

COMMENTS ON THE SEASONAL VARIATION OF BIRTH RATES IN ISRAEL

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In a recent paper, Roger Selya (1980) showed that seasonal variations in the birth rates of Arab and Jewish populations are recognizable. In analyzing the trends for 1953—1972, Selya found that Jewish families had a climax of births during the summer months whereas among the Arab population it was during the winter. The lowest number of births in the Jewish population was recorded in the winter, whereas the lowest Arab birth rate was recorded during the summer.

Selya explained the reason for the difference by the varying structures of the Jewish and Arab female labor forces. He argued that the climate was a determining factor in explaining the birth rhythm of the Arab population. As a result of the study of the demographic factors of Arabs and Jews the following should be noted.

If we extend the analysis from 1973 to 1978, the month with the lowest Jewish births is still February, but for this period among the Arab population, the lowest birth rate is not found in the month of June as in the past (Israel, Central Bureau of Statistics, Monthly Buletin of Statistics and Figure 1). However, the highest birth rate for both Jews and Arabs remains consistent, as noted by Selya: August and September in the Jewish population and December and January for the Arab population.

If we examine the period 1963—1978, the probability that the highest birth rate amongst Arabs will occur in December—January is 0.84. The probability that the highest birth rate amongst Jews will occur in August—September is 0.53. These trends may indicate a period of modernization and social stability in the Arab sector dating from the 1960s (Fisenstadt, 1973, pp. 335—350). During the same period, the Jewish population was affected by several major events, including the wars of 1967 and 1973, and waves of immigration. These events may have influenced the probability of the climax month.

In the 1960s, agriculture in the Arab sectors in Israel noticeably changed and developed from primitive day farming systems to irrigated high-labor intensive

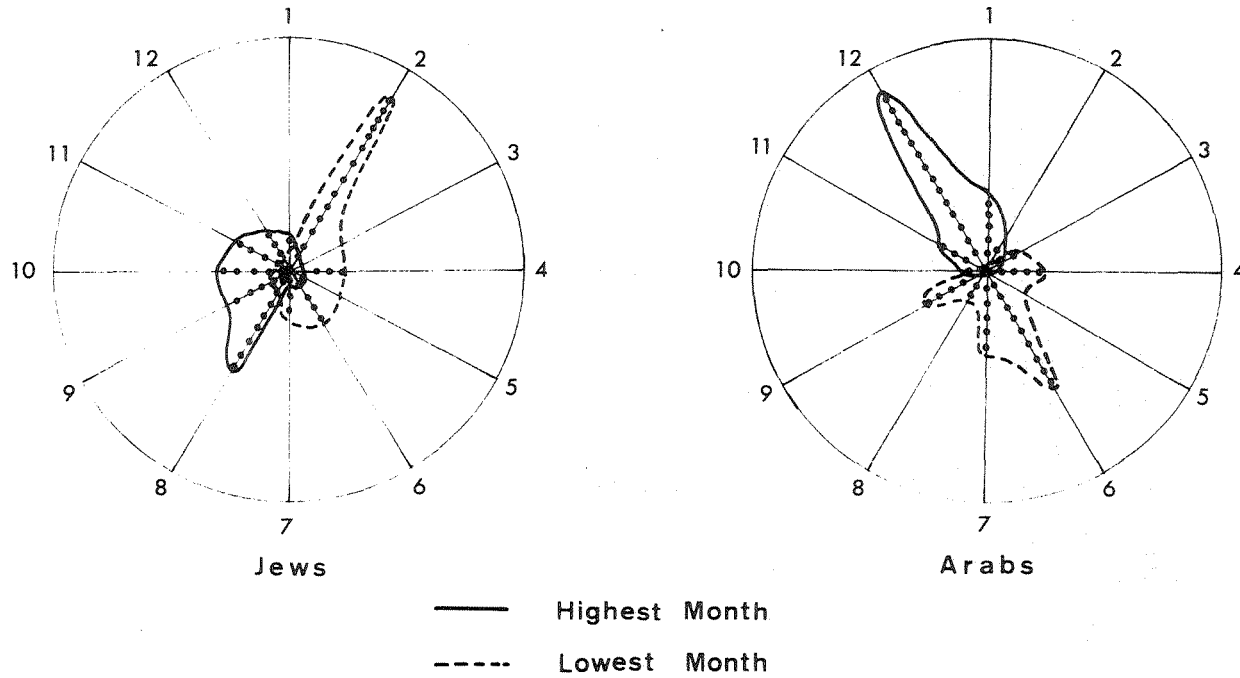


Fig.1: The lowest and highest months of birth in Israel, 1953-1978

systems (Bar-Gal, 1976). The agricultural system, involving summer production of vegetables necessitates the participation of women and children in the fields. The long summer vacation from school makes it possible to meet the demand for added field workers. The fact that this is a peak growing season could be a reason for the seasonality of the birth rate in the Arab sector as pointed out by Selya.

Finally, Selya used z-scores for observing trends, and we are not against using that method. But, if the absolute figures are examined the absolute deviations from the absolute average number of births per month amongst the Jews are in the range of 1,000–1,500 births, whereas the Arab absolute deviation ranges from 220–300. These deviations are 11–14 percent of the absolute monthly means. Thus, it must be emphasized that seasonality has an effect only on marginal groups in the populations. The low values of absolute births create the seasonality effect as shown by Selya. Therefore, it can be assumed, as stated by Selya, that only small female groups such as Jewish teachers of Arab agricultural workers create this small variability. Most of the births in the Jewish and Arab sector show no seasonality whatsoever.

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