

# MODERN JEWISH FERTILITY

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1981



ספריית הר הצופים  
למדעי הרוח והחברה

# PATTERNS OF JEWISH FERTILITY IN ISRAEL

*A Review and Some Hypotheses*

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## *Introduction*

Two interrelated themes dominate the analytic study of Jewish fertility patterns in Israel: one, the analysis of the revolutionary fertility reduction among immigrants from Asian and African countries; two, the identification of the determinants and consequences of fertility heterogeneity within the Jewish population. The sources and extent of change and variation in Jewish fertility patterns in Israel are unique only in the sense of being compressed in time and by the range of sociocultural diversity. The pace of fertility change and the dimensions of fertility variation are clearly intertwined with the particular sociodemographic evolution of Israeli society. Nevertheless, the study of Jewish fertility patterns—trends and differentials—in Israel allows for the examination in microcosm of some of the major analytic problems that have been central to the sociological-demographic investigation of fertility around the world, historically and comparatively.

The issues associated with studying Jewish fertility in contemporary Israeli society are to some extent unlike those central to the analyses of Jewish fertility in Diaspora communities. The feature of Jewish fertility that is particular to Jewish communities outside of Israel revolves around the position of Jews as a minority, ethnoreligious subcommunity. Studies of the fertility of Jewish communities outside of Israel have had three major foci: (1) the study of Jewish exceptionalism (i.e., Are fertility patterns of Jews and non-Jews different? Are fertility differences solely a reflection of social compositional differences between Jewish and non-Jewish populations? Are fertility differences between Jews and non-Jews eliminated when social characteristics are controlled?); (2) the contribution of Jewish fertility to the demographic survival of Jewish communities, taking into account low-fertility levels, aging population structures, losses to the Jewish community generated by net outmarriages and to local areas by net out-migration; (3) variations in Jewish fertility patterns that are indicators of integration and assimilation to the majority society and the

relationship of specific Jewish cultural traits (e.g., religiosity, Jewish identification and commitment) as determinants of fertility variation.

Clearly the majority status of Jews in Israel—demographically and sociologically—has shifted the focus of fertility analysis in Israel away from these types of questions to those that are more likely to be addressed to countries rather than minority groups. Moreover, Israel's Jewish population is unique in that it is the only total Jewish community in the world where natural increase is well above replacement, and fertility levels have been in the medium-to-high range among modern industrialized nations. Jewish survival in Israel may be a political-ideological issue, but it is not primarily a demographic problem. In addition, Israel's Jewish population may be the only total Jewish community where contraceptive ignorance and the reliance on primitive methods of birth control and abortions are so extensive.<sup>2</sup>

Despite these and related differences between the study of Jewish fertility in Israel and in the Diaspora, several major threads link together Jewish fertility patterns in and outside of Israel. First, the general low-reproduction rates of Jews in Western countries and losses generated by outmarriages point to Jewish population growth through natural increase in Israel as the major (or only) source of world Jewish demographic increase or maintenance. A second link between Jewish fertility in Israel and the Diaspora relates to the comparison of fertility patterns under minority- and majority-group conditions. The theory that minority-group status among Jews depresses fertility below majority levels in a variety of countries has its parallel in the hypothesis that the shift to majority-group status among Western Jews resulted in a definite shift upward in their fertility levels.<sup>3</sup> Finally, to the extent that Israeli society evolved as an immigration center for world Jewry, and is composed of the most diverse Jewish ethnic groups anywhere in the world, Israel's Jewish population has become a microcosm of world Jewry. Within the last generation, fertility patterns of Jewish subpopulations in Israel have covered almost the entire range of fertility patterns from "minimum" to "maximum" as well as a wide spectrum of fertility transitions. No other Jewish community in the world offers the same opportunity for the analysis of fertility variation and change as does the Jewish population in Israel.

One obvious way in which the study of Jewish fertility patterns in Israel differs from the study of Jewish fertility in communities outside of Israel is in the availability of basic data. In contrast to the data problems characterizing Jewish populations around the world that have hampered the analysis of detailed Jewish fertility trends and differentials, historically

and in comparative context, Israel has extensive census and registration data that relate to fertility of the Jewish population. The data of the 1961 census and annual vital registration information in Israel are basic, invaluable sources for the study of fertility trends and variation.<sup>4</sup> The basic fertility data from the 1972 census have not yet been published but will yield a rich data set for extensive analysis. Selected sample surveys have been undertaken but, for the most part, have been limited in scope (maternity surveys), coverage, or depth of information collected and analyzed.

Beginning in 1973 a series of surveys were undertaken to allow for a detailed retrospective analysis of cohort fertility changes in Israel and for an in-depth analysis of the major determinants of fertility attitudes and behavior among the major ethnic-religious subgroups in Israeli society. The surveys were divided into two major phases. The first phase involved the addition of a short fertility questionnaire to the national labor force survey conducted regularly by the Central Bureau of Statistics in Israel. This allowed for a joint examination of general sociodemographic characteristics routinely collected along with the additional fertility data for approximately 20,000 Israeli women. The women included in this sample were interviewed over a two-year period beginning in April 1973. The enormous variability between ethnic and religious subpopulations and the large number of interacting socioeconomic variables demanded the large-sample strategy to enable the reconstruction of cohort histories.

The large sample size and the use of the current labor force survey as the sampling frame precluded the inclusion of detailed questions. The second phase of the project involved a detailed questionnaire on fertility attitudes and practices and complete fertility histories along with detailed background data on a broad range of sociological and demographic variables. The detailed questionnaire was administered in personal interviews to a random sample of Israel's urban Jewish population—defined in terms of 30,000 population and over.<sup>5</sup> Eligibility for inclusion in the sample was defined as currently married Jewish women, in their first marriage, and below age 55. The sampling frame, based on complete lists of dwelling units, yielded a sample of 3,250 women.

Data from both phases are now being prepared for detailed analysis. Illustrative and preliminary findings from the first phase will be presented. General hypotheses, derived from previous fertility research on Israeli Jews that guided the collection of data in the second phase will be outlined. Together these data sets will provide over the next several years the most comprehensive materials available on Jewish fertility trends and differentials and one of the most comprehensive data sources for the analysis of fertility patterns in any country.

*Period Fertility Patterns*

As background and guideline to the review of Jewish fertility patterns in Israel and to the identification of the complex set of issues associated with the analysis of Jewish fertility trends and differentials, an outline of the general patterns of period Jewish fertility rates is instructive. An examination of period fertility rates for the Jewish population of Palestine and Israel reveals the following basic patterns (Tables 1 and 2).

*Table 1*  
*Gross and Net Reproduction Rates for Jews in Palestine 1926-1946<sup>a</sup>*

Year	Reproduction rates	
	Gross	Net
1926-1927	1.87	1.42
1928-1930	1.62	1.33
1931	1.50	1.18
1932	1.35	1.07
1933	1.28	1.08
1934	1.29	1.08
1935	1.32	1.13
1936	1.27	1.09
1937	1.14	1.02
1938	1.19	1.07
1939	1.09	0.98
1940	1.17	1.03
1941	1.06	0.94
1942	1.20	1.07
1943	1.58	1.42
1944	1.67	1.44
1945	1.72	1.61
1946	1.67	1.54

<sup>a</sup> *Source:* Central Bureau of Statistics, Statistical Yearbook of Israel.

1. Crude birthrates of the Jewish population of Palestine were relatively high in the 1920s and declined steadily from 34 per thousand population in 1925-1929 to 25 per thousand population in 1940-44. In the years immediately prior to the establishment of the State of Israel, birthrates increased as part of the postwar baby boom. Although the general pattern of decline and recovery reflected in these crude rates is accurate, the relatively high level of birthrates resulted mainly from a favorable age structure.

2. Age-specific fertility patterns as indicated by gross and net reproduction rates are more revealing. Paralleling fertility trends in most Western nations, Jewish patterns of reproduction in Palestine during the 1920s and

*Table 2*  
*Crude Birthrates (CBR), Gross (GRR) and Net Reproduction Rates (NRR), and Total Fertility, for the Jewish Population in Israel 1948-1971<sup>a</sup>*

Year	CBR	GRR	NRR	Total fertility
1948	26.3	—	—	3.08
1949	30.0	1.66	1.53	3.43
1950	33.0	1.89	1.75	3.90
1951	32.7	1.95	1.81	4.01
1952	31.6	1.93	1.79	3.98
1953	30.2	1.88	1.77	3.88
1954	27.4	1.74	1.66	3.59
1955	27.2	1.77	1.67	3.64
1956	26.7	1.77	1.68	3.66
1957	26.0	1.76	1.67	3.62
1958	24.1	1.65	1.57	3.40
1959	24.3	1.69	1.62	3.49
1960	23.9	1.70	1.63	3.50
1961	22.5	1.63	1.57	3.37
1962	21.8	1.60	1.54	3.30
1963	22.0	1.63	1.57	3.36
1964	22.4	1.66	1.60	3.43
1965	22.6	1.68	1.63	3.47
1966	22.4	1.65	1.59	3.39
1967	21.5	1.55	1.50	3.20
1968	22.8	1.63	1.58	3.36
1969	23.4	1.65	1.60	3.39
1970	24.2	1.67	1.62	3.44
1971	25.2	1.69	1.64	3.49

<sup>a</sup> *Source:* Central Bureau of Statistics, Statistical Yearbook of Israel, various years.

1930s were extremely low. Fertility levels fluctuated at slightly above replacement for the decade prior to 1943, dipping below replacement levels in 1939 and 1941. The gross reproduction rate in 1931-1940, under the mortality levels experienced, imply birthrates well under 20 per thousand, given a "stable" age distribution. The recorded crude birthrate of 30 per thousand reflected the effects of age structure rather than high fertility. The distorting effects of age composition on the relatively high crude birthrates among Jews in Palestine brought to Ben Gurion's attention the "problem" of low Jewish fertility rates in Palestine during the late 1930s.<sup>6</sup> Beginning in 1943, reproduction rates increased and fluctuated around slightly higher levels. Net reproduction rates moved from between 0.9-1.1 for the decade ending in 1942 to levels between 1.4-1.6 in 1943-1946 (Table 1).

3. The patterns of postwar fertility recovery continued subsequent to the establishment of the State of Israel in 1948. Crude birthrates increased

to 33 per thousand in 1950, gross and net reproduction rates increased to 1.95 and 1.81, respectively, by 1951, and total fertility rates increased by almost one child (from 3.08 to 4.01) in the short period 1948-1951 (see Table 2). These patterns of fertility recovery reflected a complicated mixture of postwar marriages and childbearing, the making-up of postponed births, and more significantly the influx of high-fertility Jewish populations during the period of mass immigration (1948-1951).

4. Subsequent to 1951, these overall period fertility and reproduction rates reveal a steady almost uninterrupted downward trend until 1967. Crude birthrates fell from 33 to 21 per thousand (1950-1967), total fertility dropped from 4.0 to 3.2, and gross and net reproduction rates declined from 1.95 to 1.55 and from 1.81 to 1.50, respectively (1951-1967).

5. Since the Six-Day War of 1967, period fertility levels among the Israeli Jewish population have fluctuated. Between 1967 and 1971, fertility levels increased by about 10 percent and then dropped again between 1971 and 1973. In 1973, gross and net reproduction rates among Jews were 1.51 and 1.47, respectively, lower than any level recorded over the last three decades. In part, these fluctuations reflect the complex combination of cohort changes, that is, the entrance of the large cohorts of women born in the 1948-1951 period into the reproductive ages, continuous declines in fertility among the second-generation Asian-African origin population, the influx of immigrants from the Soviet Union and Western countries, with different fertility patterns, and the changing economic picture in Israel subsequent to the Six-Day War, and the economic slowdown beginning in 1973.

Although the demographic component that most clearly dominated the evolution of Jewish population in Palestine and Israel was immigration, it is instructive to raise the question, What has been the relative contribution of natural increase—the annual excess of births over deaths—to Jewish population changes in Israel? Examining the proportion of annual increase in Jewish population size accounted for by natural increase (including of course the natural increase of immigrants) reveals an interesting pattern. After the initial period of mass immigration subsequent to statehood, natural increase has accounted for over 57 percent of the total increase in Jewish population size in Israel. Indeed, in sixteen out of the twenty-two years 1952-1973, natural increase contributed on an annual basis more to Jewish population growth than immigration. Since 1965, the excess of births over deaths has accounted for the majority of the annual Jewish population growth, and for the nine-year period to 1973 it has accounted for almost 65 percent of the increase in Jewish population size.

Although this paper focuses exclusively on the fertility of the Jewish population of Israel, it is important to note that Jewish fertility has been and continues to be substantially lower than Arab fertility in Israel. In the last several years, Israeli Arab crude birthrates have fluctuated around 45 per thousand population compared to 24 per thousand population among Jews; total fertility rates among Jews have been around 3.4 compared to 7.7 among Israeli Arabs and 8.0 among Arabs in the occupied territories. In the early 1970s, gross reproduction rates among Arab Moslems in Israel were over 4.0 compared to rates of 1.6 among Jews. This differential fertility pattern has obvious implications for differential population growth and composition and the future sociodemographic-political structure of Israeli society.<sup>7</sup>

#### *Period Fertility Rates for Ethnic Subpopulations*

The fertility patterns just described are reflective of the total Jewish population in Israel and are important with respect to absolute and relative Jewish population growth and, perhaps, in contrast to fertility and population growth patterns among Jews in communities outside of Israel. However, Israel's sociodemographic evolution and, in particular, the differential patterns of fertility of immigrant groups entering Israeli society at different points in time require the examination of fertility trends in Israel for major ethnoimmigrant groups.

Gross and net reproduction rates for the thirty-year period 1944-1973 have been prepared separately for three Jewish subpopulations: European-American-born, Asian-African-born, and native-Israeli-born. Before examining these data, it should be noted that these categories are less than ideal for sociological and demographic purposes. The European-American and Asian-African subpopulations are internally heterogeneous in terms of a variety of initial and subsequent sociodemographic characteristics. The most conspicuous differences are between Western and Eastern European Jewish populations with respect to marriage patterns and fertility levels and between Asian- and African-born Jews in terms of fertility levels and trends. Specific country of origin data cross-tabulated by time of arrival show important general sociodemographic variations, but these detailed data have not been available for fertility analysis.

The Israeli-born subpopulation is even more problematic since its composition changed significantly over time reflecting past immigration patterns and differential natural increase of immigrant groups. During the

earlier periods, the Israeli-born population was shaped by the relative size of two groups: the children of the old-religious *yishuv* ("community") with an assumed high level of fertility, and the children of the early Zionist settlers of Eastern European origins, with an assumed low level of fertility. In more recent years, the mixture of the native-born includes the second generation of Eastern and Western European Jews plus the growing segment of second-generation Asian-African origin subpopulation. Hence, with the available data, it is often impossible to separate changing patterns of fertility among native-born Israeli Jews from the changing composition of the native-born population. To the extent that the ethnic origin composition of the native-born Israeli Jewish population has shifted over time and is heterogeneous at any one point in time, analysis of fertility levels and trends becomes most problematic. This is particularly the case when period rather than cohort fertility measures are utilized. (Data recently collected by the authors on the fertility experience of detailed cohorts of Jewish women should be useful in examining this particular issue.)

Despite these and other limitations, it is instructive to examine changes in period fertility rates for these three broad subpopulations (European-American-born, Asian-African-born, and Israeli-born). Whatever internal heterogeneity characterizes each of these three subpopulations, differences between the categories are probably much greater. Hence, comparisons of general fertility patterns (decline, recovery, fluctuations) and fertility levels may be made, and the general question of the convergence of fertility levels among initially dissimilar population subgroups may be investigated at least in a preliminary way. Data on gross and net reproduction rates are presented in Table 3 for these three subpopulations.

Examining first the reproduction patterns of European-American-born women, it is clear that fertility levels were low during the economic depression and World War II periods. Following the war, fertility levels rose by about 25 percent—net reproduction rates increased from 1.2 to 1.5 from 1944-1945 to 1950. This "baby boom" largely reflected the making-up of postponed births and marriages and was short-lived. During the decade following 1950, European-American-born women experienced a continuous decline in period fertility rates, culminating in a level just above replacement in 1959 and fluctuating between 1.1 and 1.2 in net reproduction rates until 1968. In the period following 1968, net reproduction rates fluctuated upward to 1.37 in 1971, dropping thereafter to 1.20 in 1973. These patterns duplicate the overall trends noted earlier for the Israeli Jewish population as a whole, although at a lower level of reproduction.

*Table 3*  
*Gross (GRR) and Net Reproduction Rates (NRR) by Continent of Birth*  
*for Jewish Women, 1944-1973<sup>a</sup>*

Year	Israel		Asia-Africa		Europe-America	
	GRR	NRR	GRR	NRR	GRR	NRR
1944-45	1.75	1.53	2.28	2.00	1.38	1.21
1949	1.73	1.63	2.17	1.89	1.55	1.46
1950	1.91	1.82	2.76	2.41	1.59	1.52
1951	1.73	1.64	3.06	2.72	1.54	1.47
1952	1.63	1.55	3.02	2.74	1.48	1.41
1953	1.56	1.48	2.74	2.52	1.39	1.32
1954	1.40	1.33	2.75	2.55	1.28	1.22
1955	1.38	1.31	2.77	2.60	1.28	1.22
1956	1.35	1.28	2.73	2.58	1.27	1.21
1957	1.37	1.30	2.64	2.50	1.27	1.20
1958	1.32	1.26	2.40	2.28	1.20	1.14
1959	1.35	1.28	2.56	2.44	1.13	1.08
1960	1.34	1.27	2.48	2.38	1.15	1.10
1961	1.31	1.27	2.35	2.26	1.16	1.12
1962	1.26	1.21	2.27	2.18	1.13	1.09
1963	1.34	1.29	2.24	2.15	1.16	1.11
1964	1.38	1.32	2.22	2.13	1.24	1.19
1965	1.41	1.35	2.23	2.14	1.26	1.21
1966	1.35	1.30	2.17	2.08	1.19	1.14
1967	1.31	1.25	2.04	1.94	1.16	1.14
1968	1.38	1.32	2.09	2.00	1.28	1.23
1969	1.43	1.37	2.04	1.96	1.32	1.26
1970	1.52	1.45	1.97	1.90	1.38	1.32
1971	1.55	1.48	1.97	1.91	1.42	1.37
1972	1.42	1.36	1.85	1.77	1.33	1.25
1973	1.44	1.38	1.80	1.72	1.29	1.20

<sup>a</sup> *Source:* Central Bureau of Statistics, Statistical Yearbook of Israel, various years.

The pattern of annual fertility rates for Asian-African-born women clearly follows these general trends with some significant differences. The first obvious difference is the much higher level of reproduction. After mass immigration, the level of fertility for this ethnic group was over 3.0 and 2.7 for gross and net reproduction rates. Starting in 1952 the gross reproduction rate declined slowly but steadily to 2.5 by 1959 and to less than 2.0 by 1970, falling further to 1.8 by 1973. This fertility decline of 40 percent in two decades represents a revolutionary demographic and social shift in absolute terms and relative to general demographic experience around the world. Compressed in time, without formal government intervention (indeed, in sharp contrast to high-fertility ideals of the society) and in the absence of modern contraception, this fertility reduction has been and continues to be the focus of a wide range of research and

analysis. The objective of these efforts has been to uncover the general mechanisms accounting for and variables correlated with this decline and to investigate the implications of these patterns for demographic and societal trends in Israel as well as in other areas of the world. Some hypotheses regarding the explanation of this decline and generally ethnic differentials in Jewish fertility patterns in Israel will be discussed in a subsequent section.

The continuous fertility decline among Asian-African women and the changing fertility level among European-American women raises the question of a general fertility convergence between these two subpopulations. Within the limitations imposed by period data, some insight into the convergence issue may be obtained by comparing the differences between the reproduction rates of Asian-African- and European-American-born women over the last quarter of a century. Such a comparison reveals an emerging convergence in fertility patterns that reflects not only the sharp downward fertility trend among Asian-African women but the slight, though not insignificant, increase in reproduction rates of European-American-born women. Absolute differences in the gross reproduction rates of Asian-African and European-American women were around 1.5 in the early 1950s, declining to around 0.9 in the middle 1960s and to 0.5 in the early 1970s. Thus, although significant differences in reproduction levels remain between Asian-African and European-American women (net rates of 1.72 for Asian-African women compared to 1.20 for European-American women in 1973), the differences have narrowed considerably. This fertility convergence suggests the emergence of a common set of social-demographic factors that may be operating in Israeli society to affect fertility behavior in general with variation and fluctuation limited to a relatively narrow range. Nevertheless, a continuation of differential fertility patterns between these ethnic segments implies most directly that the less affluent, Oriental, socially deprived sectors of the Jewish population in Israel will increase more rapidly in size than the more affluent, educated, Westernized, modern segments.

These differential levels of fertility of ethnic groups are important not only in the context of compositional shifts for the Jewish population. To the extent that family size and income levels are inversely related and family size and ethnicity are highly correlated, a continuation of large family size among selected ethnic segments of the Jewish population will continue to perpetuate the cycle of poverty. Without entering into this whole issue it should be noted that Asian-African-born women contribute a disproportionate share of higher-parity births to the Jewish population.

For example, in 1971, of the 65,000 births, 13.4 percent were of five parity or higher. Fully 84 percent of these higher-order births were to Asian-African-born women, whereas as an ethnic subpopulation they accounted for less than half of all Jewish births.

Nevertheless, the overall trend is toward the small-family behavioral norm. Additional support for the emergence of this norm is obtained by examining the fertility of native-born Israeli women. As noted earlier, the Israeli-born population has experienced significant compositional shifts over time as cohorts of second-generation Israelis of different immigrant waves entered into the reproductive ages. Nevertheless, it is not trivial to ask whether or not a general pattern of fertility is emerging among the native-born Israeli Jewish population—even with the qualification that compositional shifts need to be taken into account.

An examination of the trends in annual fertility rates among the native-born reveals, not surprisingly, a somewhat different model than the European-American or Asian-African patterns. Gross and net reproduction rates of Israeli-born women declined by almost 35 percent between 1950 and 1962 but, unlike the previous patterns noted, the fertility of Israeli-born women increased in 1962-1965, declined to 1961 levels by 1967, increased again in 1967-1971, and declined somewhat in 1971-1973. These fluctuations reflect the shifting cohort, ethnic-origin composition of the native-born category and do not imply unpatterned shifts in fertility levels.

A comparison of reproduction rates for native-born and foreign-born Jewish populations suggests that, despite compositional shifts within the former, fertility differences between these subpopulations have narrowed considerably over the years. Generally, the native-born Jewish population has had levels of fertility intermediate between the lower rates of European-born and the higher rates of Asian-African-born. Paradoxically, as the native-born become proportionally more Asian-African in origin, their fertility resembles the lower levels of the European model and not the higher levels of the Asian-African model. In 1973, the gross reproduction rate among the Israeli-born was about 12 percent higher than among the European-born and 20 percent lower than the Asian-African-born.

#### *Cohort Fertility: Preliminary Findings*

In general, the mixture of different birth and marriage cohorts in period fertility rates is particularly problematic during periods of rapid fertility changes. If, in addition, waves of immigrants with significantly varying

fertility levels are entering a population, period fertility rates are even more difficult to analyze. Fertility studies in a variety of countries have pointed to the inadequacies of period measures for studying trends and the distortions involved when period and cohort measures are confused. Fertility patterns in Israel require detailed cohort analysis to untangle the mechanisms of fertility reduction and change. Illustrative findings and preliminary results from the cohort data obtained in our phase I survey are presented in the following. In Tables 4 to 6, data are given for three subgroupings—European-, Asian-, and African-born women. These data show cumulative fertility rates by selected marriage durations and cohorts and allow for a detailed examination of changes in family size and formation within and between these groups. Some important highlights from these data and some issues that require further clarification are summarized here.

Table 4

*Cumulative Fertility Rates by Selected Durations of Marriage, Marriage Cohorts 1929-1968, for European-Born Jewish Women*

Marriage cohorts	N	Duration (years)				
		5-7	8-9	10-14	15-19	20-24
1929-1933	179	1.52	1.72	2.03	2.23	2.27
1934-1938	256	1.18	1.39	1.77	1.87	1.89
1939-1943	273	1.43	1.63	1.89	1.99	1.99
1944-1948	445	1.54	1.69	1.89	1.94	1.95
1949-1953	246	1.51	1.68	1.91	1.99	2.02
1954-1958	172	1.62	1.76	2.07	2.20	—
1959-1963	98	1.61	1.89	2.35	—	—
1964-1968	111	2.32	—	—	—	—

Table 5

*Cumulative Fertility Rates by Selected Durations of Marriage, Marriage Cohorts 1929-1968, for Asian-Born Jewish Women*

Marriage cohorts	N	Duration (years)				
		5-7	8-9	10-14	15-19	20-24
1934-1938	42	2.71	3.29	4.92	6.04	6.52
1939-1943	70	2.94	3.58	5.01	5.85	6.11
1944-1948	90	3.24	3.71	4.86	5.46	5.65
1949-1953	123	2.57	3.07	3.93	4.41	4.81
1954-1958	130	2.39	2.81	3.54	3.99	—
1959-1963	102	2.36	2.75	3.47	—	—
1964-1968	97	2.54	—	—	—	—

Table 6

*Cumulative Fertility Rates by Selected Durations of Marriage, Marriage Cohorts 1934-1968, for African-Born Jewish Women*

Marriage cohorts	N	Duration (years)				
		5-7	8-9	10-14	15-19	20-24
1934-1938	51	2.46	3.12	4.84	6.70	7.54
1939-1943	71	2.73	3.38	5.00	5.93	6.41
1944-1948	78	3.22	3.83	5.07	5.82	6.06
1949-1953	125	3.05	3.66	4.81	5.54	5.87
1954-1958	104	3.02	3.62	4.59	5.41	—
1959-1963	96	3.03	3.60	4.88	—	—
1964-1968	134	3.16	—	—	—	—

1. Women in the oldest marriage cohort (1929-1933) had 2.27 live births by the end of their reproductive span. Following this cohort are four marriage cohorts (1934-1953) that had around two children after twenty to twenty-four years of marriage. Beginning with the 1954 marriage cohort, a clear increase in cumulative live births is evident. Fertility levels are moving at least toward 2.5 children, since many of these women have not completed their childbearing. Although there is no indication of a "return to the large family," the shift away from minimum replacement levels characterizing earlier cohorts (1934-1948) is apparent. More detailed data not shown suggest that the changes in family formation occurred in the early years of married life for recent cohorts. Further analysis of these patterns for some specific subgroups within the European category should be revealing. In general, it is not clear what factors are correlated with this recent fertility recovery, what subgroups have contributed toward it, nor what parities have increased in frequency. These questions will be addressed fully when small socioeconomic subgroups are analyzed and through a cohort-duration parity analysis.

2. Cohort data on Asian-born Jewish women reveal impressive fertility reductions and suggest that the initial reductions for the older cohorts occurred only toward the end of the childbearing period, at higher parities, and after immigration to Israel. Thus, for example, the 1939-1948 marriage cohorts significantly differed from the 1934-1938 marriage cohort only after fifteen or twenty years of marriage and after five or six children. By then, most of these women had been exposed to various aspects of Israeli society. The younger cohorts, however, experienced fertility reductions in the early stages of marriage; hence, after five to seven years of marriage the post-1949 marriage cohorts had on average cumulative fertility rates 15 percent lower than pre-1949 cohorts; by durations of ten to

fourteen years, the 1954-1963 cohorts had fertility rates of 3.5 compared to 5.0 for the pre-1948 cohorts.

3. The significantly higher level of fertility among African-born Jewish women compared to Asian-born women is clearly evident. Although there appears to be a relatively significant break between the pre- and post-1948 cohorts, the differences are not as striking as for the Asian-born women. Unmistakable trends toward reduction may be noted for most of the comparisons by duration for African-born Jewish women—a decline from over 7.5 children for the 1934-1938 cohort to less than 6 children for the 1949-1953 cohort after twenty to twenty-four years of marriage. Nevertheless, the level of fertility by cohorts and duration of marriage is higher among African- compared to Asian-born women by 1-1.5 children on average. Again, these changes tend to be at longer durations and probably at high parities.

These cohort data represent but the preliminary to a detailed analysis that will be undertaken with these data in the future. Clearly, they tend to raise more questions than they answer, but our questions have become more sophisticated and precise because of these more comprehensive cohort data. The inclusion of details on parity and socioeconomic status will help clarify some of the important issues raised by these data.

We have not yet completed the cohort fertility estimates for the Israeli-born population disaggregated by ethnic origin. Earlier estimates that were prepared based on a combination of census and registration materials revealed two important patterns: first, the number of children per native-born woman declined by one child between the 1915 and 1930 birth cohorts. Second, since the 1930 cohort, fertility levels have been fairly stable, averaging 2.75 per woman—this despite considerable fluctuations shown by period fertility measures. Projected average family-size values indicate an average between 2.5 and 2.75 children for the younger native-born cohorts (Table 7).

These estimates will be evaluated and refined as the detailed data on second-generation, Israeli ethnic subgroups are examined and as new data on expected family size among younger cohorts are analyzed.

### *Kibbutz Fertility*

One additional piece of evidence that confirms the “fit” between small-family size and Israeli society may be obtained by examining fertility in Israeli kibbutzim. Until the early 1950s, the kibbutz community had somewhat lower fertility when compared to the general Jewish population.

Table 7

*Average Number of Children Born per Woman up to Age X, by Birth Cohort (Women Born in Israel between 1915 and 1950)<sup>a</sup>*

Age X	Cohort of women born around the year: <sup>b</sup>							
	1915	1920	1925	1930	1935	1940	1945	1950
20	0.12	0.12	0.12	0.12	0.13	1.10	0.08	0.07
25	1.09	1.02	1.01	1.02	0.87	0.89	0.85	(0.81)
30	2.25	2.13	2.02	1.92	1.81	1.86	(1.89)	(1.71)
35	3.15	2.90	2.61	2.48	2.47	(2.52)	(2.42)	(2.33)
40	3.58	3.25	2.88	2.77	(2.71)	(2.78)	(2.67)	(2.58)
45	3.66	3.32	2.94	(2.82)	(2.76)	(2.84)	(2.70)	(2.60)

<sup>a</sup> For details, see D. Friedlander, "Israel" in *Population Policies in Developed Countries*, ed. B. Berelson (New York: McGraw-Hill, 1974).

<sup>b</sup> Figures in parentheses are projected values.

This finding and the functions and roles of kibbutz family life have been analyzed extensively.<sup>8</sup> Fertility levels in the kibbutz were depressed for years largely as a result of the combined effects of the way family functions were defined and economic pressures. Starting in the early 1950s, kibbutz society became more differentiated and family functions and the raising of children began to occupy a more central place in kibbutz life. In contrast to the pre-1950s when children were viewed as a heavy economic burden on the community in the sense that an increase in number implied a higher dependency burden, higher reproductive levels began to be considered the major means to secure the continuation and survival of the kibbutz community. Population growth through larger family size became a vital issue for the kibbutz, resulting in the initiation of various measures to reduce the burdens of women in pregnancy and after confinement. Attitude surveys confirmed the emergence of positive attitudes toward larger families among the majority of kibbutz respondents.<sup>9</sup>

Given the new ideological and structural inducements for increased family size, it is of interest to inquire, What was the behavioral response of kibbutz families to these changes? Again, real changes in family size are difficult to assess in the absence of cohort fertility analysis. However, current fertility rates are available that show some increase in the late 1950s and 1960s. Age-specific fertility rates for Jewish women in the kibbutz and in Israeli society may be compared for several periods in the 1960s by ethnic-origin categories (Table 8). These data reveal the somewhat higher total fertility rates for women born in Europe-America and in Israeli (origin unspecified). However, and this is the major point, differences are relatively small and there are no indications of any return to large-family size.

Table 8

*Age-Specific Fertility Rates in the Kibbutz and in Israel by Country of Women (Jewish Population, 1960-1968)<sup>a</sup>*

Age of mother	1960-1962		1965-1966		1967-1968	
	Kibbutz	Jewish population	Kibbutz	Jewish population	Kibbutz	Jewish population
Total population						
15-19	16.7	40.7	21.0	35.8	18.8	28.7
20-24	188.0	215.2	178.4	208.4	176.7	184.5
25-29	188.6	207.8	184.5	214.5	208.3	213.6
30-34	111.9	129.0	112.6	139.6	136.9	143.7
35-39	21.4	63.4	56.6	62.9	66.4	67.6
40-44	13.0	20.1	11.1	17.1	7.6	15.1
45-49	0.7	4.0	1.2	4.0	0.6	2.9
Total fertility	2.7	3.4	2.8	3.4	3.1	3.3
Israel-born						
15-19	12.4	15.3	14.8	14.8	12.9	13.2
20-24	166.7	157.4	165.9	160.2	166.8	149.8
25-29	168.4	179.7	196.7	188.2	219.9	190.6
30-34	104.2	101.9	133.2	125.9	178.6	127.8
35-39	84.0	52.1	80.0	50.5	100.9	58.9
40-44	20.5	16.9	28.4	14.8	10.3	13.2
45-49	3.9	2.9	16.7	3.1	—	1.7
Total fertility	2.8	2.6	3.2	2.8	3.4	2.8
Asia-Africa-born						
15-19	28.6	74.8	23.8	65.9	37.2	59.5
20-24	256.0	273.4	178.2	257.9	178.2	227.2
25-29	235.8	259.8	167.2	261.7	172.3	240.0
30-34	150.9	204.8	120.0	192.8	125.3	181.0
35-39	64.1	128.8	56.2	109.0	53.0	101.6
40-44	25.5	50.2	36.6	39.9	14.7	31.1
45-49	—	14.8	20.8	11.1	16.1	7.4
Total fertility	3.8	5.0	3.0	4.7	3.0	4.2
Europe-America-born						
15-19	28.6	24.1	42.5	32.3	49.6	35.4
20-24	215.7	185.4	216.1	179.6	204.4	160.8
25-29	197.0	153.7	171.0	156.7	197.5	179.8
30-34	109.5	75.3	98.5	78.0	102.9	92.2
35-39	59.8	31.3	49.8	28.3	58.1	32.4
40-44	12.4	6.8	8.5	5.4	6.6	4.9
45-49	0.7	0.5	—	0.5	—	0.5
Total fertility	3.1	2.4	2.9	2.4	3.1	2.5

<sup>a</sup> Source: Various publications of the Central Bureau of Statistics, Israel.

*Factors in Fertility Change and Differentiation*

It is clearly premature to develop a general theory accounting for these fertility trends because many of the elementary empirical relationships have yet to be examined. Nevertheless, some of the important general categories of variables associated with Jewish fertility patterns in Israel may be isolated and identified even if the mechanisms linking these variables are still obscure. These categories include: (1) ethnicity, generation, and length of exposure to Israeli society; (2) education and social class variables; (3) marriage and family structural patterns; (4) changing patterns of religiosity. We shall examine selected findings and hypotheses related to each of these categories.

*Ethnicity*

As one of the central features of contemporary Israeli life and a major axis of social change and differentiation within Israeli society, ethnicity—the strength of ethnic-group integration and the changing relationship of social class and ethnic-group composition—is the primary focus of fertility differentiation within the Jewish population.

The overall variations and changes in fertility by broad ethnic-origin populations have been outlined in preliminary form with period and cohort fertility rates. Research currently under way focuses on several related aspects of the ethnicity-fertility variation. First, there is an obvious need to examine ethnic subgroups that are sociologically and demographically more salient than the crude categorization of European-American and Asian-African. The preliminary cohort findings on the fertility patterns of Asian- compared to African-born women point in this direction.

Related to the need for greater attention to variation within broad ethnic categories is the requirement to distinguish variations in the timing of ethnic-immigrant arrival—within and between ethnic subpopulations. Time of arrival—translated into year of immigration, duration of exposure to Israeli society, and arrival relative to others in a particular ethnic-immigrant group wave of immigration—is of obvious importance in examining changing ethnic variations in fertility. Similarly, communities of first, subsequent, and current residence within Israel, particularly the ethnic composition of residential areas and ethnic interaction patterns are important variables in the analyses of the relationship between ethnic sociocultural continuity and fertility change.

An attempt to examine ethnic change, integration, and the modernization of fertility attitudes and behavior must focus on generational con-

tinuities and discontinuities. The extent to which fertility variation by ethnicity is transitional and of limited duration may be examined by examining the convergence or nonconvergence of fertility patterns among selected segments of second-generation Israelis.

Perhaps the major analytic issue in the sociology of ethnic fertility variation among Israeli Jews is, in theory, not dissimilar from the central analytic issue in the sociology of ethnic fertility variation generally: Are ethnic differentials in fertility a cultural or class phenomenon? More specifically, Are fertility differences between Oriental and Western ethnic groups in Israel's Jewish population a reflection of the coincidence of class and ethnicity or the result of specific cultural or "ethnic" elements that transcend class differences? Clearly, the composition of ethnic populations in Israel differs in terms of social characteristics that are linked to variation in family-size norms, values, and behavior patterns. For example, educational levels, occupational concentrations, income patterns are among the most important variables that differentiate Jewish fertility patterns in Israel; these same variables are differentially distributed by ethnicity. Hence, it is not clear whether the relationship between ethnicity and fertility is but a reflection of the correlation between ethnicity and class or whether there are particular ethnic-cultural elements that shape fertility variation within social class categories. The question is: Are distinctive sociocultural traits of ethnic groups sufficiently salient to affect fertility behavior and norms differentially after the more obvious social compositional differences between ethnic groups are equalized? The equalization of social compositional differences may be done artificially through statistical controls and multivariable analysis or may occur at some time in the future when greater similarity in the social characteristics of ethnic groups emerges. This question is of particular significance in ethnically pluralistic societies where the notion of "melting pot" integration and assimilation is rejected ideologically and practically.

#### *Education and Social Mobility*

One of the most powerful social differentials of fertility patterns in Israel is education. The role of education as a factor related to the downward shift in fertility among Asian-African women has been documented using census and registration data in Israel. As a measure of modernity, an indicator of rationality, a reflection of social mobility, and a correlate of social integration, education is a critical variable among groups that are moving from traditional to modern fertility levels. Moreover, to the extent that education implies exposure to information sources about the means to

regulate family size and planning, a relationship between education and type of contraceptive usage is not unexpected.

From census and current registration data, a clear inverse relationship is obtained between education and fertility within broad ethnic-immigrant groups. Among the subgroups experiencing the greatest declines in fertility, the relationship between education and fertility is strongest. For example, current registration data (period rates) show that among Asian-African-born women there is a four-child difference between the least and most educated: average number of live births among uneducated Asian-African-born women aged 35-39 in 1971 was 7.4 compared to 3.1 for women with thirteen or more years of education (Table 9). Although registration data show the same pattern for native-born and European-American-born women, the differences between the highest- and lowest-educated categories are generally less than one child. Similar findings have been reported from the 1961 census.<sup>10</sup>

#### *Marriage Patterns and Family Structure*

One of the most interesting findings to emerge from previous research on fertility differentials among the Jewish population of Israel relates to the impact of place of marriage on fertility patterns. Matras has shown

Table 9

*Average Number of Live Births by Years of Schooling, Age of Mothers and Continent of Birth (1971)<sup>a</sup>*

Age and years of schooling	Place of birth		
	Israel	Asia-Africa	Europe-
Age 25-29			America
0	—	4.6	2.4
1- 8	2.8	3.4	2.6
9-12	2.2	2.5	2.1
13 +	2.0	2.1	1.8
Age 30-34			
0	—	6.3	4.1
1-8	3.9	4.6	3.4
9-12	3.2	3.5	2.9
13 +	3.0	2.9	2.7
Age 35-39			
0	—	7.4	—
1-8	4.6	5.5	3.9
9-12	3.5	4.0	3.3
13 +	3.3	3.1	3.4

<sup>a</sup> Source: Adapted from Central Bureau of Statistics, *Statistical Abstract of Israel*, 1972, p. 91, Table III/29.

that the decline in fertility among Jewish women born in Asia or Africa was concentrated almost entirely among women married in Israel. Data organized from the 1961 census show that, among women born in Europe or America, no large systematic differences in fertility are associated with whether they married in Israel or abroad. However, among women born in Asian-African countries, place of marriage—Israel or abroad—is of considerable importance. Census data show that those who married in Israel had significantly fewer children than those who married abroad, controlling for age (Table 10).<sup>11</sup>

Table 10

*Differences in the Average Number of Live Births to Women Married Outside of Israel Compared to Women Married in Israel by Continent of Birth and Age<sup>a</sup>*

Age in 1961	Born in Europe-America	Born in Asia-Africa <sup>b</sup>
Below 20	(+ 0.9)	+ 2.0
20-24	+ 0.3	+ 1.3
25-29	+ 0.1	+ 1.8
30-34	+ 0.1	+ 2.4
35-39	0.0	+ 2.2
40-44	-0.1	+ 2.4
45-49	-0.1	+ 1.8
50-54	+ 0.1	+ 1.6
55-59	+ 0.1	+ 0.7
60-64	+ 0.4	(+ 0.8)
65 +	+ 0.2	(+ 1.4)

<sup>a</sup> Source: Adapted from Judah Matras, "On changing matchmaking, marriage and fertility in Israel," *American Journal of Sociology*, 79 (Sept. 1973), p. 102, Table 7.

<sup>b</sup> (+) means that the average number of live births to those married abroad is higher; (-) means that the average number of live births to those married in Israel is higher. Parentheses indicate fewer than 50 sample cases in the census.

From these and related findings, Matras has argued that a significant element in the reduction of the fertility of traditionally high-fertility Jewish populations of Asia and Africa has been the evolution of independent, decision-making, conjugal families among those marrying in Israel. The general breakup of traditional marriage regimes, expansion of marriage markets, and the passing of initiative and control over marriage from parents to couples themselves were among the major breaks resulting from the immigration of Asian-African ethnic communities to Israel. These changes allowed mate selection to move beyond kin dominance: with sufficient resources available, young couples have been able to manage their lives independent of the mediation of parents or relatives.

This set of hypotheses is intriguing because it fits in with general theories about the impact of migration on family structure, theories pointing to the importance of the shift from kin dominance and centrality to conjugal family independence for fertility reduction, and some general evidence available on Israeli society. The survey study that has recently been completed will allow a detailed test of this and related hypotheses about the impact of family structure, extended family interaction, and changing women's status and roles on fertility for the variety of ethnic-immigrant groups among the Jewish population.

### *Religiosity*

In most modern societies, religiosity plays a marginal role in differentiating fertility norms and behavior not only because of the dilution of religious content (secularism) but because of the nonspecificity of religion with respect to family-size ideals, contraceptive norms, and child-spacing preferences. Except for marginal, segregated religious sects of Orthodox and Hasidic Jews in Diaspora Jewish communities, there is no evidence to suggest that Jewish fertility varies by religiosity (measured in a variety of ways) when appropriate controls for social class and generation factors are applied.

The relationship between religiosity and fertility among Jews in Israel is complicated by ethnicity as well as class factors. Over and above the coincidence of religiosity with these two sets of variables, the relationship between religiosity and fertility may reflect differential family size norms and/or differential contraceptive and abortion practices. Irrespective of the level of obscurity in Judaism on family-size norms and of the degree of flexibility of the *Halacha* ("Jewish religious law") on the use of various means of contraception for the spacing of children and the planning of family size, it has been generally hypothesized that, among religious couples (defined along a variety of dimensions) in Israel, family-size ideals are larger than among secular couples. Moreover, whether because of family-size desires and/or as a result of popular understanding of religious law, the use of efficient contraception and, in particular, abortion will probably be lower among religious than among secular couples.

Scattered evidence available in Israel suggests that religiosity measures are among the most important differentiators of fertility among Western-origin couples; among Asian-Africans, the relationship between religiosity and fertility is equally strong but is complicated by the interactive effects of religiosity, class, and ethnic integration.

### *Conclusions*

Emerging from this overview of Jewish fertility change and variation in Israel is that more questions have been raised than have been answered. However, the fundamental issues that have been posed will be clarified over the next several years as the details of our recent surveys are analyzed. In many ways we are in a position to raise some of these specific analytic issues because of the solid descriptive data base that has developed over the past several decades.

Research concerned with changes and variations in Jewish fertility around the world has in the past been so hampered by the lack of minimum demographic sources that discussions of the need for cohort fertility rates, testing analytic hypotheses about the relative importance of social class or cultural variables, analyzing the mechanisms of fertility control over time and in relationship to key sociodemographic processes have been properly viewed as wild demographic fantasies. In large part, these central issues remain long-range goals for most if not all the Jewish communities of the Diaspora. It is difficult to address complex, sophisticated issues seriously when energies are devoted to estimating crude birthrates.

In Israel, by contrast, these issues are guidelines for the research now being conducted. To the extent that Israel's Jewish population is, at least in part, a microcosm of world Jewry, the results of these studies in Israel should provide important clues to Jewish fertility trends and differentials around the world.

### *Acknowledgment*

*The research reported in this chapter was supported by Grant No. RO1 HDO6721 from the National Institutes of Health.*

### NOTES

<sup>1</sup> "Total" Jewish community is used here in contrast to selective segments that may have substantially different fertility patterns (e.g., segregated Hasidic subgroups).

<sup>2</sup> See Dov Friedlander, "Family planning in Israel," *Journal of Marriage and the Family*, 35 (Feb., 1973), 117-124.

<sup>3</sup> On the general theory of minority-group status among Jews, see Calvin Goldscheider, "Fertility of the Jews," *Demography*, 4 (1967), 196-209; a more general version is given by him in *Population, Modernization and Social Structure* (Boston: Little, Brown, 1971), Chapter 10. On Israel, see N. Jaffe, "Jewish Fertility in Israel: The Transition to Majority Status," Sixth World Congress of Jewish Studies, Jerusalem, 1973.

<sup>4</sup> See, in particular, the several volumes on marriage and fertility and on families in Israel (Volumes 26, 32, 36, 39 of the 1961 census) and the regular publication of vital statistics volumes. Annual period rates are generally published in the *Statistical Abstracts of Israel*.

<sup>5</sup> Both phase I and phase II had an Arab component that is not relevant in the present context.

<sup>6</sup> Compare Dov Friedlander, "Israel" in *Population Policies in Developed Countries*, ed. B. Berelson (New York: McGraw-Hill, 1974).

<sup>7</sup> A discussion of some of these issues based on population projections is presented in Dov Friedlander and Calvin Goldscheider, "Peace and the demographic future of Israel," *Journal of Conflict Resolution*, 18 (Sept. 1974), 486-501.

<sup>8</sup> Y. Talmon-Garber, *The Kibbutz: Sociological Studies* (Jerusalem: Magnes Press, 1970).

<sup>9</sup> Y. Talmon-Garber, "Social change and family structure," *International Social Science Journal*, 14 (1962).

<sup>10</sup> See H. Musham, "Some fertility differentials among Jewish women in Israel," in *Papers on Jewish Demography*, 1969, eds. V. Schmelz *et al.*, (Jerusalem, 1973). See also papers by Matras and Friedlander in the same volume.

<sup>11</sup> See J. Matras, "On changing matchmaking, marriage and fertility in Israel," *American Journal of Sociology*, 79 (Sept. 1973), 364-388, and his *Families in Israel*, Part II, Population and Housing Census, 1961 (Central Bureau of Statistics, Israel, 1968).