). They also found that black women at every level of educational attainment were less likely to remain childless and more likely to be younger at the time of the first birth than white women. Consequently, similar black and white fertility among college educated women could not be explained by either of these two fertility process variables.

St. John and Grasmick then tested for the effect of race on spacing of subsequent children and the age at which childbirth is terminated. Since their sample consisted of women still in their childbearing years they approximated the 'age at termination' variable by the respondents intentions to have or not have any additional children. Women who did not plan to have any further pregnancies were coded as having terminated their childbearing. Because all black women claimed they desired a larger number of lifetime births than college educated white women this meant that black women would probably have an older age at the time of the final birth. Thus another fertility process variable that could account for similar black and white fertility among college educated women

of both races viz. younger age at the time childbearing is terminated, was ruled out. Having ruled out the three possible sources of black and white fertility differentials St. John and Grasmick concluded that the lower fertility of highly educated black women resulted from their postponing second and higher order births compared to their white counterparts. Their study supports the minority group status hypothesis since race has been shown to have an independent effect on the fertility behavior, if not fertility level, of highly educated black women.

In an earlier article, St. John (1982:303) applied Davis and Blake's intermediate variables design toward an examination of "the black/white differential in the age at first birth and its impact on the pace of subsequent fertility". He contended that this approach was necessary since it could establish whether blacks have a higher fertility because of a younger age at first birth or whether the differential continues even after having controlled for the impact of early childbearing. Using the 1973 National Survey of Family Growth, he found that 44 percent of Black and only 16 percent of white women had their first child before the age of eighteen but, even more significantly, black women had a faster pace of fertility even after controlling for socio-economic status and age at first birth. However, among women who had attended at least one year of college, blacks were less likely than white Catholic and non-Catholic women to have a second birth within eighteen

months of the first. St. John's observation of higher black compared to white fertility among less educated women combined with his findings of longer inter birth intervals among college educated black women compared to their white counterparts can be taken as evidence for the strong form of the minority group status hypothesis. Minority status has been shown to have an effect on the fertility of both groups of black women compared to white women of similar levels of educational attainment: higher fertility among the less educated and a slower pace of fertility among the more educated.

The preceding literature review demonstrates the effect on fertility of the interaction between socio-economic status and race. This effect has been shown to exist among members of some minority groups that historically have been less integrated into the secondary institutions of the host society in the United States. In recent years, however some minority groups such as the Chinese and Japanese have achieved higher socioeconomic success than whites. The groups aged 25-29 at the time of the 1980 census, for instance, reported that the following percentages had completed high school: 87% of white males and 87.2% of white females; 96.4 % of Japanese males and 96.3% of Japanese females; 90.2% of Chinese males and 87.4% of Chinese females (Gardner et al., 1985).

The fact that younger Japanese and Chinese Americans had

reached higher levels of educational attainment than younger white American women led Johnson and Nishida to contrast the fertility of these groups in California and Hawaii. Since Hawaii is the only state in the United States in which no one ethnic group comprises more than fifty percent of the population and since California has a sizable Japanese and Chinese population while maintaining a majority of whites, Johnson and Nishida (1980) used the populations of the two states to test for a minority-group status effect. Since the minority-group status effect can only be operative in the presence of a significant majority, it was hypothesized that there would be no significant difference in Japanese, Chinese and white fertility in Hawaii. In California, where whites are a majority, the hypothesis would predict lower Japanese and Chinese fertility than white fertility. And finally, when comparing the fertility of Japanese and Chinese in both states, those in California would have lower fertility than those in Hawaii.

When Johnson and Nishida tested these hypothetical statements they found Chinese and Japanese Americans in California had slightly lower fertility rates than did whites in California and significantly lower fertility rates than did their ethnic counterparts in Hawaii. Their results also showed no significant difference in the fertility of whites and Japanese and Chinese Americans in the state of Hawaii. Johnson and Nishida's study has important implications for the minority

group status hypothesis. It demonstrates that the fertility-ethnicity interaction for a structurally assimilated ethnic minority group such as the Chinese and Japanese can be more pronounced in the presence of a majority group and is negative at the aggregate level.

Another Asian American group whose socio-economic achievements have equalled or surpassed those of whites are the Asian Indians. The 1980 Census showed that the percentage of males aged 25-29 who were high school graduates was higher for Asian Indian (93.5%) than for Chinese (90.2%) or white (87.0%) (Gardner et al., 1985: Table 9). The percent of females aged 25-29 who were high school graduates was comparable for Asian Indians (87.9%), whites (87.2%), and Chinese (87.4%) (Gardner et al., 1985: Table 9). Thus, if socio-economic achievement has set the stage for a depressant effect of minority status on the fertility of Japanese and Chinese Americans (Goldscheider and Uhlenberg, 1969; Johnson and Nishida, 1980), then the experience of minority status should also reduce the fertility of Asian Indians in the United States. Indeed, in 1980 the age-standardised number of children ever born per Asian Indian woman of childbearing age (1.22 children) was below that for her white counterpart (1.36 children) (Gardner et al., 1985).

To our knowledge, no one has previously investigated the relationship between minority group status and fertility for

Asian Indians residing in the United States. Halli (1987), documented Asian fertility differentials within Canada and attempted to test the minority group status hypothesis for Asian Indian, Japanese and Chinese Canadians. He used the 1971 census as well its public-use sample 1-in-100 microdata file for his analysis. Since the 1971 Canadian Census did not provide the detailed characteristics of the East Indian population needed for a multiple regression analysis, Halli limited his multivariate investigation to Japanese and Chinese groups. His findings of univariate differences in fertility among the three groups, however, merit some attention. East Indians had fewer children (1.85) than did Chinese (2.55) or Japanese (2.36) in Canada. This relationship might have been partly due to the more youthful age structure and higher educational attainments of Asian Indians in Canada compared to the other two Asian groups, but perhaps the liabilities of minority status weighed most heavily on the Asian Indians so as to depress their fertility the most.

Halli's study on Asian Canadians and Johnson and Nishida's test of Japanese and Chinese fertility compared to their counterparts and whites in the states of Hawaii and California have introduced further research questions. For example, although we know that the minority group status effect is strong for economically assimilated minorities such as the Japanese and Chinese in the United States we still do not know whether this relationship will hold true for other minorities

in the United States, facing similar circumstances. Further, from Halli's study we know that Asian Indians in Canada, as a group, have lower fertility than Japanese and Chinese Canadians but we still do not know how what factors account for differentials at the intra group level. In this dissertation we will attempt to understand more about the fertility of Asian Indians in the United States. The two important questions that will be answered are: (1) does the fertility of Asian Indians, who are relatively assimilated into the secondary host institutions, differ from the majority group; and (2) which aspect(s) of their minority group membership can account for any differential.

Hypotheses

Inter-Group Fertility Differentials

A review of the literature on the relationship between minority group status and fertility enables us to isolate some variables that exert an influence on the fertility of minority groups. The most significant of these variables is religion, ethnicity or race, in other words the fact of minority group status whatever its basis. Goldscheider and Uhlenberg and others have demonstrated that the distinctive fertility of minority groups results partly from differences in socio-economic characteristics but remains even after these important characteristics have been rendered similar. This

reasoning has resulted in different theoretical and methodological interpretations. Thus, while the underlying causal mechanism for differential minority versus majority fertility is the insecurity associated with being a minority group person it is unclear whether only certain sub-groups within the minority group, for example the upper class, experience these insecurities.

The literature review, therefore indicates two possibilities. The first is that the minority group status effect can be interactive, in the sense that minority status combines with socio-economic characteristics to produce differential minority fertility rates. Consequently, some researches have tested for an interaction between minority status and socio-economic variables using upper and/or lower class minority group members (see Bean and Swicegood 1982; Johnson 1979; and St. John and Grasmick 1985). The second interpretation of the minority group status hypothesis is that minority group status is an independent variable exerting a unique influence on fertility after socio-economic characteristics have been rendered similar for minority and majority group members (see Coward 1980; Kennedy 1973; Cooney et al. 1981).

The preceding paragraph also points to yet another source of inconsistency in the manner in which the minority group status hypothesis has been conceptualised. This inconsistency is primarily related to the level of analysis. In its

independent form, for example, it can be argued that the minority group status effect is essentially aggregate. In its interactive form, the minority group status effect operates at the minority sub-group level even though comparisons are made between the majority and minority sub-groups. Further, there is an implicit assumption that the fertility of the minority group, aggregate or sub-group, starts out being different from the majority group which may or may not hold true for all minority groups in the United States. The test questions and the hypotheses that emerge from the preceding literature review are, therefore, multi-dimensional. At the heart of the matter is the factor that produces differential minority fertility. Is it socio-economic characteristics or is it minority group membership per se? Further, do these variables act independently or do they interact to produce differential fertility rates? If minority group status exerts an independent influence on fertility what is the direction of its effect? Is it positive or negative? Finally, assuming that the minority group status effect is independent does it operate at the aggregate or sub-group level?

Thus, the first part of our study will examine the validity of the minority group status hypothesis over the characteristics hypothesis in explaining fertility variations between whites and Asian Indians.

Hypothesis 1a: Minority group membership will have a greater impact on the fertility of Asian Indians than socio-economic status controlling for farm/non-farm residence, household income, wife's age at marriage, present age, education, and labor force participation.

Once we have been able to ascertain the existence of a race effect on fertility we will test for the nature and direction of that effect. Consequently our second hypothesis predicts that minority group membership will have an independent negative effect on the fertility of Asian Indians even after socio-economic variables have been rendered equal for majority and minority couples.

Hypothesis 1b: Asian Indians will have lower fertility than whites after controlling for socio-economic status farm/nonfarm residence, socio-economic status, household income, wife's labor force participation, age, age at marriage, and education.

Last, since we have shown the possibility of an interaction between socio-economic status and race we will test for sub-group differences. We will test the strong version of the minority group status effect which implies that upper class Asian Indians will have lower fertility than their white counterparts.

Hypothesis 1c: Upper-class Asian Indians will have lower cumulative fertility than will their white counterparts, after controls for age, age at marriage, farm/nonfarm residence, wife's labor force participation, wife's education, and household income.

The strong form also stipulates that lower class Asian Indians will have higher fertility than their white counterparts. This is consistent with Goldscheider and Uhlenberg's postulation of the minority group status effect which implies that prior to the equalization of social and economic characteristics minority fertility reflects a cultural predisposition for bearing more children.

Hypothesis 1d: Lower-class Asian Indians will have higher fertility than will their white counterparts, after controls for age, age at marriage, farm/nonfarm residence, wife's labor force participation, wife's education and household income.

The justification for testing the strong form of the minority group status hypothesis is two fold. First, since there is little research precedence for defining a relationship between minority group status and fertility among a structurally assimilated group this hypothesis will engender a richer analysis since comparisons will be made between whites and Asian Indians belonging to different socio-economic groups. Second, testing for the strong version of the minority group status hypothesis will help illustrate if minority-majority fertility differentials result partly from socio-economic variables.

Intra-Group Fertility Differentials

Another concern of this study is fertility differences among Asian Indians in the United States. Goldscheider (1971) pointed out that minority-group members who are acculturated into the value system of Americans, who desire assimilation into American institutions of the primary type, but who have not yet attained that goal will experience psychological insecurity that becomes manifest as a lower fertility rate in comparison to the majority group. Admission of minorities into host institutions should occur first in secondary groups (e.g., work groups in economic institutions) but eventually should extend also to primary groups (e.g., in the form of marriage to a member of the majority ethnic group) and should occur first in formal organizations before occurring in informal organizations. Incorporation into primary and informal groups with the ethnic majority would signify the disappearance of the social distinctiveness of minority status. Thus, ethnic group boundaries should be most visible to those who live at the edges: minority-group members who have most deeply penetrated into the secondary groups and the formal organizations of the ethnic majority. Such penetration is more likely to occur for members of an ethnic minority born inside the United States than for those born outside. Accordingly, lower cumulative fertility was noted for native-born than foreign-born women among Puerto Ricans living in the Bronx (Cooney et al., 1981), Mexican- origin people

people (Bean and Swicegood, 1982), Jewish couples (Engelman, 1951), and Spanish-surnamed couples (Rindfuss and Sweet, 1977). Furthermore, Asian Indians born in the United States tend to belong to different socio-economic groups as we mentioned in the preceding chapter. These relationships prompt our second hypothesis:

Hypothesis 2: Asian Indians born in the United States will have lower fertility than will Asian Indians born abroad, even after controls for farm/nonfarm residence, age, age at marriage, husband's socio-economic status, household income, wife's labor force participation, and wife's education.

In a recent article Swicegood et al. (1988) examined the relationship between language spoken at home and fertility within the Mexican-origin population living in the United States. They argued that native language proficiency could affect fertility by reinforcing ethnic identity and cultural heritage. Further, proficiency in the English language would help women in getting employment in the United States. While their study deals more intensively with the cultural versus the human capital aspects of native language retention their results indicate that fluency in English has a negative impact on fertility. They found that the cumulative and current fertility of bilingual women (those who spoke both Spanish and English) resembled the lower fertility pattern of Hispanic women who spoke English only, even after controlling for educational attainment. Swicegood et al. argued that this relationship indicated the dominance of human capital factors

rather than cultural attachments to the Hispanic community in influencing the fertility of Mexican women. They concluded that host language has a negative impact on fertility and this effect is a result of bi-lingual women's ability to attain jobs in the broader American society. In this research, therefore, we examine the relationship between language preference and fertility within the Asian Indian group.

Hypothesis 3: Asian Indians who speak English at home will have lower fertility than those who do not speak English at home after controls for farm/nonfarm residence, age, age at marriage, husband's socio-economic status, household income, wife's labor force force participation, and wife's education.

The argument once again revolves around the assimilation characteristics of these two groups. The assumption is that those who prefer a native language over English are not as assimilated into the primary and secondary institutions of the host society (Lopez and Sabagh, 1978).

Since in-group marriage also indicates the level of assimilation of a group (Halli, 1987:140), it is hypothesized that:

Hypothesis 4: Those Asian Indians who have married endogamously will have lower fertility rates than those who have wed exogamously after controls for farm/nonfarm residence, age, age at marriage, husband's socio-economic status, household income, wife's labor force participation, and wife's education.

According to Gordon (1964) intermarriage is the final step in

the process of assimilation. Marriage outside the ethnic community is the culmination of a process of assimilation signifying the acceptance of a minority member into the primary institutions of the host society. Once members of a minority group initiate marital relationships outside their own group then ethnic boundaries become less defined and give way to racial amalgamation. In the case of Asian Indians exogamy would imply a certain degree of primary structural assimilation, particularly for the individual couple. Additionally, it is likely that couples who have wed exogamously will identify more with the host population and not feel a pull in their self-identification as is typical for a minority member who is structurally assimilated at the secondary but not primary level. Acceptance into primary institutions should reduce the insecurities associated with minority-group status and in turn not exert a depressing effect on fertility.

In the last hypothesis we will test for the independence of effects between language spoken at home, nativity and exogamy.

Hypothesis 5: Language spoken at home and birth place exert an independent influence on the fertility of endogamously married Asian Indian couples. However, among intermarried couples language spoken at home and birth place will not have any effect on fertility.

The justification for this hypothesis is definitional. Since intermarried couples belong to two different ethnic groups

they will probably not speak a common language other than English. Similarly each partner in an exogamous marriage will probably also be born in two different countries or in the United States. Thus, language and birth place will not exert an independent influence on the fertility of intermarried couples.

CHAPTER THREE

Methodology

Sample Description

The 1980 United States Census enumeration was conducted with a questionnaire, completed by 98 percent of the total population (United States Bureau of the Census, Technical Documentation 1980:13). In addition, 19.4 percent of the total population was required to answer a long questionnaire which generated data for public use sample tapes. This research project utilizes the 1980, 5-in-100, Public Use sample 'A' tapes made available through the United States Census Bureau. The public-use microdata consists of all the information contained on the long form of the questionnaire excepting those responses that could identify individuals and/or households.

The public-use sample tapes facilitate the control of multiple background variables as would be necessary in our test of the minority-status hypothesis. It should be mentioned that the 1980 census carried, in addition to other items, questions on place of birth, language spoken at home, and English fluency. The definition of race also was expanded to include six Asian groups: Japanese, Chinese, Filipino, Korean, Vietnamese and Asian Indian. Since the examination of the relationship between fertility and minority group status for Asian Indians requires an analysis of various predictor variables and a

large sample size, these factors, in addition to those relating to the general advantages of microdata made the public use microdata sample especially useful for our purpose.

In the preceding chapter we argued that minority couples delay or limit childbearing more so than whites in order to offset insecurities associated with upward mobility. This reasoning would imply that socio-economic status interacts with minority group status to produce fertility differentials between majority and minority groups. Thus the important question we wish to answer from the data is: does membership in a minority group depress the fertility of Asian Indians compared to whites? Additionally we wish to determine the existence and direction of the minority group status effect for lower and upper class Asian Indians compared to their respective socio-economic counterparts in the white population. So, while we are interested in minority-majority fertility differences, we are also interested in whether the minority group status effect operates differently for the various socioeconomic sub groups.

Our sample will consist of women, 15-44 years old, presently married and living with spouse. Since we are also interested in studying the impact of intermarriage on fertility, our sample will consist of Asian Indian women and women from other races who are married to Asian Indian men. The respondent's race will be determined by the question on race. In the

complete count census race is coded under seven different categories: white; black; American Indian; Eskimo and Aleut; Asian and Pacific islanders; and finally 'others'. For the first time the 1980 long questionnaire used for generating microdata broke down the Asian category into the Vietnamese, Korean, Japanese, Chinese, Filipino, and Asian Indian. Deleting foreign born and Hispanic whites we had an effective sample of 3,408 not-intermarried Asian Indian women and 3,267 white women. In addition, we also had couples where at least one member was Asian Indian. The breakdown of our sample is shown in Table 28, in the following chapter.

Dependent Variable:

Fertility

The dependent variable, fertility, is measured by the number of children ever born. This measure includes births before a woman's present marriage and children no longer living, as well as all living children whether presently living at home or not. All women born before April, 1965 (fifteen years and older) were asked to respond to the following question: "How many babies [have you] ever had, not counting stillbirths?". The children ever born is a good measure of legitimate births even though illegitimate births are typically underreported (Shryock et al. 1976:45).

Independent Variables:

Country of Birth

In the preceding section we hypothesized that Asian Indians born in the United States would have lower fertility than those born in India or in another country. Country of birth was determined by the response to the question: "In what State or foreign country [were you] born?".

Language Spoken

It was further hypothesised that Asian Indians who spoke an Indian language at home would have higher fertility than those who spoke only English. Language spoken was measured by a response to the question: "[Do you] speak a language other than English at home?". If the response was yes then the person was further asked: "What is this language?". Indian languages were coded in a variety of ways to incorporate the many languages spoken throughout India. The coding for language spoken at home will be further discussed in the next chapter.

Exogamy

Marriage to members within one's national group was considered negatively related to fertility therefore it was necessary to

identify Asian Indians who had a spouse of a different nationality or race. This measure is available by comparing the race of the two members of a couple using responses to the race and relationship to householder questions.

Socio-Economic Status

In the previous chapter we hypothesized that minority couples would have lower fertility than their native born white counterparts. We argued that this effect would be strongest among upper class members of an ethnic group who had attained structural assimilation into the host society's secondary institutions while continuing to operate within the primary institutions of their own ethnic group. In previous research education has been used as an indicator of 'social class'. However, in this study we use the socio-economic index scores to delineate Asian Indians into upper and lower class.

The socio-economic index was first constructed by Duncan using 1950 U.S. census data to compensate for the limitations of the National Opinion Research Centre (NORC) prestige rating scores. Duncan's goal was to develop a scale that could be utilised in stratifying the total population of the United States including those occupational categories which were not on the NORC test (Duncan 1961:115). To arrive at such a scale Duncan used the NORC scores for estimating weights for the same occupational categories in the 1950 census using mean

scores for income and educational attainment of incumbents in the same census occupational categories. Duncan found a high correlation between prestige scores and education and income. The multiple regression coefficients for both income and education were accordingly also high. This prompted Duncan to use weights generated by regressing NORC scores on income and education to other occupations not listed in the NORC test to produce a socio-economic index for all census occupational categories.

The changes in census occupational categories, the addition of new job categories and recent changes in the prestige of various occupations make it unfeasible to use the Duncan socio-economic scores today. Therefore, we will use new scores reflecting the 1980 census occupational classification scheme. These scores are calculated by Stevens and Cho (1985) in a recent article. Stevens and Cho have calculated a socio-economic index based on the total as well as male labor force. In this dissertation we will use the occupation of husband to determine the household's rank on the socio-economic index. Those women whose husbands score more than fifty on the socio-economic index, for example engineers (75.29), medical scientist (76.53) and teachers (51.38) will be designated as upper class. On the other hand those women whose husbands score less than fifty for example tailors (18.46), carpenters (21.43) and health technicians (48.98) will be operationalised as lower class.

Control Variables:

Since the minority group status hypothesis asserts that fertility differentials between minority and majority populations will persist even after socio-economic characteristics for both populations are rendered similar it is necessary to control for differences in residence, age at marriage, household income, education attainment, labor force participation and age. This section discusses in greater detail the reasons for controlling these individual variables and how they are measured.

Farm/Non-Farm Residence

Since farm background has been shown to be positively correlated with fertility (Duncan 1965; Ritchey and Stokes 1971) it is necessary to control for residence. This will be done by coding farm residents as 1 and other respondents as 0.

Age At Marriage

Age at marriage is shown to be inversely related to fertility since youthfulness at marriage greatly lengthens exposure to the risk of childbearing (St. John and Grasmick 1985; St. John 1982). Age at marriage is determined for all respondents born before April, 1965 at the time of the 1980 census by

their response to the following question; "[Have you] been married more than once?". If the answer is no then the respondent is asked to state the "month and year of marriage?". On the other hand, if the respondent has been married more than once they are asked to state the "month and year of first marriage?". Age at marriage is coded in single years.

Household Income

Income is measured by the census bureau in groups and coded as follows: less than \$5,000 = 1; \$5,000- \$7,499 = 2; \$7,500-\$9,999 = 3 and so on, until the last category of respondents who declare their income as more than \$75,000 who are coded as 30. Income measures are for 1979 and since they are based on memory there is some danger of underreporting although the census bureau makes every effort to limit the size of this error. We will use household income as opposed to wife's income because wife's income has at most a very weak effect independent of its contribution to total household income (Davis and Blake 1956; Demeny 1970; Petersen 1969).

Education

Education is also known to be inversely related to fertility (Graff 1979; Rindfuss et al. 1980; Jain 1981). It is measured as the number of years of school ever attended. The

questionnaire also contained a query on whether the respondent had completed the highest grade attended. Foreign respondents were required to translate the highest grade attended in terms equivalent to the American educational system or simply complete the number of years of school attended. Once again the socio-economic index used in this dissertation incorporates measures of husband's education. However, we will also control for the effect of female education on fertility. In the 1980 census, the different categories for coding educational attainment were: those who had never attended school; those who had attended one to four years of elementary school; five to seven years of elementary school; those who had completed eight years of primary school; those who had attended one to three years of high school; those who attended the fourth year of high school; those who had attended one to three years of college and finally those who had attended four or more years of college. In this dissertation education will be coded as a continuous variable representing each year of completed schooling.

Labor Force Participation

Women's participation in the labor force has been shown to be negatively correlated with fertility (Shah and Smith 1981, Bogue 1969). Of the 61,501 Asian Indian women who immigrated to the U.S. between 1970 and 1980, 33,934 were participants in the labor force. It will, therefore, be important to

control for this negative influence on fertility. Respondents who are not in the labor force will be coded 0 while those who are in the labor force will be coded 1.

Age

We will also control for the positive effects of age on fertility (Bogue 1969; Johnson and Nishida 1980). Age will be coded as a continuous variable between the 15-44 range and measured in single years.

Statistical Technique For Testing Hypothesis One

Multiple Analysis of Variance

With a few exceptions (Sly 1970; Johnson 1979) demographers have relied on multiple regression models for analysing the relationship between minority group membership and family size. While multiple regression is a robust tool for testing the minority group status-fertility relationship it is not appropriate for testing the validity of the minority group status hypothesis over the characteristics hypothesis since the former requires a test for interaction. An ideal statistical method for determining the relationship between social status, minority group status and fertility is

factorial or multiple analysis of variance since it allows for a test of the effects of the independent variables and any interaction between them. Consequently we will use this technique to test the first hypothesis.

Factorial analysis of variance can be defined as "the statistical method that analyses the independent and interactive effects of two or more independent variables on a dependent variable" (Kerlinger 1973:245). In traditional regression models we assume independence and attempt to ascertain the unique contribution of one variable to the variance of a dependent variable. However, variables do not always act independently but in concurrence with one another. The advantages of utilising an analysis of variance technique in our investigation is that it allows for the manipulation of more than one variable simultaneously and allows us to test for the hypothesized interaction between minority group membership and fertility. Thus we can ascertain the effect on fertility of (1) social characteristics, (2) minority group status and (3) the interaction of minority group status and social characteristics. In other words we can determine whether the data support the characteristics hypothesis, the minority group status hypothesis or the interaction hypothesis.

Another advantage of analysis of variance is that, like multiple regression models, one can control other variables

that are known to influence fertility but are not of substantive significance. Finally, it should be mentioned that although we have specified a relationship between minority group status, socio-economic status and fertility there remains considerable uncertainty about the nature of the statistical relationship between the independent and dependent variables. Since analysis of variance is the only procedure that allows for testing relationships between the independent and dependent variables without restrictive specification about the nature of that relationship it was deemed to be a better technique for testing part 'a' of the first hypothesis. The exploratory nature of our research will no doubt mandate the use of regression analysis in addition to analysis of variance in order to affirm other aspects of our first hypothesis.

The factorial analysis of variance is an extension of the simple additive model which is used to study the strength of more than one main effect (independent variables). The additive model takes the following form;

$$Y_{ij} = u + A_i + B_j + e_{ij}$$

Where u = overall mean

A_i = effect of the i^{th} level of A

B_j = effect of the j^{th} level of B

and e_{ij} are random errors independently distributed as $N(0, \sigma)$.

This model can be extended to incorporate an interaction term C_{ij} which responds to level i of factor A and level j of factor

B. This model then takes the following form;

$$Y_{ij} = u + A_i + B_j + C_{ij} + e_{ij}$$

The multiple analysis of variance model utilised in this research investigation assumes:

- 1) The probability distribution for each of the factors is normal;
- 2) Each probability distribution has the same variance;
- 3) The observations for each factor level are random observations from the corresponding probability distribution and are independent of the observations for any other factor level (Neter and Wasserman 1974:426).

Multiple analysis of variance is a variation of the basic analysis of variance model. Statistically, analysis of variance or analysis of variance around the means decomposes the total variation in the dependent variable into each component or factor and the error term. If the two factors do not interact the model is said to be additive; if they do interact then the additive version of the model does not hold any ground (for this and other aspects of basic and multiple analysis of variance see Bhattacharya and Johnson 1977; Neter and Wasserman 1974; and Kerlinger and Pedhazur 1973).

Statistical Technique for Testing Intra Group Hypotheses

Multiple Linear Regression

We will use multiple linear regression for testing the remaining hypotheses. Multiple linear regression will be used to test the relationship between Asian Indian fertility and a variety of causal variables. The structural equation for multiple regression is;

$$Y_i = a + B_1X_{i1} + B_2X_{i2} + B_3X_{i3} \dots + e_i, \quad i=1, \dots, n$$

Where X_{i1} , X_{i2} etc., are the values of the independent variables in the i^{th} case and Y_i is the corresponding dependent variable. The error components are assumed to be normal with mean = 0 and variance = 1.

The parameters a , B_1 , B_2 etc. are unknown fixed quantities.

Following Neter and Wasserman (1974), the assumptions of linear regression are:

- 1) the sample is drawn from the universe of all possible samples from the population of interest;
- 2) y is conceptually interval scaled;
- 3) y is a linear function of the independent variables
- 4) within each population j , the distribution of y about X_{ij} is normal;
- 5) within each population j , the variances e_{ij} are equal and
- 6) the error terms e are independent.

Multiple linear regression is appropriate for testing hypotheses two, three, four and five outlined in this project because it can be used to predict the value of one variable

from measurements of other variables. Variables can also be controlled to determine the relationship of other independent variables with the dependent variable. Statistical inferences about the strength of the relationship can be determined by using the t test. Since we are not interested in determining the causal ordering of the independent variables nor the path these variables use to influence the dependent variable other regression models such as path analysis were deemed unnecessary.

CHAPTER FOUR

Data Analysis

Inter-Group Fertility Differentials

To conduct a test of hypotheses 1a-1d we combined a sample of Asian Indian women, between the ages of 15 and 44, presently married and living with an Asian Indian spouse with an equal sized sample of white women with parallel characteristics. Since there were only a few Asian Indian women who lived on farms we restricted our analysis to non-farm Asian Indian and white women. Initial descriptive data, summarized in Tables 8-10, indicates that Asian Indian women have fewer children than white women even though the differential is very small.

Table 8

Comparison of Mean Scores for Non-Farm Asian Indian
and White Women on Selected Variables

Variables	Mean Scores	
	Whites	Asian Indians
Education	14.8	16.3
Husband's Socio-Economic Status	38.7	58.7
Age	31.6	31.8
Age at Marriage	20.2	22.5
Fertility	1.9	1.6

We then separated our sample of Asian Indian and white women according to their participation in the labor force. Asian Indian women had lower fertility than white women regardless of labor force status although the discrepancy was greater among those women who were not in the labor force. The results are presented in tables 9 and 10. It should be stressed, at this point, that when we talk about Asian Indian and white fertility differences through out the remaining part of this dissertation we are referring to a very small gap in average number of children ever born to white and Asian Indian women.

Table 9

Comparison of Mean Scores for Non-Farm Asian Indian and White Women in the Labor Force for Selected Variables

Variables	Mean Scores	
	Whites	Asian Indians
Education	15.2	17.1
Husband's Socio-Economic Status	39.9	55.7
Age	31.8	32.6
Age at Marriage	20.5	23.1
Fertility	1.6	1.5

Table 10

Comparison of Mean Scores for Non-Farm Asian Indian and White Women Not in the Labor Force for Selected Variables

Variables	Mean Scores	
	Whites	Asian Indians
Education	14.2	16.2
Husband's Socio-Economic Status	37.5	61.8
Age	31.5	30.9
Age at Marriage	19.9	21.8
Fertility	2.2	1.7

The differences in mean fertility between Asian Indian and white women, however small, can be readily explained by differences in socio-demographic characteristics between the two groups of women. The lower fertility of Asian Indian women, for example, may result from the higher attained levels of education, older age at marriage and from higher socio-economic status, each of which has a negative impact on fertility. However, we wish to ascertain whether Asian Indian and white fertility differentials continue after these socio-demographic variables have been rendered statistically similar. This can be tested through two different statistical procedures: factorial analysis of variance, and multiple

regression. Both these techniques are dictated by the causal mechanisms already defined and discussed in the methodology and literature review chapters. Thus, we begin our analysis of inter-group fertility differentials by examining the relative contribution to fertility of race, socio-economic characteristics and any interaction between race and socio-economic variables, utilizing multiple analysis of variance.

To conduct this test we divided our sample of Asian Indian and white non-farm women into two groups: women in the labor force; and women not in the labor force. Our factorial analysis of variance model included two factors (independent variables): race, operationalised as white = 1, Asian Indian = 0; and socio-economic status operationalised as low = 1, high = 2.

We also included a race by socio-economic status interaction term. The results provided the effects of the main factors and the interaction term. According to our results fertility differentials between non-farm Asian Indian and white women who were not in the labor force could be accounted for by differences in socio-economic status. Race, or minority group membership, only accounted for approximately one fourth of fertility differential between non-farm Asian Indian and white women who were not in the labor force after controls for woman's education, age, age at marriage and household income.



The interaction effect was very small and not statistically significant. Thus, we can conclude that socio-economic variables effect fertility to the same extent and in the same direction for both racial groups. In other words, among women not in the labor force husband's socio-economic status has a greater impact than race in explaining white and Asian Indian fertility. The results of this analysis are presented in table 11 and lend partial support to the characteristics hypothesis since labor force participation and husband's socio-economic position have been shown to have an influence on fertility.

Table 11
Analysis of Variance Table for the Fertility of Non-Farm
Asian Indian and White Women Not in the Labor Force

Source of Variation	SS	DF	MS	Sig of F
Race	2.62	1	2.62	.114
Socio-Economic Status	6.57	1	6.28	.012
Race by SES	.94	1	.94	.343

n = 3227

Note: SS = Sum of Squares

DF = Degrees of Freedom

MS = Mean Squares

Sig of F = Significance of F ratio

SES = Socio-economic Status

Factorial analysis of variance produced different results for a sample of non-farm Asian Indian and white women who were in the labor force suggesting an interaction between labor force status and race. After controls for woman's education, age, age at marriage and household income, we found that race had

nearly twice as strong an impact on the fertility of women in our sample as did husband's socio-economic status. Once again the interaction between race and socio-economic status was not statistically significant, which implied that race had the same impact on the fertility of Asian Indian and white women who were in the labor force for both low and high levels of husband's socio-economic status. As a first step in our analysis of inter-group fertility differences these results, summarised in table 12, indicated the operation of the strong form of the minority group status hypothesis in the sense that race has been shown to have an impact on the fertility of high and low social status groups of Asian Indian women, although an analysis of the direction and magnitude of this effect still remains to be examined.

Table 12

Multiple Analysis of Variance Table for the Fertility of
Non-Farm Asian Indian and White Women In the Labor Force

Source of Variation	SS	DF	MS	Sig of F
Race	36.20	1	36.20	.000
Socio-Economic Status	15.02	1	15.02	.000
Race by SES	1.23	1	1.23	.263

n = 3414

Note: SS = Sum of Squares

DF = Degrees of Freedom

MS = Mean Squares

Sig of F = Significance of F ratio

SES = Socio-economic Status

The next step in our analysis of Asian Indian and white fertility differentials was to test for the effect of minority group status after controlling for the effects of social, demographic and economic characteristics. This step was conducted in order to determine which group of women, Asian Indian or white, had lower fertility after controlling for the effects of socio-economic attributes. Multiple regression was the more appropriate statistical technique for testing the effects of race on fertility. We regressed the combined fertility of 3,408 not-intermarried Asian Indian and 3,267 white women on race and the compositional variables. The results indicated that a woman's race contributed, in a statistically significant manner, to inter-group fertility variation. However, contrary to our expectation white women had lower fertility than did Asian Indian women after controlling for the mitigating effects of woman's age, age at marriage, farm/non-farm residence, labor force participation, education, household income, and husband's socio-economic status. These results, presented in the following table, implied that the minority group status hypothesis at least in its current form could not account for the differential fertility of Asian Indian women.

Table 13

Regression of Children Ever Born on Race

Variable	Correlation	b	Beta	Significance T
Age	.497	.1217	.5667	.0000
Age at Marriage	-.266	-.1149	-.3285	.0000
Labor force status *	-.124	-.3337	-.1239	.0000
Education	-.248	-.0349	-.0876	.0000
Race **	.091	-.1472	-.0548	.0000
Husband's Socio-Economic Status	-.103	-.0036	-.0632	.0000
Household Income	-.163	-.0000	-.0282	.0047
Farm +	.034	.0459	.0041	.6629

n=6675.

* 1 = in labor force

** Asian Indians = 0; White = 1

+ 1 = in farm

R Square = .41; Constant = 1.33

We further tested for the effects of race on Asian Indian and white fertility by including a race by labor force participation interaction term. This time the significance of the race effect disappeared while the interaction produced a significant and negative effect on fertility. Since the significant interaction term was coded as '1' for white women in the labor force and '0' for everyone else, the results revealed that white women who were in the labor force had the lowest fertility rate compared to white women not in the labor force and Asian Indian women regardless of labor force status. The results also revealed that the race effect witnessed in the previous regression analysis was in fact a reflection of

the significantly lower fertility of white women in the labor force. The standardized and unstandardized regression coefficients produced by the second regression analysis are presented in table 14.

We further compared the fertility of low and high social status Asian Indian and white women using the same sample discussed in the preceding paragraph in order to test the strong versus the weak form of the minority group status hypothesis. Once again the results indicated no support for either version of the minority group hypothesis. In both social classes Asian Indian women had higher fertility than white women after controlling for other compositional variables. The results are presented in tables 15 and 16 and their implications are explored in the final chapter.

Table 14
Regression of Children Ever Born on Race

Variable	Correlation	b	Beta	Significance T
Labor Force x Race	-.052	-.2382	-.0799	.0000
Age	.497	.1212	.5643	.0000
Age at Marriage	-.266	-.1155	-.3303	.0000
Labor force status *	-.124	-.2134	-.0792	.0000
Education	-.248	-.0355	-.0890	.0000
Race **	.091	-.0137	-.0051	.7375
Husband's Socio-Economic Status	-.103	-.0032	-.0572	.0000
Household Income	-.163	-.0000	-.0269	.0070
Farm +	.034	.0459	.0039	.6792

n=6675.

* 1 = in labor force

** Asian Indians = 0; White = 1.

+ 1 = in farm

R Square = .41; Constant = 1.28

Table 15

Regression of Children Ever Born on Race: Low Social Status

Variable	Correlation	b	Beta	Significance T
Age	.505	.1251	.5682	.0000
Age at Marriage	-.269	-.1265	-.3406	.0000
Labor force status *	-.135	-.3343	-.1129	.0000
Education	-.254	-.0553	-.1135	.0000
Race **	.079	-.1370	-.0441	.0024
Household Income	-.135	.0000	.0000	.9594
Farm +	.026	.0141	.0015	.9082

n=3295.

* 1 = in labor force

** Asian Indians = 0; White = 1.

+ 1 = in farm

R Square = .4189; Constant = 1.64

Table 16

Regression of Children Ever Born on Race: High Social Status

Variable	Correlation	b	Beta	Significance T
Age	.509	.1163	.5627	.0000
Age at Marriage	-.241	-.1010	-.3065	.0000
Labor force status *	-.133	-.3412	-.1430	.0000
Education	-.221	-.0238	-.0645	.0000
Race **	.062	-.1034	-.0409	.0036
Household Income	-.210	.0000	-.0653	.0047
Farm +	.035	.3933	.0204	.0000

n=3380.

* 1 = in labor force

** Asian Indians = 0; White = 1

+ 1 = in farm

R Square = .4056; Constant = .7653

We then added a set of race by labor force status interaction terms and tested for the effects of these new variables on the fertility of Asian Indian and white women according to their respective social status. Once again the race effect witnessed in the two preceding regression tables became statistically insignificant while the interaction terms had a very significant negative impact on fertility. In both social status groups of women, high and low, the interaction between labor force participation and race produced the most

significant impact on fertility differentials. High social status white women who were in the labor force had nearly one-third child less than did white women who were not in the labor force and both groups of Asian Indian women. Among low social status groups of Asian Indian and white women, participation in the labor force meant that white women active in the labor force had about one-quarter child less than any of the other groups. These results implied that labor force status interacted with race to produce fertility differentials between white and Asian Indian women. These results are presented in tables 17 and 18. Although these results do not support the minority group status hypothesis as outlined in the preceding chapter, they suggested that white and Asian Indian women responded differently to labor force activity. In this sense minority group status does have an impact on Asian Indian fertility after controlling for the effects of compositional variables which does not result in lower minority fertility.

Table 17
Regression of Children Ever Born on Race: High Social Status

Variable	Correlation	b	Beta	Significance T
Labor Force x Race	-.082	-.3294	-.1105	.0000
Age	.509	.1150	.5562	.0000
Age at Marriage	-.241	-.1010	-.3067	.0000
Labor force status *	-.133	-.2314	-.0969	.0000
Education	-.221	-.0245	-.0663	.0000
Race **	.062	.0815	.0322	.1184
Household Income	-.210	.0000	-.0626	.0000
Farm +	.035	.3952	.0205	.1225

n=3380.

* 1 = in labor force

** Asian Indians = 0; White = 1.

+ 1 = in farm

R Square = .42; Constant = .77

Table 18
Regression of Children Ever Born on Race: Low Social Status

Variable	Correlation	b	Beta	Significance T
Labor Force x Race	-.064	-.2551	-.0837	.0024
Age	.505	.1250	.5676	.0000
Age at Marriage	-.269	-.1276	-.3438	.0000
Labor force status *	-.135	-.1626	-.0549	.0190
Education	-.254	-.0551	-.1131	.0000
Race **	.079	.0085	.0027	.8978
Household Income	-.135	.0000	-.0014	.9214
Farm +	.026	.0137	.0015	.9101

n=3295.

* 1 = in labor force

** Asian Indians = 0; White = 1.

+ 1 = in farm

R Square = .42; Constant = 1.566

Intra-Group Fertility Differentials

In order to test the effects of minority group membership on fertility a sample of women who were between the ages of 15 and 44 at the time of the 1980 census, presently married and living with spouse was procured. The sample was composed of all women who were either Asian Indian or whose spouses were Asian Indian. The distribution of women in our sample by race is presented in Table 19. The sample of women also contained information pertaining to race of respective spouse. This combined information was used to identify intermarried as well as not intermarried couples. They were distributed as indicated in Table 20.

Table 19

Distribution of Women According to Race

Race	Frequency	Percent
White	483	11.2
Black	31	.7
American Indian, Aleut, Eskimo	5	.1
Japanese	4	.1
Chinese	8	.2
Filipino	22	.5
Korean	3	.1
Asian Indian	3718	86.4
Other Asian and Pacific Islander	7	.2
Spanish	17	.4
Other	6	.1
Total	4304	100.0

Table 20

Distribution of Inter-marriage Status

Inter-marriage Status	Frequency	Percent
Not intermarried	3408	79.2
Intermarried	896	20.8
Total	4304	100.0

Since intermarriage is known to influence the fertility of

minority group couples (Rindfuss and Sweet 1977), it was necessary to remove these couples from the sample prior to testing the effects of language and nativity on fertility. Thus, our multivariate analysis of Asian Indian fertility differentials accounted for by the language spoken at home and country of birth was conducted on a sample of Asian Indian women married to Asian Indian men. As is evidenced from Table 20, this sample had an effective size of 3,408 women. Further, Asian Indian women were also differentiated by country of birth and the respective language spoken at home. The descriptive information pertaining to these variables is presented in tables 21 and 22.

Table 21

Distribution of Asian Indian Women by Country of Birth

Country	Frequency	Percent
India	2592	76.06
Pakistan	144	4.23
Guyana	76	2.23
United States	67	1.97
Kenya	60	1.76
Fiji	51	1.50
Bangla Desh	37	1.09
Uganda	28	.82
Tanzania	27	.79
Trinidad	27	.79
Iran	27	.79
Other	272	7.98
Total	3408	100.01

Note: Percentage total does not equal one hundred because of rounding.

Table 22

Distribution of Asian Indian Women by Language Spoken at Home

Language other than English Spoken at Home	Frequency	Percent
<hr/>		
Indian Language	2857	83.8
No Other Language	299	8.8
Other Language	252	7.4
Total	3408	100.0

For all the regression equations testing the effects of nativity, exogamy and language on fertility it was necessary to partial out the influence on fertility of the various compositional variables in order to isolate the unique contribution of the independent variable under investigation. The coding of the compositional variables has already been outlined in Chapter Three.

Test of Birthplace Effect on Fertility

In order to capture the impact of birth place on fertility we began by regressing fertility on the compositional variables and saved a file of the observed unstandardized residuals. We then regressed the unstandardized residuals on birth place by coding India = 0, the United States = 1. Similarly we regressed the unstandardized residual on birth place by coding

India = 0, and any other country except India and the United States = 1. The unstandardized regression coefficients generated by the analysis of residuals were used for coding the birth place variable. The results of the residual analyses are presented in table 23.

Table 23
Coefficients of Birth Place

Variable	b
India versus United States	.0515
India versus Countries Other than United States	.1505

A multivariate examination of the effects of birthplace on fertility revealed that those women who were born in India had the lowest fertility, while those born both outside the United States and India had the highest fertility rates, almost fifteen percent more than Asian Indian women born in India. Native, United States, born Asian Indian women had realised fertility rates nearly five percent higher than women born in India yet significantly fewer children than those women born outside India or the United States. This relationship was statistically significant. These results implied that birth outside the United States had a positive effect on fertility for those Asian Indians born outside both the United States and India. But birth in the United States did not result in lower fertility when comparisons were made with those Asian

Indians born in India. These results lend partial support to hypothesis # 2.

Table 24

Regression of Children Ever Born on Compositional Variables and Birth Place

Variable	Correlation	b	Beta	Significance T
Age	.500	.1313	.6268	.0000
Age at Marriage	-.263	-.1161	-.3973	.0000
Labor force status *	-.071	-.2367	-.1004	.0000
Education	-.258	-.0254	-.0868	.0000
Socio-Economic Status	-.081	-.0033	-.0638	.0000
Household Income	-.146	.0000	-.0314	.0172
Farm **	.023	.1300	.0065	.6084
Birth Place +	.089	.0106	.0558	.0000

n=3360.

* 1 = in labor force

** 1 = in farm

+ India = 0; U.S. = 5; Another country = 15

R Square = .4626; Constant = .7861

Most of the variance in fertility was explained by the woman's age, age at marriage, labor force participation and education as Table 24 indicates. Husband's socio-economic status exerted a negative influence on fertility as did income of household. Those women who lived on farms had higher fertility than did their counterparts in non-farm areas. Finally after all the compositional variables were regressed birth place had a positive influence on fertility unlike what we had predicted in hypothesis # 2.

Test of Language Effect On Fertility

We then conducted a similar analysis of residuals produced by regressing fertility on the compositional variables for language other than English spoken at home. We regressed the unstandardized residuals on language spoken at home with an Indian language coded '0', English coded '1'. We subsequently regressed the residuals on language spoken at home with an Indian language coded '0' and any other language apart from an Indian language or English coded as '1'. The unstandardized regression coefficients were used to code the three language categories. The results of the analysis of residuals for the language variable are presented in Table 25.

Table 25
Coefficients of Language Spoken At Home

Variable	b
Indian Language versus English	.2235
Indian Language versus language other than English	.0059

Fertility was then regressed on language spoken at home. The results are presented in the table 26, below. As with birth place a significant amount of variance in fertility was explained by compositional variables such as age, age at marriage, labor force participation and education of woman. Husband's socio-economic status accounted for the remaining

variance while household income and farm status exerted the expected influence which was not statistically significant. After the effects of all these variables was partialled out language spoken at home had a sizeable, statistically significant impact on fertility. Those Asian Indian women who spoke only English at home had 0.22 more children than those who spoke an Indian language at home. When comparisons were made between English speaking and any other language speakers apart from Indian language speakers, English speakers continued to have nearly 0.21 more children than the latter. These results did not support our third hypothesis which predicted lower fertility for English speaking Asian Indian women.

Table 26

Regression of Children Ever Born on Compositional Variables
and Language

Variable	Correlation	b	Beta	Significance T
Age	.500	.1306	.6232	.0000
Age at Marriage	-.263	-.1162	-.3978	.0000
Labor force status *	-.071	-.2382	-.1010	.0000
Education	-.258	-.0270	-.0920	.0000
Socio-Economic Status	-.081	-.0032	-.0628	.0000
Household Income	-.146	.0000	-.0329	.0127
Farm **	.023	.1346	.0068	.5958
Language +	.093	.0105	.0554	.0000

n=3360.

* 1 = in labor force

** 1 = in farm

+ India language = 0; Not English not Indian language = 1;
English = 22

R Square = .4626; Constant = .8525

Test of Intermarriage Effect on Fertility

In order to conduct a test of the effects of intermarriage on fertility we incorporated intermarried couples back into our sample which gave us an effective sample size of 4304 women who were either Asian Indian or married to an Asian Indian spouse. Intermarried couples were categorised into four different groups based on the race of their respective spouses. Thus we separated intermarried Asian Indian women

into two groups: those who were intermarried to a non-white spouse; and those married to white spouses. We also divided intermarried Asian Indian men into two groups: those who were intermarried to a non-white spouse; and those married to a white spouse. These four separate groups were generated in order to ascertain, statistically, the impact of marriage with a member of the host society as opposed to a member who belonged to the Asian Indian or any other ethnic group. Additionally we wished to isolate the unique effects of intermarriage unencumbered by the mitigating impact of gender. For example, it is possible that the fact of intermarriage with an anglo-mate has differential implications, in terms of primary group interaction, for men and women. The decomposition of our sample in accordance with the nature of intermarriage is shown in Table 27. Table 28 also shows husband's mean socio-economic scores for each of the five different groups.

Table 27

Distribution of Women According to Type of Intermarriage

Type of Intermarriage	Frequency	Percent
Not Intermarried	3408	79.2
Indian Man + Non-White Woman	102	2.4
Indian Woman + Non-White Man	65	1.5
Indian Man + White Woman	483	11.2
Indian Woman + White Man	245	5.7
Missing	1	0.0
Total	4304	100.0
Valid Cases	4303	

Table 28
Husband's Mean Socio-Economic Position
By Nature of Intermarriage

Type of Intermarriage	Socio-Economic Scores
Not Intermarried	58.54
Indian Man + Non-White Woman	52.45
Indian Woman + Non-White Man	43.31
Indian Man + White Woman	59.67
Indian Woman + White Man	43.80

We then proceeded to test for the effects of intermarriage on fertility by regressing fertility on the compositional

variables, saving the unstandardized residuals, and regressing the residuals on intermarriage. The first regression using residuals was conducted with intermarriage coded as '0' for not intermarried couples and '1' for Asian Indian men married to non-Indian, non-white spouses. The second time we coded intermarriage as follows: not intermarried = '0', Asian Indian women married to non-Indian non-white men = '1' and so on. We utilised the unstandardized regression coefficients for coding intermarriage and then regressed fertility on all the compositional variables and intermarriage. These results are presented in table XXII.

Table 29
Coefficients of Intermarriage

Variable	b
Not Intermarried versus Asian Indian Man and Non-Anglo, Non-Indian woman	.1123
Not Intermarried versus Asian Indian Woman and Non-Anglo, Non-Indian man	-.0629
Not Intermarried versus Asian Indian Man and White Woman	-.1672
Not Intermarried versus Asian Indian Woman and White Man	-.2065

When we regressed intermarriage coded along the scheme defined above we found that age, age at marriage, labor force participation, education and husband's socio-economic status have a significant impact on fertility in the expected

direction as table 30 indicates. However, after these variables have been accounted for intermarriage exerts a statistically significant impact on fertility. Couples in which the man was Asian Indian married to a non-Asian Indian, non-white woman had the highest fertility exceeding not intermarried couples' fertility by nearly 0.11 children percent. In all other cases intermarried couples had fewer children than endogamously wed Asian Indians. For example, Asian Indian women married to non-white, non-Asian Indian men had nearly 0.06 fewer children than did their not intermarried counterparts while Asian Indian men married to white women had nearly 0.17 fewer children than not intermarried couples.

Table 30

Regression of Children Ever Born on Exogamy

Variable	Correlation	b	Beta	Significance T
Age	.497	.1316	.6220	.0000
Age at Marriage	-.245	-.1143	-.3886	.0000
Labor force status *	-.104	-.2723	-.1112	.0000
Education	-.237	-.0323	-.1024	.0000
Socio-Economic Status	-.066	-.0032	-.0595	.0000
Household Income	-.160	.0000	-.0379	.0015
Farm **	.021	.0089	.0000	.9690
Intermarriage +	.047	.0093	.0550	.0000

n=4230.

* 1 = in labor force

** 1 = in farm

+ Not Intermarried = 0; Asian Indian man and non-white, non-Asian Indian woman = 11; Asian Indian woman and non-white, non-Asian Indian man = -6; Asian Indian man and white woman = -17; Asian Indian woman and white man = -21;

R Square = .4526; Constant = .9060.

Asian Indian women married to white men had the lowest fertility rates, nearly 0.21 fewer children than endogamously wed Asian Indians. These results, presented in Table 30 did not support our fourth hypothesis which predicted that intermarried couples would have higher fertility than Asian Indian who married within the community. Our results indicated that the greater the 'social distance' from the Asian Indian primary group the lower the fertility. The implications of these results are explored in the following chapter.

Independence of Effects

The final part of our research focussed on testing for the independence of language, nativity and intermarriage effects. We tested independence between language spoken at home and nativity by using a sample of Asian Indian women married to Asian Indian men. We then regressed fertility on the compositional variables, language and birth place. Compositional variables have a significant impact on intra-group fertility differentials as the table below indicates. However, after these variables are controlled, birth place and language spoken at home continue to have an impact on Asian Indian fertility. This result implies that the effects of birth place and language spoken at home are independent of one another.

Table 31

Regression of Children Ever Born on Language and Birthplace

Variable	Correlation	b	Beta	Significance T
Age	.500	.131	.6253	.0000
Age at marriage	-.263	-.116	-.3971	.0000
Labor Force				
Status *	-.071	-.238	-.1010	.0000
Education	-.258	-.025	-.0852	.0000
Socio-Economic				
Status	-.081	-.003	-.0595	.0001
Language	.093	.009	.0448	.0007
Birth Place	.089	.008	.0449	.0008
Farm Status **	.023	.152	.0077	.5475
Household Income	-.146	.000	-.0326	.0132

n= 3360

* 1 = in labor force

** 1 = in farm

R Square = .4644; Constant = .7656

We then tested for the independence of language and intermarriage using a sample of intermarried Asian Indians. The results indicated that, after controls for compositional variables, language did not have an impact on the fertility of intermarried couples. The fact that native language retention does not have a significant impact on the fertility of

intermarried Asian Indians results from the fact that intermarriage implies a non-Indian language speaking partner. Thus we can conclude that language is not independent of intermarriage. The effects of language on the fertility of intermarried couples are presented in table 32.

Table 32

Regression of Children Ever Born to Intermarried Women
on Language

Variable	Correlation	b	Beta	Significance T
Age	.491	.1329	.6136	.0000
Age at marriage	-.184	.1077	-.3597	.0000
Labor Force				
Status *	-.203	-.3679	-.1324	.0000
Education	-.186	-.0547	-.1277	.0000
Socio-Economic				
Status	-.044	-.0016	-.0256	.3777
Language	.047	.0024	.0163	.5311
Farm Status **	.015	-.2909	-.0142	.5828
Household Income	-.218	.0000	-.0491	.0763

n= 870

* 1 = in labor force

** 1 = in farm

R Square = .431; Constant = .8821

For the last step in our data analysis we regressed the fertility of intermarried couples on the compositional variables and birth place in order to determine independence of nativity and intermarriage effects. Once again we found that birth place has no effect on fertility. From these results, presented in table 33, we concluded that birth place and intermarriage are not independent of one another since non Asian Indian spouses, typically, are born outside India.

Table 33

Regression of Children Ever Born to Intermarried Women
on Birth Place

Variable	Correlation	b	Beta	Significance T
Age	.491	.1327	.6127	.0000
Age at marriage	-.184	-.1094	-.3654	.0000
Labor Force Status *	-.203	-.3663	-.1318	.0000
Education	-.186	-.0536	-.1252	.0000
Socio-Economic Status	-.044	-.0015	-.0248	.3918
Birth Place	.036	.0066	.0236	.3695
Farm Status **	.015	-.2749	-.0134	.6039
Household Income	-.218	.0000	-.0501	.0705

n = 870

* 1 = in labor force

** 1 = in farm

R Square = .4312; Constant = .8981.

CHAPTER FIVE

Conclusion and Suggestions for Future Research

Introduction

In this dissertation we have examined the factors that account for the unique fertility of Asian Indians residing in the United States. The first section of our data analysis investigated fertility differentials between whites and Asian Indians. We predicted that after controlling for the effects of other variables known to influence fertility the number of children ever born to Asian Indian women would be less than the number of children born to white women. We reasoned that since barriers to upward social mobility are higher for minorities than whites in the United States those minority members who desire upward mobility will offset the disadvantages of minority status by limiting childbirth more so than upwardly mobile whites. The lower fertility of Asian Indians, therefore, would be a direct result of the negative impact of being an Asian Indian in a white society.

The minority group status hypothesis, summarised briefly in the preceding paragraph, was outlined by Goldscheider and Uhlenberg in the 1960s in response to the conjecture that minority fertility was nothing more than a reflection of unequal social and economic characteristics. This line of thought, termed the characteristics hypothesis, predicted that the unique (usually higher) fertility of minority group

couples would disappear with the convergence in social, economic and demographic variables. Recent research on minority fertility behavior provides greater support to Goldscheider and Uhlenberg's assertion that minority status has a distinct influence on fertility compared to the characteristics hypothesis. We have summarised these studies in the literature review chapter.

With the single exception of Johnson and Nishida's study of Chinese and Japanese fertility in California and Hawaii, demographers interested in studying minority fertility behavior have restricted their analysis of inter-group fertility behavior to minority groups that are simultaneously characterised by high fertility (such as Mexicans and Puerto Ricans), low levels of educational and economic integration (such as Blacks and 'Hispanics'), and pronatalism (such as Catholics). This dissertation is the first to study the effects of minority status on the fertility of a minority group that has achieved a high degree of socio-economic success in the United States, that is characterised by low fertility (at least in first order analysis) and an absence of a pronatalist ideology. In addition, it is based on a nationally representative sample of Asian Indians minimizing the mitigating effects of regionality which is known to affect the fertility of minorities (see Sly, 1970). Further, unlike previous studies, this research situates the analysis of Asian Indian fertility within the holistic context of their

immigration history.

The reasons stated in the preceding paragraph, while contributing to the value of this research, also lend it an exploratory tone. Consequently, a major part of our research was devoted to an analysis of factors that account for fertility variation among the Asian Indian group. The nature of this analysis was consistent with another mechanism for reduced minority fertility defined by Goldscheider and Uhlenberg viz. relative assimilation. According to Goldscheider and Uhlenberg, acculturation combined with structural separation results in feelings of insecurity which manifest themselves in lower fertility rates for minority group members. This reasoning would imply that where one stands on the assimilation scale determines fertility when comparisons are made both between whites and ethnics and within an ethnic group. Goldscheider and Uhlenberg argued that those minority group members who have a high level of primary group attachment with their own ethnic group will also have higher fertility than those minority group members who have attained a certain degree of assimilation. They argued that primary level attachments with the minority group indicated minimum acculturation during which period minority group members would normally adopt new fertility behavior norms. In this sense Goldscheider and Uhlenberg pointed to cultural characteristics as indicators of assimilation. Moreover, they viewed assimilation or integration into the

dominant host society as a zero sum game: increased assimilation implied diminished or diminishing ethnic group interaction.

In this research project we have tested both aspects of the minority group status hypothesis: inter-group fertility differentials; and intra-group fertility differentials. Our results provide some support for the explanatory power of the minority status hypothesis in explaining differences between the number of children born to whites and Asian Indians. But our results also lend some support to the characteristics hypothesis. As far as fertility differentials within the Asian Indian group are concerned, we argue that in its current form the minority status hypothesis cannot explain intra-group fertility differentials since it does not address the possibility of secondary structural assimilation having occurred without acculturation and primary structural assimilation. We discuss our conclusions and the implications for future research in the following section.

Discussion of Results

We began our analysis by measuring fertility differentials between non-farm Asian Indian and white women. Comparing both groups in the aggregate without statistical controls we found that Asian Indians had fewer children than white women regardless of participation in the labor force. However,

fewer number of children born to Asian Indians compared to whites could result from the tendency of the former group of women to marry at older ages, be more highly educated and belong to a higher socio-economic class. We argued that multiple analysis of variance would be an ideal statistical tool for isolating the effects of race, socio-economic status and any interaction between race and socio-economic status in explaining the lower fertility of Asian Indians. The results of our analysis indicated that socio-economic status was a better predictor of fertility variations among white and Asian Indian women not participating in the labor force while race explained greater fertility variation among women active in the labor force. Thus, our analysis revealed that the characteristics hypothesis was a good predictor of minority-majority fertility differentials among non-farm women who were not active in the labor force. We, therefore, rejected hypothesis '1a' outlined in the second chapter.

In order to clarify the meaning of these results we used multiple linear regression to determine the strength and direction of the race effect. Since our analysis of fertility variations between white and Asian Indian women indicated the operation of an interaction effect between race and labor force status we also tested for the influence of this interaction term. The regression equations without the interaction term showed that race had a significant impact on fertility, however, contrary to our expectation white women

had lower fertility than Asian Indian women. Further, white women had lower fertility than Asian Indian women for both low and high socio-economic groups after controls for other compositional variables.

On the basis of these results we rejected hypotheses '1b' and '1c'. However, we could not reject hypothesis '1d' which predicted higher Asian Indian fertility compared to whites among low class groups. However, when we included an interaction term the race effect became statistically insignificant at the aggregate and sub-group levels. Consequently, our analysis also provides some support for the minority group status hypothesis since one version of the latter speculates interaction of race and social characteristics, although the interaction was between race and labor force participation and not race and socio-economic characteristics per se.

Our results, no doubt, provide only limited support of the minority group status hypothesis which predicts lower minority compared to majority fertility after equilibrating the effects of social, economic and demographic variables. However, the minority group status hypothesis provides, an interesting, albeit partial, dimension for understanding the discrepancy between Asian Indian and white fertility which continues after socio-economic characteristics have been rendered similar for both groups. As we mentioned earlier, previous researchers

have concentrated on high fertility groups and have demonstrated that after controls for other variables the number of children born to members of such a group tend to be less than the number of children born to whites. Since the postulated operative mechanism is acculturation combined with structural separation, the underlying argument is that, with greater access to social and economic rewards fertility differences will reverse and become lower than that of the majority group.

Asian Indians on the other hand represent a group that has succeeded in attaining a high level of socio-economic integration, thanks to a selective immigration policy, without having become completely acculturated (even though acculturation is not easily measured). Essentially, the same operating principle discussed in the preceding paragraph characterises Asian Indians but in a reverse direction. Seen from this perspective we can understand why the distinctive fertility of Asian Indians, which at first analysis is lower than that of whites, does not vanish after controlling for social, economic and demographic variables (as the characteristics hypothesis predicts), and does not remain less than white fertility (as the minority group status hypothesis predicts) but actually tends to be more than that of the majority group (as perhaps a new version of the minority group status hypothesis should predict). In other words, it is likely that the higher fertility of Asian Indians, after

statistical controls, is the unique response of Asian Indians to the social context within which they survive as minorities.

What then is the underlying mechanism producing higher Asian Indian fertility relative to whites after controlling for social, economic and demographic variables ? We argue that this aspect of Asian Indian fertility can be understood from two different perspectives. One explanation could be that since Asian Indians start with a very low threshold fertility rate their fertility cannot be expected to decline any further regardless of the social-psychological feelings of insecurity they may experience. It is one thing to argue that couples who desire three children may forego their third child in order to insure the advantages associated with upward social mobility. However, since nearly forty percent of the Asian Indian population in our sample has only one child, the adjustment strategy of remaining childless may be too high a price to pay for climbing up the 'social ladder'. Halli (1987:165), also argued that the absence of a strong minority status effect among Japanese in Canada resulted partly from the tendency of Japanese women to have very few children in the first place. Further reductions in Japanese fertility, according to Halli, would be a drastic response to the disadvantages associated with upward mobility. It is interesting to note that Japanese women in Canada had an average of 2.33 children, which is higher than the fertility of Asian Indian women in our sample, which is approximately

1.7 children. Thus, lower fertility is not a viable compensatory practice for Asian Indians desiring upward mobility.

Second, the minority group status hypothesis envisions fertility reduction as a response by minorities to the barriers for status attainment which are higher for them than for the majority. However, Asian Indians, enter the United States with high levels of socio-economic and educational achievement. Perhaps the reason why the minority status effect does not operate for Asian Indians is because their already low fertility reflects compensatory fertility practices adopted by them in their country of birth prior to their arrival in the United States. Indeed a desire for immigrating to the United States may require Asian Indian couples to forego or defer childbirth in order to qualify for the selective immigration criterion of a high level of socio-economic achievement. No doubt, then, that once we control for the influence of socio-economic variables we find that Asian Indians revert to higher fertility than their white counterparts. The higher fertility of Asian Indians reflects their hypothetical fertility responses to a statistically manipulated environment that is conducive to having slightly more children. In the preceding chapter we have already shown that Asian Indians who speak a native language at home, and are born in India, have lower fertility than their English speaking, United States born ethnic counterparts. The

analysis of intra-group fertility differentials lends support to our assertion that Asian Indian fertility tends to be low because of the peculiar conditions of immigration.

Further, as we have discussed in the previous sections, secondary structural assimilation in and of itself cannot account for differential minority and majority fertility. According to Goldscheider and Uhlenberg acculturation in addition to structural separation provides the impetus for distinct (lower) minority fertility compared to whites. Goldscheider and Uhlenberg's hypothesis rests on the stages of assimilation approach outlined by Milton Gordon (1964). In recent years some scholars have demonstrated the inadequacy of interpreting assimilation as a linear process with one stage smoothly flowing into the other. Contemporary United States society provides ample evidence of how some groups are assimilated into the secondary structures of the host society yet continue to maintain primary group level interaction with members of their own ethnic group (Ven den Berghe, 1967). According to Goldscheider and Uhlenberg and other demographers analysing minority fertility behavior, primary group attachments will result in higher fertility relative to those who do not maintain linkages with the ethnic group, which presumably mirror an ethnic group's traditional high fertility practices. The underlying assumption is that those members who identify with the ethnic group are less acculturated into the norms of white United States society, less assimilated,

and therefore not able to adopt white fertility norms which prescribe smaller family size.

The pattern of Asian Indian group assimilation into United States society, however, presents an interesting contrast to the traditional model of assimilation which undergirds the minority group status hypothesis. Although Asian Indians are well assimilated into the secondary structures of the United States as indicated by their socio-economic achievement history their primary group identification is with their own ethnic group as reflected by the disproportionately large number of Asian Indians who still maintain their native language. The results of our multiple regression indicate that Asian Indians who speak a native Indian language at home have fewer children than those Asian Indians who speak English at home. Native language retention, contrary to the prediction of the minority status hypothesis, has a negative impact on Asian Indian fertility. We argue that lower Asian Indian fertility among those not speaking English at home may be a consequence of their attachments to an ethnic group with low fertility norms conditioned by their peculiar immigration needs. Reversely, those Asian Indians who speak English at home have higher fertility possibly because of their social distance from a low fertility ideology.

Similarly, it may be argued that birth place is an indicator of primary structural assimilation. Those Asian Indians born



in the United States are more likely to be assimilated into the primary institutions of the majority group relative to those who are born in India. Our data analysis reveals that Asian Indians born in the United States have higher fertility than those Asian Indians born in India. Once again we argue that greater attachments with a low fertility primary group will result in lower fertility. These explanations for the absence of a minority status effect within the Asian Indian group need to be tested for other seemingly structurally assimilated groups. However, the pattern of Asian Indian entry to the United States is sufficiently different as to challenge the basic tenets of the traditional assimilation model and any other theoretical construct to which it may have given rise.

Our analysis of the effects of intermarriage on fertility seriously brings to doubt yet another assumption of the assimilation model viz., exogamy signifies the final stage of assimilation. If this were true then, according to the minority group status hypothesis, the fertility of intermarried Asian Indians would be higher than those who wed endogamously. The argument is that since intermarried couples are completely assimilated they will not feel the same insecurities as endogamously married couples and will thereby have little or no incentive for resorting to compensatory fertility practices. In our sample of Asian Indians we found that intermarried couples had significantly fewer children

than endogamous couples. Admittedly, the unique fertility of intermarried Asian Indian couples is somewhat baffling. We venture no explanation for these results arguing that perhaps more research needs to be undertaken in order to determine specific conditions that may account for the unique fertility of couples where one partner belongs to the Asian Indian group. For example, we do not know who intermarried couples identify with in terms of primary group interaction. Since our revision of the minority group status hypothesis rests on ethnic identification this research could be utilised for predicting the directional impact of intermarriage on fertility.

Suggestions and Implications for Future Research

The results of our data analysis shed considerable doubt on the validity of the minority group status hypothesis as an explanatory tool for interpreting fertility differentials both between minority and majority groups and within a minority group. Our results particularly question the relevance of some underlying mechanisms outlined by Goldscheider and Uhlenberg. Therefore, we suggest some areas for further research that will help clarify minority couples' motivations for having more or fewer children relative to the majority population.

First, we argue that our research should be verified by

employing different research methodology. Field research, interviews and surveys should be specifically designed for gaining more insight into the existence of feelings of social-psychological insecurities brought on by the process of status attainment. This type of research may uncover why the minority group status effect does not operate among the Asian Indian group. Surveys may be able to suggest that Asian Indians are not insecure therefore their unique fertility cannot be accounted for by a theory of response and change centered around feelings of social-psychological insecurities. Alternatively, field research may uncover that indeed Asian Indians are insecure but respond to these insecurities by having more and not fewer children relative to the majority population. A third scenario may be that Asian Indians are insecure but that these insecurities do not manifest themselves in compensatory fertility practices.

In addition to diverse research methodologies we also suggest the use of more sensitive samples. Since many Asian Indians are recent arrivals we need to make a distinction between those Asian Indians whose fertility began in the United States versus those who began childbearing prior to their arrival in the United States. Similarly, we need to compare the fertility of Asian Indians in the United States, where they are a racial and ethnic minority group, to their counterparts in India after controlling for the effects of socio-demographic compositional variables.

Second, we need to conduct more research on the indicators of assimilation specially those that pertain to primary and secondary structural assimilation. In this dissertation we have used, in the tradition of other demographers examining minority fertility behavior, native language retention and length of stay in the United States (approximated by country of birth) as indicators of the likelihood of secondary structural assimilation having occurred. However, these variables may be more appropriate measures of primary structural assimilation which does not necessarily coincide with secondary structural assimilation. The problem of accurate signifiers is a serious threat to the internal validity of the minority group status hypothesis model because it results in different predictions. For example, if English language usage is regarded as an indicator of primary structural assimilation then it would reflect adherence to supposedly high fertility norms and should have a positive impact on fertility. However, if it is viewed as an indicator of secondary structural then it will have a negative impact on fertility because of the effects of social-psychological insecurities.

Further, the model specified in our dissertation may not have identified many additional indicators of assimilation of the primary and secondary type. Additional research could draw attention to the relationship between such factors as residential segregation, nature of work activity, perceived

versus real structural discrimination, work place homogeneity, friendship networks, socializing behavior, leisure activity, and the relationship between these variables and fertility.

We would further suggest greater concentration on the fertility behavior of those groups that are characterised by low fertility such as Asian Indians living in the United States. Demographers tend to be more interested in analysing inter-group fertility differentials among high fertility groups and the factors that may lead to its reduction. Often a lot of theoretical richness is lost when we ignore variables that account for higher fertility among groups that are traditionally associated with low fertility. We need to develop a framework for interpreting low fertility rates that incorporate sensitive measures of assimilation, discrimination and psychological identification. This can only be achieved by looking at a variety of sub-groups that have historically been associated with lower and not higher fertility rates relative to the majority group.

To conclude, our research on the relationship between minority group status and Asian Indian fertility brings to doubt the validity of the minority group status hypothesis. Our suggestions for future research call not merely for a revision of the minority group status hypothesis but for a need to move beyond the traditional approaches to differential minority fertility in the United States. The new approaches need to



incorporate greater understanding of ethnic group behavior within an ethnic identification and affiliation framework. Given the existence of minority fertility differentials in the United States we need to have a theoretical model that is grounded in reality and therefore has greater predictability than either the characteristics or the minority group status hypotheses.

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