To establish the economic value of a human life, lifetime earnings discounted at a 4 per cent rate are presented by age, sex, color, and education. These estimates are intended for use by economists, program planners, and others. Various specific findings are reported.

THE ECONOMIC VALUE OF HUMAN LIFE

Dorothy P. Rice, F.A.P.H.A., and Barbara S. Cooper

Introduction

THE value of human life expressed in terms of lifetime earnings is a basic tool of the economist, program planner, government administrator, and others who are interested in measuring the social benefits associated with investments in particular programs. For public programs, such as the control and eradication of disease, highway construction, accident control, education, vocational rehabilitation, welfare, housing, and flood control, the valuation of human lives is a basic requirement for the proper calculation of the benefits to be derived. The recent emphasis on cost-benefit analysis in all of these areas requires that adequate tools be provided for analysis. Like the carpenter, whose work is generally facilitated and product improved by the availability of good materials and equipment, the economist must be equipped with the tools of his trade—in this case, basic data for valuation of human life.

The aim of this report is to provide improved, refined, comprehensive, and up-to-date estimates of the present value of lifetime earnings in considerable detail according to age, sex, color, and educational level. Presentation of the data in this form will enable the econo-mist to choose the most appropriate series of data for program evaluation. For example, a health program to reduce mortality in a specific age and color group can be evaluated by use of the lifetime earnings data developed for that group. Likewise, basic data are provided for measuring the benefits from investment in various educational programs.

The data presented are limited to the quantification of the value of human life in terms of lifetime earnings. These are by no means the only measures of the value of human life. Schelling notes that valuation may be in terms of the worth of one's life to oneself or to whoever will pay to prolong it, and the amount will vary accordingly.[1] However, in this report the value of a person is defined in terms of his economic worth as a productive member of society and the amount will vary according to age, sex, color, and degree of educational attainment.

Historical Summary

Quantification of the human life values in economic terms is not a new concept. In their "Money Value of a Man," Dublin and Lotka traced this procedure from the valuation of slave labor in ancient times through the vari-

ous estimates made by Sir William Petty in the 17th century and Adam Smith a century later, on up to the time of their first edition, in 1930, and later, to 1946, when their revised edition was published.[2] In the revised volume, these authors defined the money value of man as the present value of his net future earnings, i.e., gross future earnings less that part which he consumes or spends on himself. Detailed data were presented for ages 21 through 64 according to specified annual levels of earnings in 1934, employing a 2.5 per cent discount rate.

The human life value concept has also been applied commercially in the field of life and health insurance. In 1927, Huebner, in his "Economics of Life Insurance,"[3] stated his thesis that optimum life insurance protection should equal the capitalized monetary worth of the individual's earning capacity. This idea of employing potential lifetime earnings as a measure of adequate life and health insurance protection is now used extensively in the field.

Lifetime Earnings in Health Studies

The cost-benefit studies in the health field during the past few years include various estimates of the value of human life. Some are based on incomes; some on earnings; some impute a value to housewives; some account for consumption; and various discount rates are employed. Prest and Turvey point out in their comprehensive survey of cost-benefit analysis: "Some of the differences between authors in the way they estimate benefits stem from differences in the availability of statistics rather than from differences in what the authors would like to measure if they could."[4]

The following passages briefly examine the different basic assumptions, technics, and data employed by various health researchers in their presentation of earnings foregone.

In assessing the cost of mental illness

in 1958, Fein presented estimates of the present value of future expected income for ten-year age groups at various discount rates ranging from 2 to 5 per cent. Median income in 1952 was used for males and females, ignoring the economic value of housewives.[5]

Weisbrod, in "Economics of Public Health," used fundamentally the same formula as Dublin and Lotka for calculating the present value of net future earnings. However, there were some differences in the meaning of consumption and the earnings components of the formulas.[6] Weisbrod developed the concept of marginal consumption—the additional consumption associated with an additional person—and imputed a value for nonmarket household services of females in terms of units of family responsibility. Data were presented for the present values of net future earnings by single years of age and by sex, using cross-sectional 1949 earnings and two discount rates—4 and 10 per cent. These data have been used recently by several economists in the development of costs of illnesses.[7]

Klarman calculated the present value of future earnings for syphilis cases and for those who died of cardiovascular diseases. For syphilis, the calculation was based on 1961 average earnings by sex and color, with no adjustments for age and the value of household services. Klarman used a net discount rate of approximately 2 per cent, having adjusted for productivity increases.[8] In the later work on cardiovascular diseases, the present value of lifetime earnings was calculated for ten-year age groups on the basis of 1962 average earnings for employed males and females, and separate calculations were made for the value of housewives' services for each age class. In this case, a 4 per cent discount rate was used.[9]

In the recent study of one of the authors, "Estimating the Cost of Illness," lifetime earnings were presented for

males and females at five-year age intervals, based on full-time, year-round earnings in 1963 and taking into account an imputed value for housewives' services. Two discount rates were employed—4 and 6 per cent.[10]

Lifetime Earnings in Education Studies

Lifetime earnings have been used in many studies relating to the benefits of education.[11] As in the health studies, various estimates have been made. Some employed annual data, others, lifetime earnings; some were based on earnings and others on income; some presented several discount rates, others applied no discounting at all. All the studies were confined to males and the income or earnings data were for all men who worked, including those employed part time. The following summarizes the basic data and technics used in several of these studies.

In his 1960 study, Miller presented aggregate lifetime earnings by years of school completed by males for selected years from 1939 to 1958. Included were data for two ages—18 and 25. The estimates were based on mean annual earnings and no discounting was employed.[12] In his testimony on equal employment opportunity before the Senate Committee on Labor and Public Welfare in 1963, Miller presented estimates of aggregate lifetime earnings for males 18 years of age, by level of education, color, and region, and for selected occupations, using the same bases as in his previous study and 1959 earnings data.[13]

Houthakker presented estimates of lifetime income at age 14 by years of school completed, based on estimated 1949 mean income, and employing three discount rates: 3, 6, and 8 per cent.[14]

Bridgman presented aggregate lifetime incomes for males aged 25, by two levels of schooling completed (high school and college). These estimates were based on 1949 and 1956 mean and median income and discounting was not employed.[15]

In his article on the "Valuation of Human Capital," Weisbrod presented essentially the same data as were developed for his study on the "Economics of Health." The data here were presented for males at five-year age intervals, based on 1950 earnings and discounted at 4 and 10 per cent.[16]

Recently Weisbrod estimated the differential in lifetime incomes between high school dropouts and graduates. He used 1949 median incomes and calculated the present value of the differentials at ages 16 and 18 according to sex, color, and major geographic region, employing 5 and 10 per cent discount rates.[17]

Basic Assumptions

Despite the fact that estimates of lifetime earnings have been developed by these many researchers, all were devised for a specific use and are not readily adaptable for other purposes. The economist engaged in analysis of programs requiring lifetime earnings data must therefore develop his own set of estimates to meet his needs. Furthermore, the available estimates are not current, having been based on obsolete income or earnings data. Finally, these estimates are generally limited to males, because of the problem associated with measuring lifetime earnings for females, most of whom move in and out of the labor market while spending a considerable portion of their productive lives as housewives.

The estimating procedure for the development of the lifetime earnings as presented here is described in detail in the study by Rice, "Estimating the Cost of Illness." The method developed takes into account life expectancy for different age, sex, and color groups, varying labor force participation rates, the current changing pattern of earnings at

successive ages, imputed value of house-wives' services, and the discount rate. The following is a brief review of the basic assumptions and economic concepts employed.

Life Expectancy

The lifetime earnings data were developed on the assumption that each cohort will follow his or her pattern of life expectancy as reported for 1964 at successive ages. The National Center for Health Statistics publishes life tables by sex and color.[18] Cohort data were obtained for four groups: white and non-white males and white and nonwhite females. No adjustments were made for variations in life expectancy by educational level. The assumption is that life expectancy at any given age is the same regardless of educational attainment.

Labor Force Participation

The estimate of lifetime earnings takes into account varying labor force participation rates at different ages. The assumption is that an individual will be in the labor force and productive during his expected lifetime in accordance with the current pattern of labor force participation for his sex, color, and educational level. For this calculation, the Bureau of Labor Statistics provided unpublished data for 1965 on the number of employed persons by age, sex, color, and years of school completed. Use of the number employed in 1965 assumes conditions of relatively high employment (approximately 96 per cent of the labor force employed).

Earnings

The appropriate measure of output for individuals is year-round, full-time earnings and the proper measure of expected earnings is the arithmetic average or mean. In many of the studies cited above, median earnings (or income) for all wage earnings were used because they are generally available in published form. For this report, full-time, year-round mean earnings estimated from mean incomes were employed. Unpublished data from the Bureau of the Census provided the mean earnings for all male workers at five-year age intervals. The equivalent earnings data for females and by color were developed from 1964 mean income data. The estimated mean earnings data were adjusted upward to take cognizance of wage supplements—employer contributions for social insurance and private pension and welfare funds—on the assumption that these should be included as a measure of total output.

The only data presently available on earnings or income by educational level are from the 1960 census. For each age class, the ratio of median income at each level of school completed to the median figure for the entire age group was applied to the 1964 estimated year-round, full-time mean earnings to obtain final figures for the program's input for each age group.

In applying these cross-section survey data to the estimates of lifetime earnings, it is assumed that the future pattern of earnings for an average individual within a particular color and educational attainment group will remain the same as that estimated for the base year, 1964. This model recognizes that the average individual may expect his own earnings to rise as he ages and gains experience, in accordance with the cross-section survey data for 1964.

Housewives' Services

As indicated in the brief review of the literature in the field, very few researchers have developed lifetime earnings data for women, owing to the difficulties associated with measuring their earnings when they move in and out of the labor market. To omit the value of services of housewives, however, would seriously underestimate the value of the

lifetime productive contribution of females.

Housewives' services are estimated in this report at the average earnings rate of a domestic worker—$2,767 in 1964. This imputed value is clearly on the low side for it makes no allowance for the housewife's longer work week or the size of the household cared for.

Rates for women keeping house were available for 1964 by age and color from unpublished Bureau of Labor Statistics data, but not by educational level. The estimating procedure involves the application of the available rates to the number of females expected to be out of the labor force in each age cohort, and recognizes that the keeping-house rate varies with age. The use of the same rates for each educational level assumes that the keeping-house rate does not vary by degree of educational attainment. This is clearly an erroneous assumption, but lack of data prevented use of an alternative procedure. However, in practice, when the rates were applied to the varying number of women at each educational level estimated to be out of the labor force, the numbers did change for each cohort. The effect of the application of a uniform value to women keeping house will be discussed later.

Discounting

The value of money changes with time so that in order to calculate the present monetary value of man, his future expected earnings must be converted to their worth today. Banks and Kotz state that "a given sum is normally worth more today than an equal sum at some future date, because the money (or resources) can be profitably invested (or consumed) in the interval between today and the future. Interest is the premium paid to reflect the fact that any given sum or resources could be put to profitable uses over a period of time. . . . It follows that the value of money which is not currently available, but which will become available (or spent)

some years hence must be discounted for the interest which could be earned in the interim, which is why the present value of a dollar to be received in the future is always less than 100 cents."[19]

For the valuation of public health or recreational programs, where the budgets are measured in terms of dollar values of expected lifetime earnings, the aggregate earnings must be discounted at an appropriate rate of interest to determine their value today.

Although there is general agreement among economists that discounting should be employed, there is no agreement on which discount rate, i.e., rate of interest, to use. Yet the selection of the discount rate is most important since its effect is considerable. The higher the discount rate, the lower the present value of future earnings. With a high rate of discount, earnings far in the future yield only a small present value. Conversely, lowering the discount rate increases the present value of these earnings far in the future.

The selection of an appropriate discount rate in the valuation of public programs is especially important as the use of too low a rate for discounting future benefits may lead to uneconomic adoption of projects. Banks and Kotz deplore the lack of a central governmental authority to prescribe the discount rate to be used despite its importance in arriving at public investment decisions.

The authors have prepared data on the present value of lifetime earnings employing four discount rates: 2, 4, 6, and 8 per cent. Only the data based on the 4 per cent discount rate are presented here; the data for the other three may be obtained from the authors.

Productivity Increases

While future earnings must be discounted to reflect lost interest, average annual earnings must be increased to reflect gains in productivity. It is an understatement of lifetime earnings to

assume that a person ten years from now will earn the same amount as a person of the same age, sex, color, and educational level earns today. In order to adjust for the gain in productivity. an average annual gain can be projected and applied to the annual earnings. This rate of increase may be incorporated into the discounting calculations to obtain a net effective discount rate. For example, assuming a rise in productivity of 3 per cent a year,[20] a discount rate of approximately 7 per cent will be reduced to a rate of approximately 4 per cent $(1.07/1.03 = 1.039)$, the rate used in this report.

Allowance for Consumption

There is a diversity of opinion regarding the treatment of consumption. Insurance companies treat consumption as a deduction from a person's contribution to output. Dublin and Lotka and Weisbrod deduct consumption from total output in their calculations of the earning losses.[21]

Fein and Klarman, on the other hand. make no such adjustment. Fein summarizes his views as follows:

"Certainly the net figure (gross value less consumption) derived by Dublin and Lotka to indicate the money value of a man to his family is correct for their purposes. It is not at all apparent, however. that the net concept is the correct one when we deal with the economic value of a man to society. It is true that man consumes partly in order to maintain himself, and in this sense some of his consumption may be considered as a gross investment to take care of depreciation; it is also true, however, that consumption is an end in itself and can be viewed as a final, rather than an intermediate, step in the creation of other products. The question involved concerns the purposes for which an economy exists." On an individual's income, "the individual enjoys life, and it is for this purpose that the social economy exists."[22]

In accordance with the above viewpoint and because we are measuring the economic value of man to society and not to his family. no allowance for consumption is made.

Findings

Data are presented on the present value of lifetime earnings of males and females by age, color, and years of school completed, discounted at 4 per cent. Table 1 presents the data by sex and color, and Table 2 presents the data for males and females by color and years of school completed. Data for three levels of education are presented: completion of 8 years. 12 years, and 16 or more years of school. (Data may be obtained from the authors for three additional levels of education—completion of less than 8 years, 9-11 years, and 13-15 years of school.)

The following highlights some of the relationships and differentials found in lifetime earnings by age, sex. color, and educational level.

Pattern of Lifetime Earnings

The value of lifetime earnings varies at different ages. For men. discounted expected lifetime earnings increase rapidly and sharply, peaking in the young adult years—ages 25-29—and then decreasing at an even faster rate beginning in middle age. Without discounting, the aggregate lifetime earnings would be highest at the youngest age groups, decreasing with age. The discounting procedure involves the application of increasingly higher rates to each year's earnings. At the under-one-year age group, in which a person is not considered productive until at least age 14, his first year's earnings are diminished by the rate for the 13th year. The 13th year of discounting at the rate of 4 per cent yields a figure of 60 per cent, reducing that first year's earnings by two-fifths.

At the young adult ages, many years of expected earnings are also discounted heavily, but the earnings are counted immediately and these earnings over a long work span result in peak earnings at these age groups. At age 20. when many persons have already begun work-

Table 1—Present value of lifetime earnings, by age, sex, and color, discounted at 4 per cent, 1964

Age (in years)	Males			Females		
	All	White	Nonwhite	All	White	Nonwhite
Under 1	$ 58,879	$ 61,810	$34,228	$36,234	$37,166	$28,655
1–4	64,733	67,815	38,058	39,697	40,646	31,697
5–9	79,026	82,769	46,527	48,417	49,563	38,707
10–14	96,336	100,882	56,769	58,996	60,386	47,194
15–19	114,608	119,921	67,546	68,269	69,890	54,549
20–24	128,268	134,191	74,581	71,639	73,419	56,892
25–29	131,416	136,121	73,767	70,272	71,789	54,774
30–34	125,499	129,623	68,338	67,772	69,201	51,884
35–39	114,379	118,787	61,499	64,087	65,694	48,038
40–44	99,303	102,614	52,978	59,536	61,074	43,044
45–49	81,224	84,901	42,799	53,633	55,386	38,288
50–54	62,502	65,581	30,507	46,962	48,444	34,285
55–59	44,667	46,381	20,005	40,187	41,102	29,723
60–64	26,013	27,213	12.263	32,732	33,362	25,009
65–69	13,530	14,023	6,887	26,038	26,367	21,149
70–74	11,005	11,346	5,971	20,628	20,801	17,682
75–79	8,207	8,436	4,608	14,722	14,803	13,080
80–84	4,634	4,775	2,513	7,751	7.797	6,834
85 and over	751	776	396	1,241	1,251	1,067

ing, first-year earnings are counted at full value, the next year at 96.2 per cent, and so on. This individual is age 34 before the factor reaches 60 per cent. Older persons have relatively few remaining years of working life and usually at lower earnings levels. Although these years are counted at more nearly their full value, the present economic worth of these individuals is substantially less than that of young adults.

Male and Female Differentials

Under this discounting procedure, what is the economic value of human life? For males, the value of discounted lifetime earnings ranges from about $59,000 for infants, to a peak of approximately $131,000 at ages 25-29, and decreases to $750 at ages 85 and over (Table 1).

Female earnings reveal an entirely different pattern. The level is lower, the range narrower, and the decline from peaks more gradual. The discounted earnings range from about $36,000 for infants, to nearly $72,000 at ages 20-24, and down to about $1,200 at ages 85

and over. The slower rate of descent in earnings for females is the result of attaching a value to housewives' services. As women age and leave the labor force, they are still credited with a dollar value if they stay home and keep house, which prevents their earnings from falling as rapidly as those of men who have left the labor force.

It is not surprising to learn that males generally have higher lifetime earnings than do females. In the young adult years, the discrepancy is quite large. Lifetime earnings of males at ages 20-24 are nearly four-fifths greater than those of females of the same age. However, in the older years, when many men have stopped working and women (who have a longer life expectancy) are keeping house, the relationship reverses. At ages 60-64, the expected lifetime earnings for females are considerably greater than those for males.

Educational Differentials Among Males

Numerous studies have shown that education pays off economically—persons with more schooling earn more

Table 2—Present value of lifetime earnings, by age, color, sex, and years of school completed, discounted at 4 per cent, 1964

Age (in years) and color	Years of school completed					
	Males			Females		
	8 years	12 years	16 or more years	8 years	12 years	16 or more years
White						
Under 1	$ 52,341	$ 73,362	$ 99,074	$31,089	$45,126	$ 59,146
1–4	57,427	80,489	108,701	34,000	49,351	64,684
5–9	70,090	98,237	132,669	41,459	60,179	78,875
10–14	85,428	119,736	161,702	50,513	73,320	96,099
15–19	102,036	139,541	187,999	59,981	81,340	108,928
20–24	112,820	150,454	209,265	64,881	80,566	112,327
25–29	112,928	151,086	221,738	64,064	78,161	112,351
30–34	108,674	145,602	223,471	62,207	75,938	112,023
35–39	101,132	135,726	215,539	59,280	72,843	111,162
40–44	89,568	120,477	195,328	55,025	68,697	109,707
45–49	75,905	102,864	170,300	50,044	63,301	104,858
50–54	59,797	82,610	139,643	44,253	56,420	95,708
55–59	43,002	61,091	106,939	38,111	47,979	80,983
60–64	25,043	37,542	71,063	31,627	37,528	58,708
65–69	12,714	21,071	45,077	25,468	28,695	41,612
70–74	10,287	17,049	36,472	20,091	22,637	32,828
75–79	7,648	12,676	21,117	14,298	16,110	23,362
80–84	4,330	7,175	15,350	7,531	8,485	12,304
85 and over	703	1,166	2,494	1,208	1,361	1,974
Nonwhite						
Under 1	36,044	46,803	57,074	26,727	39,427	53,188
1–4	40,078	52,040	63,460	29,565	43,613	58,834
5–9	48,997	63,621	77,583	36,103	53,258	71,845
10–14	59,782	77,626	94,661	44,019	64,935	87,598
15–19	71,545	91,200	110,160	51,597	72,868	99,948
20–24	79,514	99,516	123,069	54,417	73,571	105,372
25–29	79,461	100,311	127,975	52,856	72,182	106,782
30–34	75,244	96,517	122,480	51,267	70,746	105,698
35–39	69,818	90,162	114,789	48,572	67,237	101,786
40–44	63,007	80,612	104,518	44,515	61,097	94,296
45–49	53,183	68,189	88,911	40,186	54,454	84,224
50–54	39,329	52,056	66,120	35,901	47,683	71,373
55–59	27,076	37,383	46,362	30,938	39,444	55,935
60–64	17,241	24,856	31,254	25,668	29,884	37,845
65–69	10,361	16,003	20,537	21,441	22,856	25,262
70–74	8,983	13,875	17,806	17,926	19,109	21,121
75–79	6,932	10,708	13,741	13,261	14,136	15,624
80–84	3,780	5,839	7,493	6,929	7,386	8,164
85 and over	596	920	1,181	1,082	1,154	1,275

money over their lifetimes. However, it is the variations in extent of the pay-off according to educational attainment, color, and sex that are most revealing. At each age level within each sex and color group, additional schooling is associated with substantial increases in lifetime earnings.

The lifetime earnings of a white male ages 20-24 who graduated from high school are currently worth one-third more than those of one who only completed the eighth grade. This differential increases with age to 50 per cent at ages 60-64 (Table 2).

Comparison of white male college graduates and high-school graduates shows even more substantial economic gains from education. The lifetime earnings of the 20-24-year-old high school graduate are $150,000, compared with $209,000 for the college graduate—a 39 per cent differential. And the earnings of the 60-64-year-old, similarly educated, show an enormous differential—89 per cent!

For the nonwhite males, education also pays off but the monetary returns are far lower than for whites. Lifetime earnings for 20-24-year-old nonwhite male high school graduates are one-fourth greater than for elementary school graduates. The differential between college and high school graduates is about the same. At ages 60-64, the college-high school disparity for nonwhite males is one-third that of whites—26 per cent compared with 89 per cent.

Educational Differentials Between White and Nonwhite Males

We have seen that for both white and nonwhite males, it pays to obtain more schooling. But how do lifetime earnings of nonwhite and white males compare, assuming the same educational level? Figure 1 shows the data on the present value of male lifetime earnings by age, color, and years of school completed.

There are wide disparities between lifetime earnings of white and nonwhite men having the same education, a finding that is neither new nor surprising. Nevertheless, the magnitude of this disparity is disconcerting. The level of expected earnings for the nonwhite male with a college education is just above that of the white male with only eight years of school completed, and considerably below that of the white male high school graduate.

The economic value of human life of the nonwhite male ages 20-24 with eight years of school is presently $80,000. For his white contemporary the value is $113,000—42 per cent greater. The differential for high school graduates is 51 per cent and for college graduates as high as 70 per cent!

The differentials between white and nonwhite males do not vary substantially for different age groups of elementary school and high school graduates, but the economic value of aged white college graduates (60-64) is more than double that for nonwhites—a differential of 127 per cent.

Educational Differentials Among Females

How do educational levels affect the lifetime earnings of a female, when her services as a housewife are included? It is clear that education also pays off for women (Figure 2). Although the level of earnings for women is considerably lower than that for men at every educational level, there are significant monetary gains attached to higher education. At ages 20-24, the earnings of the white female high school graduate are one-fourth higher than those of one who only completed elementary school. And the differential between college and high school graduate at that age is considerably larger—39 per cent.

For the nonwhite female, the gains are even greater. At the peak years (20-24), lifetime earnings of the high school graduate are presently worth 35

per cent more than the eighth grade graduate and those of the college graduate are worth 43 per cent more than the high school graduate.

Other Differentials

It is true that the levels of lifetime earnings for men are higher than those for women. But how far apart are they for the same level of education? At ages 20-24, the future earnings of the white male eighth grade graduate are presently valued at $113,000, or nearly three-fourths higher than those of his female counterpart. For high school and college graduates, the differentials are 87

Figure 1—Present value of lifetime earnings of males, by age, color, and years of school completed, discounted at 4 per cent, 1964
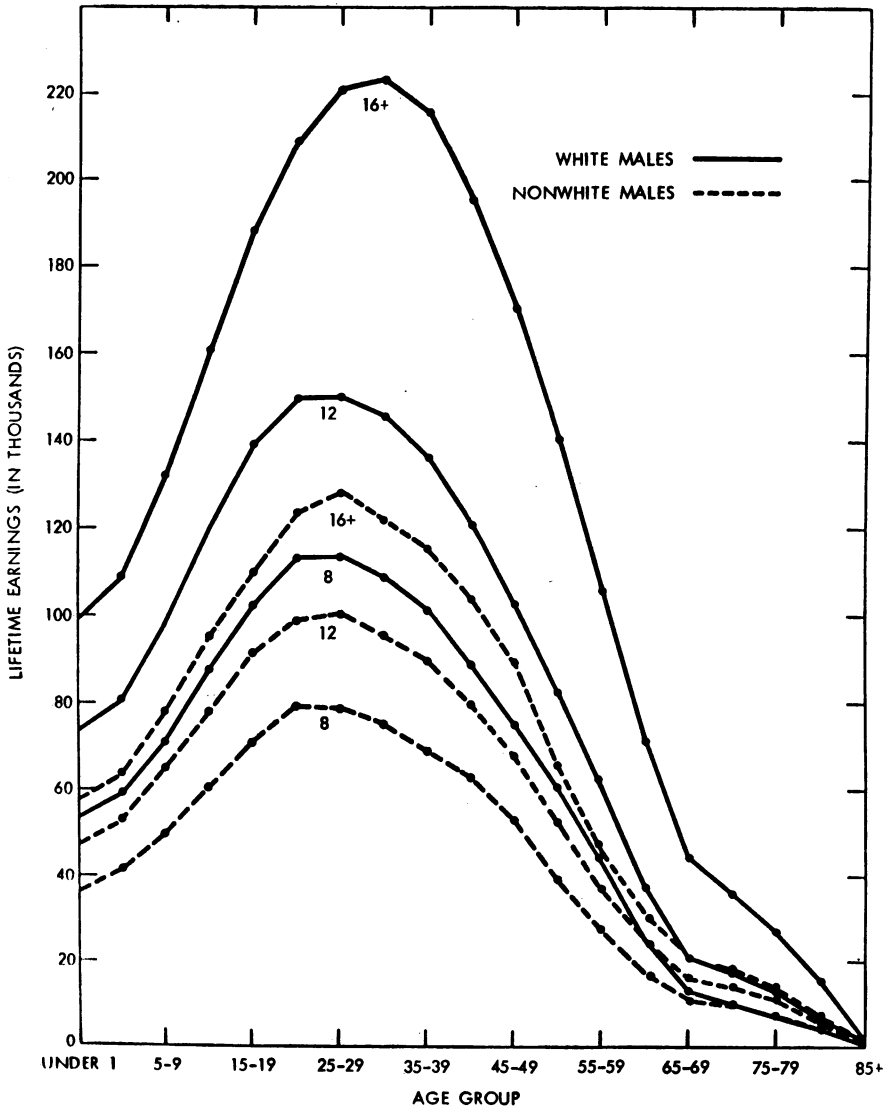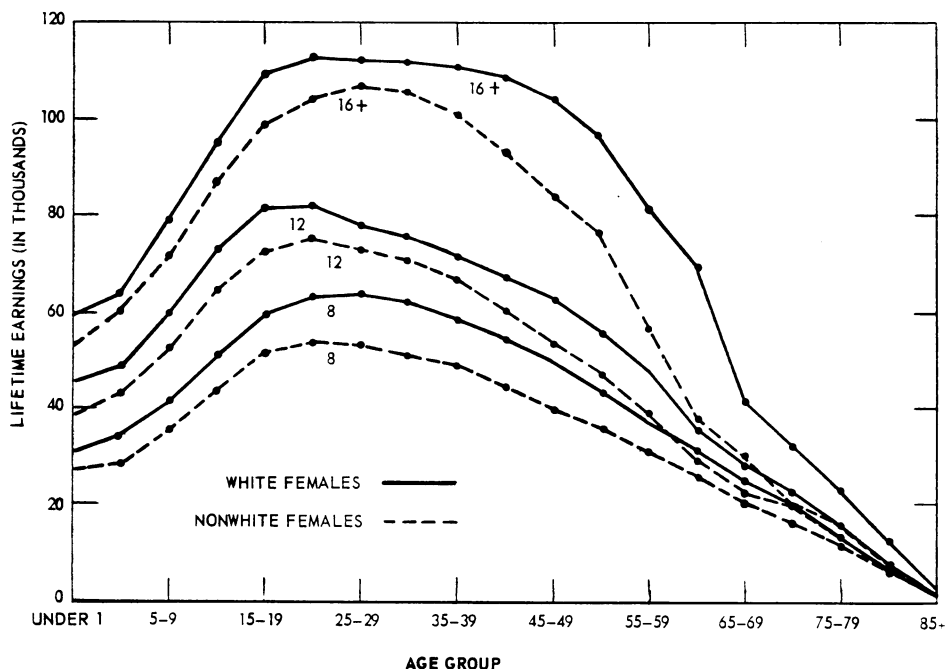
Figure 2—Present value of lifetime earnings of females, by age, color, and years of school completed, discounted at 4 per cent, 1964

per cent and 86 per cent, respectively (Figure 3). These are certainly sizable differences, and they are even greater at ages 30-34.

Comparison of white male and female lifetime earnings at the oldest ages discloses a completely different picture. At ages 60-64, lifetime earnings of women with eight years of school completed are greater than those of men because of the value imputed to housewives' services. But for college graduates in this age group the men's earnings are higher. Men with higher education remain employed longer than those with a lesser education and their higher earnings contribute to make their remaining lifetime earnings higher than those for females with the same education.

Still another picture emerges when expected earnings of male and female nonwhites are compared. Here, the earnings differentials decrease as the educa-

tional levels increase. At ages 20-24, the differential is 46 per cent for those with only eight years of school completed and 17 per cent for college graduates.

Another set of differentials of interest is between lifetime earnings of white and nonwhite females. Here, at peak earnings (ages 20-24), the differentials for college graduates of different color are small indeed—whites are only 7 per cent higher than nonwhites. For white and nonwhite males, the comparable differential was 70 per cent—10 times higher (Figure 3). The earnings differential between white and nonwhite females with the same level of education increases with age, but is substantially less than that for males throughout.

Summary

Lifetime earnings at a 4 per cent discount rate were presented by age, sex, color, and three levels of education.

These were developed for use by the economist, program planner, and others in studies requiring such up-to-date and detailed estimates.

Major findings are:

Peak discounted lifetime earnings are to be found at the young adult ages.

Peak lifetime earnings for men are nearly double those for women, even with an imputed value for the services of the housewife.

Education pays off at each age level within each sex and color group, but the extent of the payoff differs for each variable.

The payoff of additional schooling for

Figure 3—Present value of lifetime earnings at age 20-24, by sex, color, and years of school completed, discounted at 4 per cent, 1964
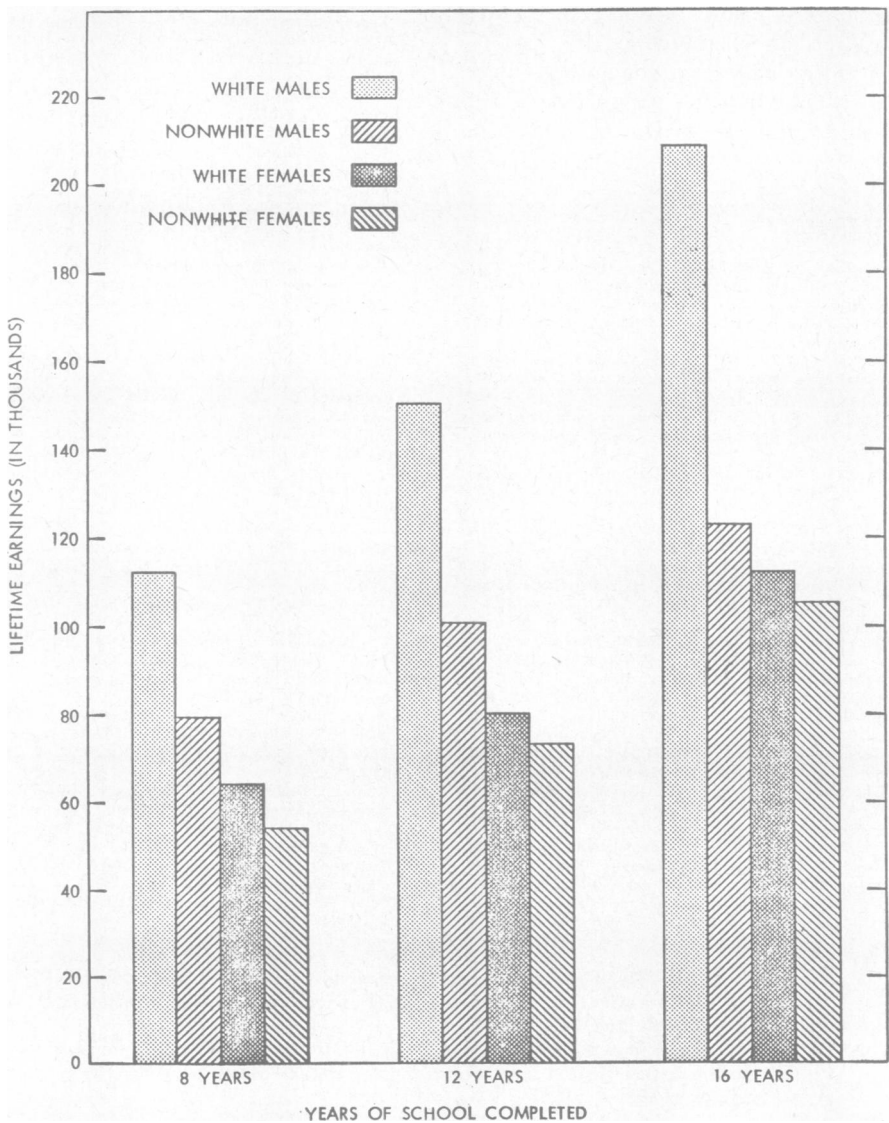
white males is greater than for non-white males.

At each educational level, the value of lifetime earnings for white males is from two-fifths to one and one-half times greater than for nonwhite males, depending on level of education and age.

The level of expected earnings for nonwhite males with a college education is just above that of the white male with only eight years of school completed and considerably below that for the white male high school graduate.

A college education compared with a high school education pays off more for nonwhite females than for white females.

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Mrs. Rice and Mrs. Cooper are medical economists, Office of Research and Statistics, Social Security Administration, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20201.
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