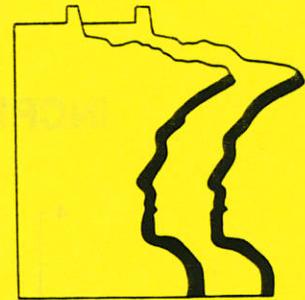


MINNESOTA STATE PLANNING AGENCY
Office of State Demographer

POPULATION NOTES

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OSD 84-27

MINNESOTA LIFE EXPECTANCY INCREASES MORE THAN THREE YEARS
DURING THE 1970s

Between 1970 and 1980 the life expectancy of Minnesota residents increased 3.2 years, from 73.0 years in 1970 to 76.2 in 1980. This is a far larger increase in life expectancy than occurred in previous decades. Women continue to outlive men and the gap between the sexes has increased over time. White Minnesotans have a considerably higher life expectancy than blacks or American Indians. Minnesota continues to be well above the national average in life expectancy. Within the state, there is a tendency for people to die younger in north central and northeastern Minnesota than in other areas of the state. These regional differences are minor compared with those associated with race and sex.

Life Expectancy Is Defined

The 1980 life expectancy figures (Table 1) are derived from life tables. A life table is a model that shows what would happen if a constant number of people were born each year and mortality rates by age also remained constant at current levels. Life expectancy is a widely used measure, one which is considered a good indicator of the overall mortality experience of a population. Since real-life mortality rates are unlikely to stay constant, the true life expectancy of babies born in 1980 could prove to be higher or lower than 76.2 years.

The Minnesota life tables are based on three and one-half years of mortality data centered on the April, 1980 census. Although life tables tend to be fairly stable, the results may fluctuate in cases where the population is very small or where data sources are not completely reliable. Both these problems occur in the case of racial minorities, particularly American Indians.

TABLE 1. LIFE EXPECTANCY BY AGE AND SEX,
MINNESOTA: 1978-1981

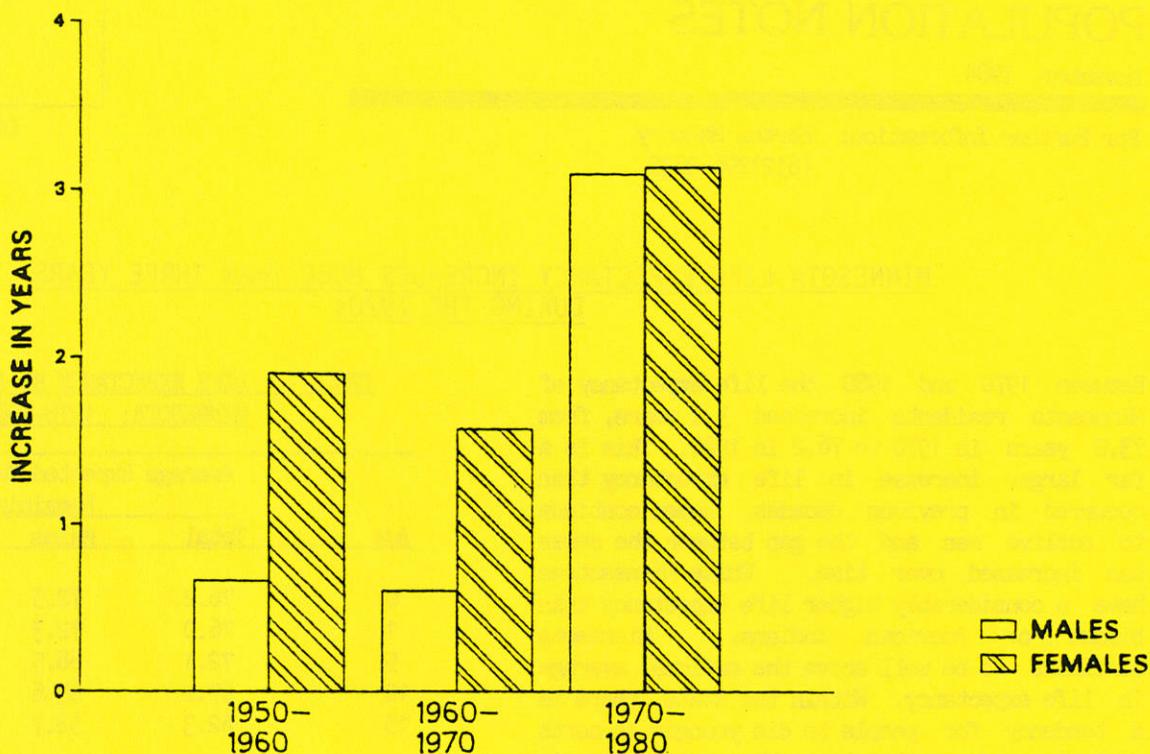
Age	Average Expected Years of Life Remaining:		
	Total	Males	Females
0	76.2	72.5	79.9
1	76.0	72.3	79.7
5	72.1	68.5	75.8
10	67.2	63.6	70.9
15	62.3	58.7	66.0
20	57.6	54.1	61.1
25	52.9	49.5	56.3
30	48.1	44.9	51.4
35	43.4	40.1	46.5
40	38.6	35.4	41.7
45	34.0	30.9	37.0
50	29.5	26.4	32.4
55	25.2	22.3	28.0
60	21.2	18.5	23.8
65	17.5	15.0	19.7
70	14.2	12.1	15.9
75	11.2	9.4	12.5
80	8.5	7.2	9.4
85+	6.4	5.5	6.9

Increases in Survival Jump During 1970s

Life expectancy among Minnesota males increased only modestly between 1950 and 1970, from 68.2 in 1950 (whites only) to 69.4 in 1970. During the 1970s survival rates jumped dramatically, especially at higher ages, and life expectancy for men grew to 72.5 years. The pattern was generally similar for women, although they experienced greater longevity increases in the 1950s and 1960s than men did (Figure 1).

FIGURE 1.

INCREASES IN LIFE EXPECTANCY AT BIRTH MINNESOTA 1950-1980



The basic reason for the increase in life expectancy has been a decline in age-specific rates of death. During the 1970s there were notable declines in the rates of death from major causes of mortality such as heart disease and stroke. A decline in infant mortality from 17.6 per 1,000 births in 1970 to 10.0 per 1,000 in 1980 has also been a factor. Although the number of infant deaths is small in proportion to the total number of deaths, they have a disproportionate effect on life expectancy. Overall, however, mortality decreases at older ages have had more impact on recent increases in life expectancy than have decreases at younger ages.

Gap Between Men and Women Increases

During the 1970-80 period, the increase in life expectancy was about the same for males and females: 3.1 years. The difference between the sexes stayed about the same—7.4 years in both 1970 and 1980 (Figure 2, Table 2). Over a 30 year period, however, the life expectancy gap has increased. This is because female increases in life expectancy outpaced those of males in the 1950s and 1960s (Figure 1).

At higher ages, female increases in longevity continued to outpace those of males even during the 1970s (Figure 3). In 1950, a 65 year old Minnesota woman could expect to live 2.1 years longer than her male counterpart. This discrepancy grew to 3.9 years in 1970 and 4.7 years in 1980. The growing life expectancy gap at higher ages, combined with a decline in the proportion of elderly who are foreign born (a disproportionately male category), has produced a declining sex ratio at older ages. The sex ratio among persons 65 and over declined from 101 men per 100 women in 1950 to 70 men per 100 women in 1980.

Whites Outlive Minorities

White Minnesotans can expect to live considerably longer than blacks or American Indians (Table 2). White women have a life expectancy of 80.3 years, compared with 74.5 for Indian women and 73.5 for black women. For men, the figures are 72.6 years for whites, 67.5 for blacks and 66.2 for Indians.

The overall state differences in life expectancy between the sexes are mirrored in

FIGURE 2.

SEX DIFFERENCES IN LIFE EXPECTANCY MINNESOTA 1950-1980

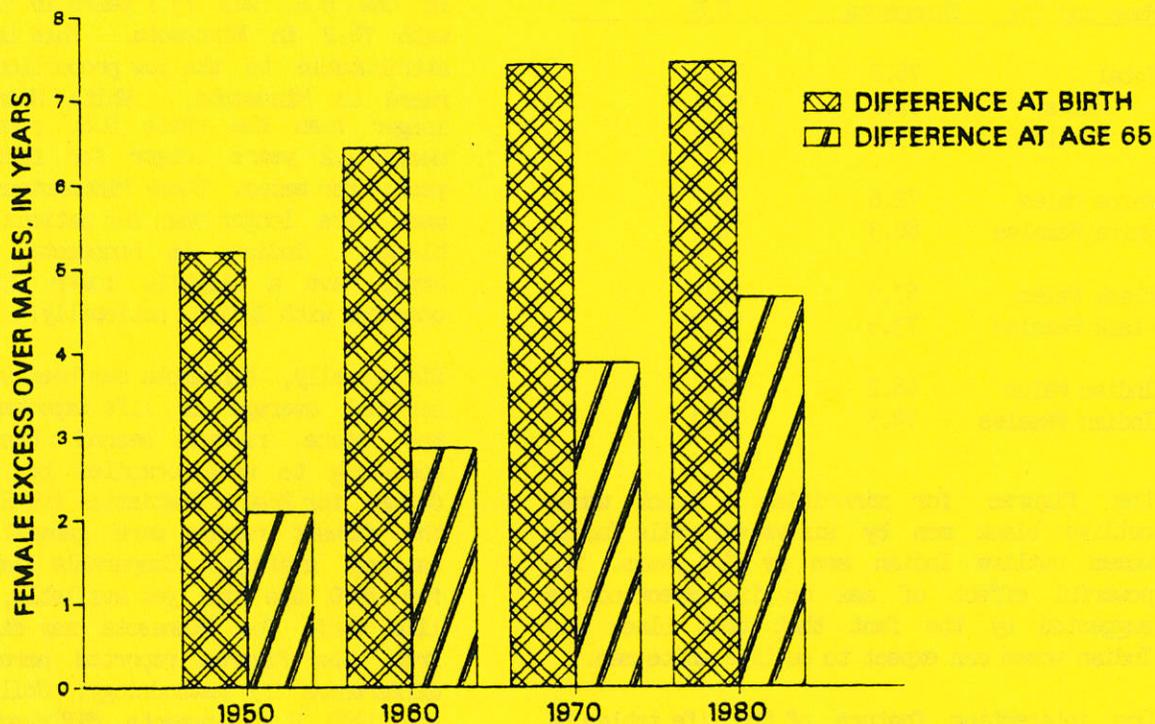


FIGURE 3.

INCREASES IN LIFE EXPECTANCY AT AGE 65 MINNESOTA 1950-1980

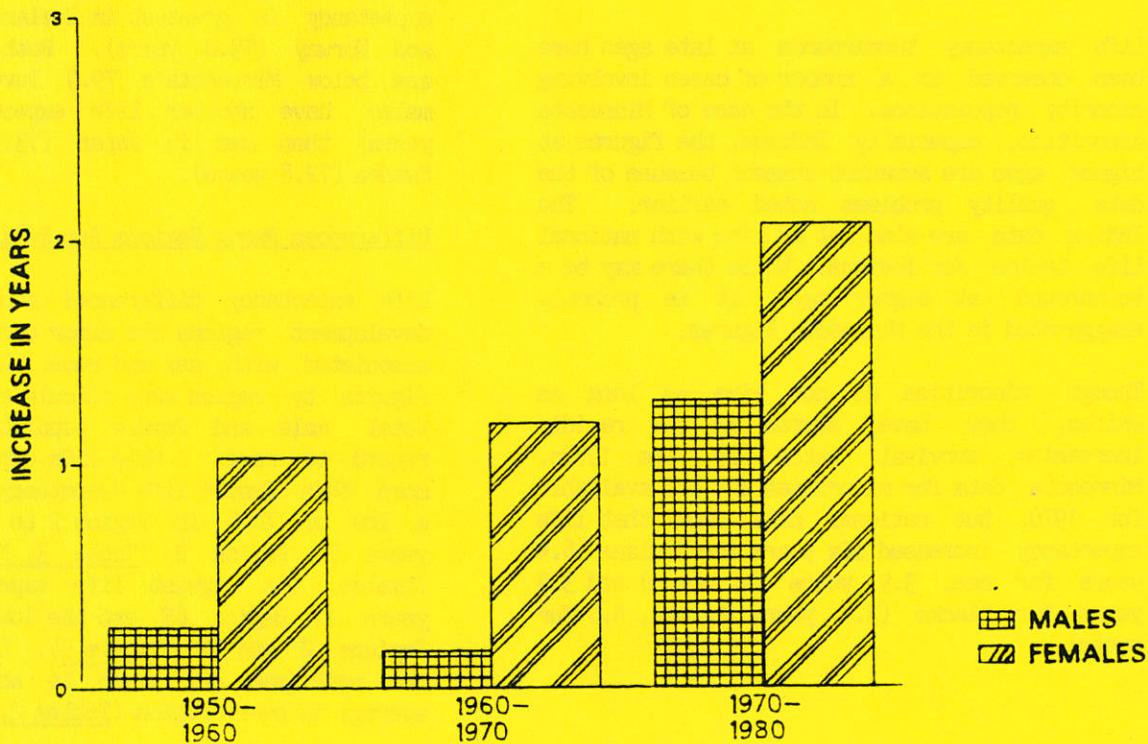


TABLE 2. LIFE EXPECTANCY IN MINNESOTA, 1978-81
AND THE U.S., 1980

Race and Sex	Life Expectancy at Birth, In Years	
	Minnesota	U.S.
Total	76.2	73.7
Males	72.5	70.0
Females	79.9	77.5
White Males	72.6	70.7
White Females	80.3	78.1
Black Males	67.5	63.7
Black Females	73.5	72.3
Indian Males	66.2	67.1
Indian Females	74.5	75.1

the figures for minorities. Black women outlive black men by six years, while Indian women outlive Indian men by 8.3 years. The powerful effect of sex on life expectancy is suggested by the fact that both black and Indian women can expect to outlive white men.

One interesting feature of the life tables by race is that at higher ages the racial pattern undergoes something of a reversal. Indian and black men who live to age 60 or 65 can expect to outlive white men of the same age. Elderly Indian women 75 or older have a greater life expectancy than white women. There is no turnaround effect among black women.

Life expectancy turnarounds at late ages have been observed in a number of cases involving minority populations. In the case of Minnesota minorities, especially Indians, the figures at higher ages are somewhat suspect because of the data quality problems noted earlier. The Indian data are also out of line with national life tables for Indians. While there may be a turnaround at higher ages, it is probably exaggerated in the Minnesota figures.

Though minorities do not live as long as whites, they have shared in the rapidly increasing survival rates of the 1970s. Minnesota data for minorities are not available for 1970, but national data show that life expectancy increased six years for Indians (6.4 years for men, 3.9 years for women) and 3.9 years for blacks (3.7 years for men, 4.0 for women).

Minnesota Life Expectancy Is Above National Average

Minnesotans have a considerably higher expectation of life than do U.S. residents as a whole (Table 2). The average life expectancy in the U.S. was 73.7 years in 1980, compared with 76.2 in Minnesota. This is only partly attributable to the low proportion of minority races in Minnesota. White Minnesotans live longer than the white U.S. population as a whole—2.2 years longer for females and 1.9 years for males. Black Minnesotans, especially men, live longer than the national average for blacks. Indians in Minnesota, on the other hand, have a slightly lower life expectancy compared with Indians nationally.

Historically, Minnesota has been well above the national average in life expectancy. In 1970 the state ranked second behind Hawaii, according to data compiled by the National Center for Health Statistics (NCHS). States in the midwest region were generally above the national average. Comparable state-level data for 1980 are not yet available, and the NCHS life table for Minnesota may differ slightly from the figures reported here because of differences in methodology. Still, in view of the 1980 U.S.-Minnesota differences, it seems likely that Minnesota will retain a well above-average rank in life expectancy.

The life expectancy levels in Minnesota compare favorably with those found in countries known for their longevity. According to recent figures comparing countries, female life expectancy is greatest in Iceland (79.3 years) and Norway (79.0 years). Both these figures are below Minnesota's 79.9 level. Minnesota males have shorter life expectancies (72.5 years) than men in Japan (73.3 years) and Sweden (72.8 years).

Differences Among Regions Are Relatively Small

Life expectancy differences among Minnesota's development regions are minor compared to those associated with sex and race. Life expectancy figures by region were calculated only for the total male and female populations, without regard to race. Male life expectancy varies more than female life expectancy, ranging from a low of 70.6 in Region 2 to a high of 74.0 years in Region 8 (Table 3, Figure 4). For females, the highest life expectancy is 81.7 years in Region 6E and the lowest is 79.0 in Regions 2 and 5 (Figure 5). Life expectancy for both men and women is above the U.S. average in every region (Tables 2, 3).

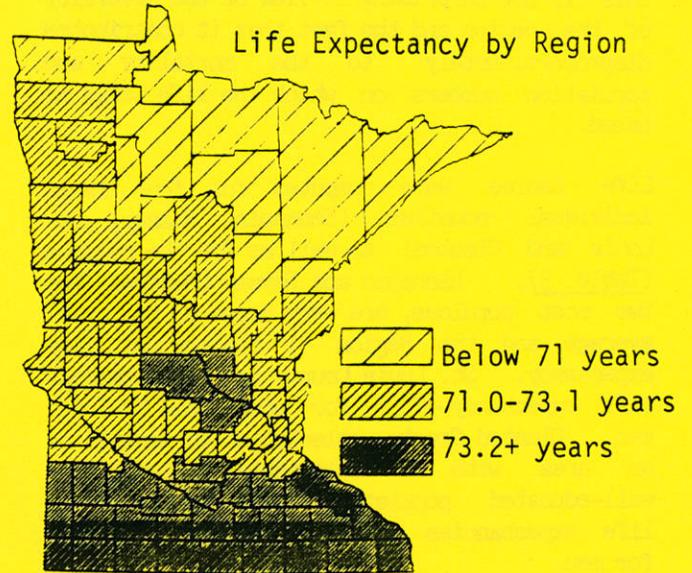
TABLE 3. LIFE EXPECTANCY AT BIRTH BY REGION AND SELECTED COUNTIES: 1978-81
(in years)

Region	Males	Females
1 Northwest	72.2	80.6
2 Headwaters	70.6	79.0
3 Arrowhead	70.9	79.6
4 West Central	73.1	81.2
5 Region Five	71.4	79.0
6E Six East	72.5	81.7
6W Six West	72.9	80.7
7E East Central	71.0	79.6
7W Central Minnesota	73.2	80.8
8 Southwest	74.0	81.1
9 Region Nine	73.2	81.0
10 Southeastern	73.3	81.0
11 Metropolitan	72.3	80.0

County	Males	Females
Hennepin	72.2	79.7
Ramsey	72.2	79.9
St. Louis	70.6	78.5
Olmsted	74.6	81.5

FIGURE 4.

MALE LIFE EXPECTANCY 1978-81



Though the patterns vary somewhat by sex, it seems that people in north central and northeastern Minnesota live shorter lives than

Please send me the following life tables:

Date: _____

- State total, by single year of age
- Race, by five-year age group

Total population _____
Males _____
Females _____

White	Black	American Indian
Males _____	Males _____	Males _____
Females _____	Females _____	Females _____

- Development region (see Table 3 for list) by five-year age group

Region:	Male	Female
_____	_____	_____
_____	_____	_____
_____	_____	_____

- Selected counties by five-year age group

	Male	Female
Hennepin	_____	_____
Ramsey	_____	_____
St. Louis	_____	_____
Olmsted	_____	_____

Name: _____ Organization: _____

Address: _____

those in the western and southern areas. Life expectancy in the Twin Cities area (Region 11) is very close to the overall state average. This is not surprising in view of the diversity of the region and the fact that it contributes disproportionately to the mortality and population numbers on which the life table is based.

Life tables were computed for four large individual counties (Hennepin, Ramsey, St. Louis and Olmsted) as well as for the regions (Table 3). Hennepin and Ramsey Counties, the two most populous, are very close to the state average and the Region 11 average of life expectancy. St. Louis County has below-average life expectancy—78.5 for women and 70.6 for men. Olmsted County, selected as an example of an area with a relatively affluent and well-educated population, has above-average life expectancies of 81.5 for women and 74.6 for men.

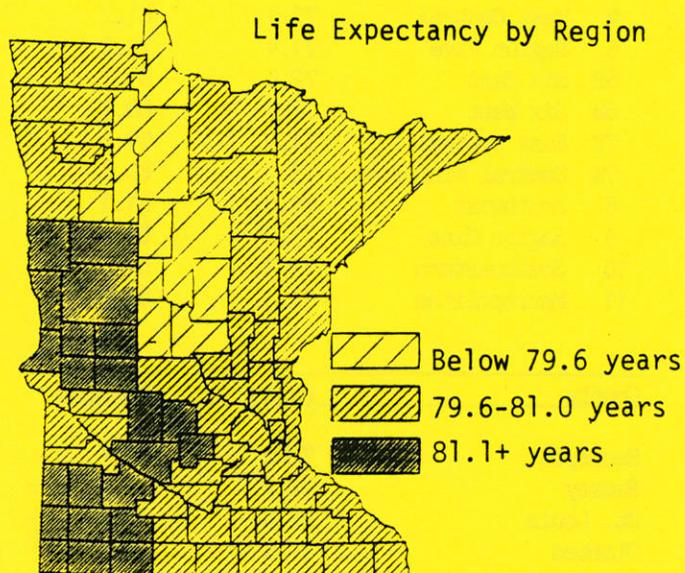
Copies of Life Tables Are Available

Copies of life tables for the total state population, for three racial groups (white, black and Indian), for each development region, and for selected counties (Hennepin, Ramsey,

St. Louis, and Olmsted) are available on request from the Office of State Demographer, State Planning Agency, 101 Capitol Square Bldg., St. Paul, Minnesota 55101. You may order them by filling out the attached form.

FIGURE 5.

FEMALE LIFE EXPECTANCY 1978-81



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