High Fertility Among Indochinese Refugees

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Synopsis

From 1975 to 1988, nearly 900,000 Indochinese refugees were resettled in the United States. This paper examines patterns of fertility among these refugees from Cambodia, Laos, and Vietnam who have exhibited high levels of reproduction since their arrival. Data are drawn from sample surveys in San Diego and San Francisco, CA. Fertility levels were found to exceed five children per ever-married woman, a level that is consistent with perceptions of ideal family size in the homeland. Fertility levels were significantly higher among rural second-wave refugees than in the more urban first-wave groups. One explanation for the high fertility is that couples have migrated from areas where fertility is high, and they have not yet adapted their reproductive behavior to the low fertility environment of the United States. This possibility is reinforced by a general gender preference for boys and exacerbated by the fact that, while a majority of women are aware of methods of fertility control, access is still limited by cultural and financial barriers, and the motivation to use family planning still appears to be relatively low. The data suggest that this refugee population will continue to put pressure on maternal and child health resources, and that continued residence in the United States could lead to desires to limit family size, thus increasing demand for methods of fertility control.

INDOCHINESE refugees in the United States represent a large, rapidly growing, ethnoculturally diverse population. Including their American born offspring, the Indochinese now number more than 1 million, surpassing Cuban-Americans as the largest refugee group in the United States (*1*) and representing the third largest Asian-origin population in this country, following people of Chinese and Filipino origin (*2*). The most obvious reason for the rapid increase of the Indochinese population is the large-scale migration of refugees from Vietnam, Laos, and Cambodia (table 1). These refugees, numbering nearly 900,000 admissions into the United States between 1975 and 1988, have come in two main waves. The first wave (1975-78) included fewer than 170,000 entrants; most of them were South Vietnamese evacuated when Saigon fell in April 1975. The more numerous and nationally heterogeneous second wave has included more than 600,000 refugees since 1979 (*3*).

Migration is not the only source of growth of the Southeast Asian origin population in the United States. Less obvious, yet no less important, are the high fertility rates. Indeed, estimates show that more than 200,000 children have been born in the United States to this refugee population (*1*). Al

Table 1. Southeast Asian refugee arrivals in the United States by nationality, fiscal years 1975–88

Fiscal year	Cambodia	Laos	Vietnam	Total
1988	3,276	14,563	17,499	35,338
1987	1,539	15,564	23,012	40,115
1986	10,054	12,894	22,443	45,391
1985	19,131	5,181	25,209	49,521
1984	19,849	7,224	24,927	52,000
1983	13,114	2,835	23,459	39,408
1982	20,234	9,437	43,656	73,327
1981	27,100	19,300	86,100	132,500
1980	16,000	55,500	95,200	166,700
1979	6,000	30,200	44,500	80,700
1978	1,300	8,000	11,100	20,400
1977	300	400	1,900	2,600
1976	1,100	10,200	3,200	14,500
1975	4,600	800	125,000	130,400
Total	143,597	192,098	547,205	882,900

SOURCE: U.S. Office of Refugee Resettlement.

though all of the refugee groups have fertility rates that are above the average for the United States, our purpose in this paper is to describe the highest of these rates, provide at least tentative explanations for their maintenance, and evaluate the implications of these patterns of childbearing.

Sources of Data on Indochinese Fertility

This paper brings together data from two major surveys conducted at approximately the same time in two locations within California, a State where more than 40 percent of all Indochinese refugees currently reside. One study is the Indochinese Health and Adaptation Research Project (IHARP), originally located at the University of California, San Diego, but now situated at San Diego State University. IHARP entailed a comprehensive 3-year longitudinal study of Southeast Asian refugees, based on interviews with randomly selected samples of adult men and women of the Hmong, Khmer, Lao, Chinese-Vietnamese, and Vietnamese communities of San Diego County. Although the research centered on migration and resettlement processes, data on reproductive behavior were also collected and are the focus of this paper. The sampling process began with a systematic enumeration of the nearly 40,000 Indochinese refugees in San Diego County as of April 1983. This enumeration was stratified by the five major ethnic groupings. Using heads of household as the unit of selection, a random sample of householders and their spouses was drawn from within each ethnic group, producing a sample of 739 adults (366 men, 373 women) residing in 437 households. Complete listings were obtained for each household, yielding basic demographic information on a total of 3,003 persons.

Structured interviews lasting an average of nearly 3 hours were conducted during 1983 with the 739 respondents in the adult sample, and these were repeated a year later for all but the Lao sample (they were administered the first interviews in 1984). Interviews were conducted in the home by skilled, extensively trained, indigenous interviewers in the language of the respondent. The overall refusal rate was 6 percent. Additional details about this study are published elsewhere (*4*).

The other study is the Family Planning Knowledge, Attitudes, and Practices of the Southeast Asian Refugee Project at the University of California, San Francisco. The researchers used snowballing techniques to obtain a listing of all known Indochinese refugee families in San Francisco, from which a random sample was chosen and interviews were administered to 220 women of childbearing age. Interview data were augmented by information obtained from family planning clinics and birth certificates. The focus of the San Francisco project was the use of health care services. Additional details about this study have been reported elsewhere (*5*).

Although the two projects were developed with differing research questions in mind, the obvious advantage of pooling data resources is to add to the validity and reliability of the findings while enhancing their generalizability. However, because of the differences in the interview schedules and the logistical problems of pooling data, only portions of the data presented in this paper are based on combined information, while some of the analyses are based solely on one of the data sets. The number of ever-married women of childbearing ages (20–49) for whom data are available in the two surveys is summarized here. Marital and reproductive information was obtained from 257 women in San Diego and 220 women in San Francisco.

Ethnic groups	San Diego	San Francisco	Total
Chinese-Vietnamese	102	48	150
Lao	61	68	129
Khmer	48	58	106
Hmong-Mien	46	46	92
Total	257	220	477

Fertility Levels

The Indochinese refugee population is a heterogeneous group that can be distinguished along three

Table 2. Fertility indices by timing of arrival in the United States and urban or rural background, Southeast Asian refugees, San Diego County, 1984

Fertility indices	First-wave refugees 1975–78		Second-wave refugees 1979–83		Statistically significant comparisons at the .05 level
	Urban N = 39	Rural N = 11	Urban N = 204	Rural N = 118	
Number of children born to ever-married women prior to arrival in the United States	2.6	3.7	3.3	3.2	1 wave R–2 wave U 1 wave U–2 wave R
Number of children born per year in the United States to ever-married women	0.16	0.22	0.19	0.29	1 wave U–1 wave R 1 wave U–2 wave U 2 wave U–2 wave R 1 wave R–2 wave R
Total number of children ever born to ever-married women	4.0	5.1	3.9	4.7	2 wave U–2 wave R 1 wave R–2 wave R

important dimensions, each of which has potentially important implications for fertility. These dimensions include the year of arrival in the United States, ethnic identity, and rural versus urban background. Although listed separately, they are intercorrelated. As shown in table 1, the first wave of immigration (the 1975–78 period) was dominated by urban South Vietnamese. However, only about one in six of all the refugees currently in the United States arrived in that first wave. Most are part of the "second wave" that began in 1979, peaked in 1980, and is continuing. More than 450,000 refugees were resettled in the United States during 1979–82 alone, and since 1983 the number of Indochinese refugee admissions has stabilized at a rate of about 40,000 per year. This second wave has included much greater proportions of people from Cambodia (Kampuchea) and Laos, ethnic Chinese "boat people" from Vietnam, and more people of rural and lower socioeconomic status backgrounds. In particular, about 90 percent of the Hmong and Mien people from Laos, and about 55 percent of the Khmer (people of Cambodian origin) tend to be from rural environments. By contrast, about 95 percent of the ethnic Chinese and Vietnamese and 75 percent of the lowland Lao have come from urban backgrounds.

Fertility rates in Southeast Asia generally are quite high, with total fertility rates (the average number of children that would be born to women over their reproductive lifetime if current levels of age-specific fertility rates were to remain unchanged) in Vietnam, Cambodia, and Laos in 1988 at or above 4.5 children per woman (*6*). Within that region, however, the highest levels of fertility are found among the rural Hmong people (*7*), and the lowest levels are among the urban Vietnamese (*8*). Since first-wave refugees tended to be urban Vietnamese, it was not obvious initially that high fertility might prevail within the refugee population. However, with the second wave came greater numbers of people from underdeveloped rural areas with attendant higher fertility levels. They contribute disproportionately to the high rate of natural increase within the Indochinese refugee population. For the Hmong in Thailand, who are culturally similar to those from Laos (who represent the bulk of Hmong refugees in the United States), Kunstadter has estimated that crude birth rates range from 51–66 per 1,000 live births, consistent with total fertility rates in excess of nine children per woman. In fact, Kunstadter concludes that the Hmong in Thailand "are at the upper limits of human reproductive capacity" (*9*), a conclusion that is consistent with our findings for the Hmong in California.

In general, we note that about two-thirds of the Indochinese refugee population is composed of Vietnamese and ethnic Chinese-Vietnamese who already have achieved relatively low levels of fertility, albeit still above the national average for the United States. In this paper, however, we focus especially on the remaining one-third—the Khmer (refugees from Kampuchea), the lowland Lao, and the Hmong and Mien people from the Laotian highlands. These groups are remarkable for the continued prevalence of a high level of reproduction while residing in a nation with one of the world's lowest fertility rates.

As already indicated, we should expect to find fertility differences between first-wave and second-wave refugees. Table 2 tests these assumptions using San Diego data to calculate three indices of fertility: (*a*) the number of children born to ever-

Table 3. Current and lifetime fertility by ethnic group, San Diego and San Francisco, 1984

Age (years)	Hmong and Mien N=92	Khmer N=106	Chinese and Vietnamese N=150	Lao N=129	Weighted total N=477
	Children born per woman in year prior to survey				
20–24	0.42	0.45	0.29	0.39	0.34
25–29	0.48	0.40	0.27	0.33	0.31
30–34	0.36	0.46	0.17	0.09	0.22
35–39	0.48	0.40	0.14	0.07	0.20
40–44	0.27	0.24	0.00	0.04	0.06
45–49	0.09	0.00	0.00	0.00	0.01
Implied total fertility ratio	10.50	9.75	4.35	4.60	6.04
	Number of children ever born per ever-married woman				
20–24	2.38	1.73	1.09	1.37	1.32
25–29	3.09	2.02	1.86	1.97	1.99
30–34	4.83	3.59	2.81	3.08	3.11
35–39	4.66	4.90	3.43	3.92	3.81
40–44	6.40	4.76	4.95	5.00	5.03
45–49	8.19	5.57	4.77	4.90	5.16

married women at the time of arrival in the United States, (*b*) the number of children born per year to ever-married women while in the United States, and (*c*) the total number of children ever born to these women, including those born before and after arrival in the United States.

The data in table 2 generally support our assumptions. First-wave urban refugees did have fewer children at arrival in the United States than any other refugee group, and the difference between first-wave urban refugees and second-wave rural refugees is statistically significant (using the *t* test for differences between means and employing a .05 level of significance). However, in neither case is the within-wave difference in urban and rural number of children at arrival statistically significant. On the other hand, the differences in childbearing activity once in the United States are exactly as predicted, and all differences are statistically significant. Urban first-wave refugees have had the fewest children per year in the United States, while the second-wave rural refugees have had the most. The within-wave differences between urban and rural fertility are apparent. Finally, when we view the total pattern of childbearing (as of the interviews in 1984), we again find that the difference between first-wave urban refugees and second-wave rural refugees is statistically significant, as is the difference between rural and urban fertility within the second wave.

It seems clear that the high fertility groups within the Indochinese refugee population are the people of rural background, especially second-wave migrants who are Hmong, Mien, or Khmer. Table 3, which combines data from the San Diego and San Francisco studies to produce estimates of current and lifetime fertility rates, confirms this impression. Current fertility was measured as the number of children born per woman during the 12 months prior to the survey. Table 3 reveals a clear dichotomy in current childbearing activity between the Hmong-Mien-Khmer women and the Chinese-Vietnamese-Lao women, with the first group bearing children at a rate that would lead to twice as many children over a reproductive lifetime as in the second group. The totals for all groups were weighted according to the proportion that each group represents in the U.S. population as of 1985. Since the data were derived from stratified samples of each ethnic group, but from two different locales (San Diego and San Francisco) weighting for the United States was used as a preferred alternative to calculating the appropriate weights in the two source communities. Using Brass-Trussell multipliers to adjust these figures, we calculated a weighted total fertility rate for the entire Indochinese refugee population of 4.8 children per woman. As seen in table 2, this figure is close to the completed family size of older refugee women who have neared the end of their reproductive cycle.

The comparison of current and lifetime fertility by ethnic group in table 3 reveals that the higher fertility groups (Hmong-Mien-Khmer) are experiencing higher current fertility than is implied by lifetime rates among women in the same ethnic groups who are completing their childbearing; the opposite is true for the lower fertility groups (Chinese-Vietnamese-Lao). This is a particularly important point because the lifetime fertility levels among the ethnic groups are consistent with the responses to a question in the San Francisco study on the ideal family size in the homeland. In San Francisco, the average response among Hmong women was that 11.5 was the "best" number of children to have, while the responses from Mien women averaged 6.5, the Khmer women 5.7, the lowland Lao 4.2, and the Vietnamese response was an average of 3.2.

Explanations for High Fertility

At least two aspects of the high fertility of these refugee groups warrant explanation. The first is the high level itself, while the second is the appearance of current fertility that is higher than would be

expected based on completed childbearing and on responses to ideal family size.

As we have already discussed, the high levels of fertility are at least partly a consequence of the fact that refugees have migrated from areas where high levels of fertility are known to persist. High fertility in that part of the world is encouraged by the widespread persistence of subsistence economies in which children produce more than they cost within a few years after birth, and economic, political, and even meteorological uncertainty that promotes the value of large families as insurance against the riskiness of life. Pronatalism (the encouragement of high fertility) is further supported by religious norms (especially the various forms of ancestor worship), general lack of education, and the relative subjugation of women.

Only time will tell how the process of adaptation to a drastically different sociocultural and socioeconomic context will produce a shift in the norms for family size. One change we may watch is a shift in the gender preference for children. A stronger preference for boys than girls long has been implicated as being associated with higher overall levels of reproduction (*10*). Two factors contribute to this trend: (*a*) high numbers of children are conceived to ensure that a certain number of either sex will survive and (*b*) the specific preference for boys is typically associated with a lower status for women, which in itself is associated with a range of attitudes and behaviors that promote high fertility. Parents prefer that a baby be a boy because they perceive males to have a higher societal value than females; these attitudes typically are associated with a pattern of domination of men over women. In such societies, reproduction is the primary role of women, and women often are disadvantaged with respect to educational attainment and access to health care resources. They have been described as "poor, powerless, and pregnant" (*11*). Although there are traces of such attitudes throughout the globe, they are strongest in Southern Asia (*12,13*).

Data from the San Francisco survey (fig. 1) reveal a consistently stronger preference for boys than for girls within the Indochinese refugee population. That figure also shows that the Hmong-Mien-Khmer show a greater percentage preference for boys than do the Vietnamese-Chinese-Lao, but the Khmer and Lao groups show a greater preference for girls than do the Vietnamese-Chinese-Hmong. This finding reflects the stress on patriarchal and patrilineal norms among the Vietnamese-Chinese-Hmong, whereas the Khmer and the Lao are relatively more matrifocal and bilateral

Figure 1. Gender preference for children, by ethnicity, Indochinese refugees, San Francisco, 1984

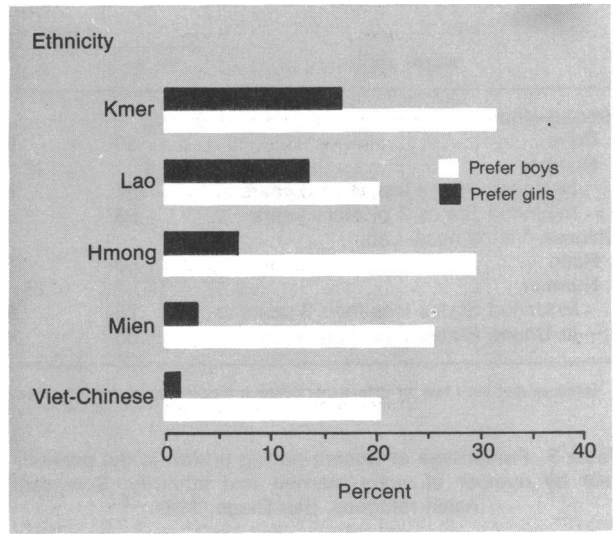
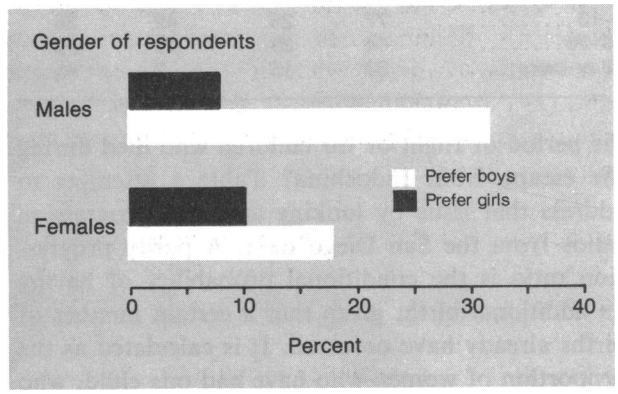


Figure 2. Gender preferences for children, by gender of respondent, Indochinese refugees, San Francisco, 1984



in their mode of family and kinship organization.

These gender preferences for children highlight some of the important cultural differences between the Vietnamese-Chinese-Hmong and the Khmer-Lao. Figure 2 demonstrates that although both male and female respondents exhibit a greater preference for boys than girls, men show a significantly greater preference for boys than do women. We conclude that our data are consistent with the idea that gender preference may influence fertility patterns among the high fertility groups.

A second concern is that current fertility is proceeding at a more rapid pace than implied by data on completed family size, especially for the Hmong, Mien, and Khmer. Is this due to a "catch-up" phenomenon, in which more recently arrived refugees make up for fertility lost during

Table 4. Parity progression ratios by ethnicity and years in the United States, Southeast Asian refugees, San Diego, 1984

Refugee group	Ratio of women advancing from parity i to i plus 1 in the year preceding the survey to women who started the year prior to the survey at parity i, starting parity i = 0	1	2	3	4	5	6
Hmong–Khmer:							
Ratio	.50	.67	[1].53	[1].58	[1].27	[1].61	[1].25
Number	6	12	17	36	11	18	8
In United States less than 3 years	.67	.67	.62	.60	.38	.50	.25
In United States 3 or more years	.33	.67	.44	.57	.58	.70	.25
Chinese–Vietnamese–Lao:							
Ratio	.60	.54	[1].21	[1].22	[1].06	[1].06	.05
Number	10	26	39	24	33	20	20
In United States less than 3 years	.75	.83	.36	.20	.46	.00	.00
In United States 3 or more years	.33	.45	.12	.23	.00	.00	.08

[1]Indicates that the *t* test for differences between proportions for the differences between the Hmong–Khmer and the Chinese–Vietnamese–Lao is significant at $P = .05$.

Table 5. Percentage of women having a birth in the previous year by number of years married and ethnicity, Southeast Asian refugees, San Diego, 1984

Years married	Hmong–Khmer		Chinese–Vietnamese–Lao	
	Percent	Number	Percent	Number
Under 5	100	18	59	17
5–10	77	26	42	36
10–20	64	39	13	72
20 or more	33	15	2	41

the period of flight or for children who died during the escape from Indochina? Table 4 attempts to address that issue by looking at parity progression ratios from the San Diego data. A parity progression ratio is the conditional probability of having an additional birth, given that a certain number of births already have occurred. It is calculated as the proportion of women who have had one child, who then go on to have a second; the proportion who have two, who then go on to have a third; and so forth. For example, in table 4, the parity progression ratio is .50 for Hmong and Khmer women whose starting parity is 0. This means that 50 percent of the women who had never given birth prior to the year before the survey had borne a child during the year just preceding the survey. The ratio of .67 for Hmong and Khmer women whose starting parity is 1 means that 67 percent of women who had only one child just 1 year before the interview had given birth to a second child during the year preceding the survey. These calculations are used by demographers to assess the timing and spacing patterns of reproduction. Norman Ryder has suggested that this is the preferred form to study the determinants of reproductive behavior (*14*). Table 4 shows that the more recently arrived lower parity women were more likely to have had a baby in the previous year than lower parity women who arrived at an earlier date. This is true for the Hmong-Khmer as well as for the Chinese-Vietnamese-Lao.

Another explanation for the high current fertility, especially among the Hmong-Mien-Khmer, might be the relative youthfulness of the population and the process of early family-building activity. The Hmong and the Mien, in particular, are characterized by very young ages at marriage (*15*). Thus, early reproduction among the higher fertility groups may lead to an artifactually high level of current fertility. Using the San Diego data, we can examine the relationship between having a birth in the previous year and ethnicity, while controlling for current age and number of years married. Table 4 shows that at every age the likelihood of having an additional child is greater among the Hmong-Mien-Khmer group than in the other Indochinese groups.

These data add further evidence that the level of reproduction is substantially higher among the Hmong-Khmer than among the other Indochinese groups. Among the Chinese-Vietnamese-Lao, the parity of recent births drops quickly after the second birth, whereas it remains high for the Hmong-Khmer until after the fourth birth. At the higher parities, the progression ratios essentially are the same regardless of the recency of migration.

Table 5 shows the percentage of women having a birth in the previous year according to length of present marriage. Again, regardless of length of marriage, the level of reproduction is higher among the Hmong and Khmer. This is further substantiated by the calculation of partial correlation coefficients. The zero-order correlation coefficient between a birth in the previous year and membership in the Hmong-Khmer ethnic grouping is 0.34.

However, the second-order partial correlation coefficient—controlling for age and years married—is actually higher, at 0.36. Thus, we are inclined to reject the hypothesis that high fertility is a consequence of age patterns, and, instead, accept the notion that current high fertility is a real phenomenon rooted in the sociocultural context of these refugee groups.

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Discussion

The data demonstrate that fertility is high in the Indochinese refugee population, especially among the Hmong, Mien, and Khmer. Women in these last three groups seem to be headed toward large completed families, as evidenced by the rather high parity progression ratios. Data from both San Diego and San Francisco show that while a majority of women are aware of methods to control fertility, cultural barriers limit access to family planning services. Important barriers are language difficulties (refugee women are less likely to speak English than their husbands) and the lack of information within the refugee community about the availability of services (a problem compounded by the language barrier). In the San Francisco study, only 44 percent of currently married, nonpregnant women of reproductive age from all ethnic groups (including the "lower" fertility groups) were current contraceptive users (all methods). Using data compiled by the World Bank (*16*) for 57 countries, we estimate that contraceptive use among ever-married women (data for 1981) can explain 85 percent of the variation in total fertility rate (TFR) (data for 1982) ($r = -.92$). The relationship is linear, and the bivariate regression equation produces an estimated total fertility rate of 4.14 for Indochinese refugee women if contraceptive prevalence really is as high as 44 percent. This estimate is a lower TFR than our weighted estimate for all refugee groups, although it is close to the level for the Vietnamese-Chinese, who represent the largest category of refugees.

Turning the equation around, the TFR of 10.5 for the Hmong leads to the expectation of essentially no contraceptive use, and the Hmong do seem to avoid prolonged use of contraception. A study in Minnesota in 1986 produced data for 504 Hmong women who had delivered a child at the St. Paul-Ramsey Medical Center (*17*). Although 54 percent accepted contraception (primarily foam and condoms) at a postpartum visit, only 10 percent were active users 12 months after delivery; 25 percent were pregnant again within that same period.

At least two issues must be considered when addressing the question of the use of birth control among Indochinese refugees. The first relates to the motivation to use birth control (since norms for large families seem to prevail), and the second relates to the availability of adequate information. Interviews with women in Indochinese communities in San Diego and San Francisco lead to the conclusion that reproduction and sexuality are not widely accepted topics of conversation between spouses. Our data suggest that typically the man has greater command of English and access to the broader community. His wife's reliance on him for information may preclude the dissemination of information relating to birth control services. To the extent that this is true, effective systems of family planning assistance within the Indochinese community may have to rely on community-based systems of distribution, rather than on the traditional American practice of passive clinic availability of services.

A related question that requires additional research is the extent to which Indochinese refugee men are resistant to the use of contraception. Data from the 1982 National Survey of Family Growth in the United States show that black and Hispanic men are much less likely than white (Anglo) men to use either sterilization or condoms as methods of fertility control (*18*). This undoubtedly helps to account for the higher fertility rates among those groups. Contraceptive prevalence surveys in Vietnam in 1975 show no new acceptors of vasectomy or of the condom (*19*). Methods of fertility control for women (the IUD and abortion) were clearly the most widespread. By 1980, the condom had increased in popularity (*19*). This probably reflects the North Vietnamese influence, and is unlikely to represent a behavioral change applicable to Indochinese refugees in the United States.

Finally, we note that the prevailing high fertility within the Indochinese community implies a substantial future demand for maternal and child health care services. As Linda Gordon already has

noted, the continued rapid growth of the Indochinese population in the United States seems assured for the short run (*20*). It is not absolutely clear, of course, that demand will be translated into a proportionate increase in the use of services. Recent data in California suggest that, in fact, low-income women are increasingly less likely to seek prenatal health care (*21*). The younger generation of American-born children of the refugees (as well as those children born in Southeast Asia, but educated in the United States) may, however, exhibit dramatically different demographic patterns than their foreign-born parents. The early and widespread academic success of children of Indochinese refugees portends a generation of youth oriented toward later marriage and smaller families than the parental generation (*22*). Thus, we may have in our midst a third world population that is poised for a substantial and rapid fertility decline. If we can use our baseline data retrospectively to predict such a drop, we may make a substantial contribution to theories of fertility decline.

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