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MEASURING THE EFFECTS OF RACE DIFFERENTIALS IN
MORTALITY UPON SURVIVING FAMILY MEMBERS

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ABSTRACT

A model is developed for use with Current Population Survey marital history data along with mortality statistics from the federal registration system to estimate color differences in the risk of widowhood among women in the working ages and the cumulative duration of widowhood in corresponding synthetic populations for the period 1962 through 1971. Color differentials in mortality among married males are thereby translated into person-years of dependent survivorship among women in anticipation of estimating average and cumulative survivor life-time income losses. Initial results are presented dealing with the demographic aspects of survivorship using an adaptation of the Schoen-Nelson approach to the marital life status process.

Measuring the Effects of Race Differentials in

Mortality Upon Surviving Family Members

Introduction

Any afflictions associated with minority racial status tend to

be ordered as to the magnitude of effect in the development of social

policy, so that those conditions which most sharply demonstrate

disadvantage are generally the first and most intensively reported

on. As I propose a concern about the effects of premature death

among black married males on the welfare of survivors, the natural

posture of the causal observer is wonderment as to why it is that the

divorced or abandoned or the never-married female is not first con-

sidered. The answer is fairly simple: the research question here is

based upon an interest in decisions about allocating health-enhancing

resources in the society. To a considerable extent, mortality among

blacks is a direct measure of the health of the black population. Yet

adult mortality impinges upon the prospective welfare of the sur-

viving population in a measure not directly indicated by risk of

death.

Sex differences in mortality rates by color are reflected in

important differences in the age distributions of death as shown in

Figure 1. Some mortality differences are associated with differences in the age distributions of the living populations. But it is important to observe that nonwhites die off much more rapidly than whites in the productive years of life (Sutton, 1971). This is a difference in the pattern of mortality by sex and age for the two color groups which has important consequences for differentials in measures of dependency in the populations, as streams of earned income in families are disrupted by the premature deaths of 'breadwinners.' The disrupting effects create burdens in both the short run for widow and paternally orphaned children and the long run for children as they move through the transition into adulthood (Farley, 1975; Schorr, 1966; Watts, 1975).

The age-adjusted mortality rate for the nonwhite population in the U.S. is about one and one-half times the level of the corresponding rate for the white population and has not shown any disproportional improvement in the period 1950 to 1969, balancing gains during the 1950s with losses during the 1960s (U.S. National Center for Health Statistics, 1973, Table C). The differentials by color appear to be most pronounced in the mid-ages, peaking at 30-34 years, and lessening among the older and the younger ages (Table 1). Although it is the case that the nonwhite population is clearly disadvantaged as to mortality in relation to the white, it is important to note that the largest differences in rates (a) do not occur at the ages associated with the highest risks of death, and that where the differentials are most pronounced, (b) the presence of other family members dependent upon the earned income of those who are in the labor force (and at the same time in the high-risk

mortality classes) is most common. These observations provide the
setting in which the present research on which I am reporting today
is undertaken.

Lucy Mallan has recently compared widows with divorcees as to their
ages, the presence of children, and their relative economic well-being
(Mallan, 1975). Although her data do not tell us about the color dif-
ferentials about which I am principally concerned, they do tell an im-
portant story regarding the widowhood experience in which the contrast
of color groups occurs.

Less than one-third of the widows under 60 in the U.S. in 1968
had children. Of those with children under 18, 20 percent had at least
one child under age 6, Mallan reports. In contrast, about 60 percent of
divorced women had children, and about 42 percent of those with children had
at least one child under 6. Yet divorced and widowed women are much
more alike with regard to children when they are compared age for age
because, not surprisingly, the widowed women under 60 are on the whole
a much older population than the divorced.

As to living arrangements, Mallan reports that both these younger
widows and the divorced tend to live in their own households along
with their dependent children, if any. And as to the economic side,
widows with children appear to have a slight edge over divorced and
separated women as to income (largely, it might be argued, attributable
to Social Security survivor benefits paid for each child and, in
addition, to the mother if she were no more than marginally involved in
the labor force). Yet, the income levels of widows with children are

substantially less, by and large, than those for "comparable" intact families in which the husband survived.

Widows under 60 with children had incomes of approximately $4000 in 1971 whereas husband-wife families with children were at about the $12,000 level. Although the present report does not deal with income or assets differences between the color groups, it is clear that such substantial effects of premature mortality among adult males among survivors is worthy of serious attention.

Excess mortality among widows, as measured by comparing their experience with the general female population of comparable age and color, is very high at the younger ages (say, under 25), and declines with age. But mortality risks at the younger ages are relatively insignificant when compared with the risks of remarriage. At these young ages, remarriage tends to swamp the effects of death in diminishing widowhood   (Niessen, 1960, 3).

Elements in the Study Design

The line of questioning which leads to the design of the present study is as follows: What are the implications of the race differentials in mortality for survivors in the family? What are the comparative risks of widowhood and of paternal orphanhood in the two racial subpopulations? Given the onset of widowhood and paternal orphanhood, what are the expected durations in those states? What are the cumulative average years of widowhood in these two populations per 1000 years of married life? What of cumulative years of paternal orphanhood per 1000 child-dependency years?

Already implicitly introduced above is a simplifying assumption that to begin with, the deaths of married men will be examined in relation to survivors among immediate family members. It is also assumed for the purposes of this argument that the period of principal concern is that of the working ages among women, the period in which the loss of a "breadwinner" has different consequences from the loss of this same life once a women is in the retirement years. Clearly, the choice of a woman's age 65 as signaling the end of a life course of work--either in gainful employment or in support of a so-called breadwinner--is arbitrary. Once these earlier research results appear to become manageable, consideration of the post-65 experiences will become of substantially greater interest in this research. Thus, widowhood for a woman is defined in this report as beginning with the death of the husband and ending by remarriage, by death, or by the attainment of her 65th anniversary of birth.

The procedures for calculating average and cumulative surviving years of unremarried life for dependent persons are reasonably well known, having been used by actuaries and by Workman's Compensation attorneys to attempt to project intact family experiences if the event of premature death had not occurred (Miller and Hornseth, 1967; U.S. Bureau of the Census, 1974a; J. P. Jones, 1962). What is required is the development of a model for the purposes of presenting the resultant average and cumulative years of dependent survivorhood in which both the unremarried spouse and minor children are taken together. An approach to this problem and a consideration of related issues has been suggested by some work by Schnaiberg dealing with family formation analysis (Schnaiberg, 1973; Snyder, 1974).

Scope of the Present Report

In order to investigate the aggregate effects of differential
mortality by color upon survivors in the working ages, a model of a
life process was constructed for females to carry them through the
ages of 14 to 64. This was done in order to make estimates for the U.S.
as to the frequency of widowhood by race and the duration of widowhood
among the widowed. As noted above, cross-section data on widowhood in
the population are available and have been interpreted recently by
Mallan (Mallan, 1975). Yet cross-section data on widowhood may be mis-
leading not only as to the risk of widowhood but as to the length of ex-
perience a widow may expect before her status changes again.

For example, differences in age structure between the populations
could lead to some misleading results, even though age adjustment might
be used to deal with this kind of problem (Table 2). However, the com-
parisons made about the prevalence of, say, widowhood in one population
in contrast to another are affected artifactually not only by variations
in age distributions but by differences, not at all readily apparent,
in widowhood incidence patterns, and, subsequently, by differences in
duration of widowhood. Moreover, differences between the compared
populations as to risks of marriage by specific ages, as to durations of
marriage, divorce, and remarriage and their respective durations, which
interact with the risks of widowhood, make estimates of widowhood exper-
ience for the purpose of cross-population comparison difficult and uncertain.

One approach to measure differences between whites and nonwhites as
to the experience of widows is to expose a synthetic population to the

risks of changes in marital status, across successive ages, and to the risk of death for the purposes of extracting a distilled view of the cumulative lifetimes of women in the populations being compared. In this way, the likelihood that a woman will be widowed at a particular age, which is contingent upon her having been married previously, and to have continued to be married up to the age in question without having had her marriage disrupted, or having died herself can be computed. Such a calculation takes more information into account than calculations comparing the proportions of women who are widowed with those married in the age class.

The intention in this research is to provide demographic measures of the consequences of mortality for suvivors and, later, to provide estimates of economic burden. These demographic results for the population can be used in weighing questions of resource investment in alternative health-improving strategies and in assessing race differentials in cross-generation burdens. The desired outcome of this work along with the later study of economic burdens would be a useful commentary on the color differences in alternative social welfare policies.

However, the principal objective in the present report is to describe the research enterprise and the initial findings as to the comparative risks of widowhood and relative durations of widowhood in the white and the nonwhite populations. It should be noted that the use of nonwhite as a proxy for black population arises, as has been often the case in demographic work, for want of appropriate data to treat the black population apart from other races.

Methods and Procedures

Recent reports describing the construction of multiple-increment-decrement tables (Schoen and Nelson, 1974; Schoen and Nelson, 1975; Schoen, 1975a; Schoen, 1975b; Hoem, 1975) provided some of the basic procedures in this study. These procedures, as developed for this study, treat the experience of the females aged 14 through 75 in the American population as reported in the June, 1971 Current Population Survey (CPS). One additional set of data are marital status-race-sex-age-specific mortality rates which were constructed from 1960 rates by marital status adjusted to a 1970 basis with allowances for selective population underenumeration by age, sex, and race. A description of these data sources and the mortality adjustment procedures is presented in the appendix to this paper.

The basic problem in this approach is to make estimates by color of the various transition rates among statuses at each age upon which cumulative lifetime experiences can be calculated. The risks of widowhood cannot be very well understood without tracing through the life processes which lead to the development of a pool of women who are subject to this risk at each age. Thus, the risks of marrying among the unmarried, of divorcing among the married and of death among survivors must be included.

First, the female population aged 14 and over included in the June, 1971 CPS micro-data file was arrayed as to marital status, color, and age to make a determination of the suitability of this file for the purpose of estimating marital status change rates (U.S. Bureau of the Census, 1971a). It was quickly seen that the cells in the table when considered as to the changes in status upon which the rate label

might be applied were very small (Table 3). Some thought was given
to trying to merge other CPS files to improve this situation, but the
files containing the necessary data regarding marital status and marital
status changes are few and the procedures which would be required to
articulate these were not readily at hand in the judgment of this in-
vestigator.

So, instead, using the marital history data in the June, 1971
CPS, 10 population "reconstructions" were created in which women sur-
viving to June, 1971 were distributed as to their marital experiences
in not only the year prior to the survey but for nine successive years
over the period from July, 1961 until June, 1970. Table 4 illustrates
the results of this approach in which the observations of women in
any specified age interval from one reconstruction are independent of
those at the same age from any other regardless of the year in this
decennium from which they are drawn. One might recognize this approach
as previously used by the Census Bureau in dealing with estimates of
probabilities of marital status changes in 1968   (U.S. Bureau of the
Census, 1971c).

In summary as to the approach to the survey data, estimates of
numbers of women by color, by marital status and by single years
of age from their 14th birthday through their 65th were made for
the experience period beginning in July, 1961 and ending June, 1971
from the retrospective data reported in the June, 1971 CPS by the
female survivors at the survey date. Corresponding estimates of the
frequency of the changes in marital status of the women by color
in each of the age intervals in each of the marital statuses were
obtained so as to permit the estimation of (a) mid-year populations for

each of the ages in each of the marital status cells, and (b) central death rates for these cells.

Central death rates were taken to be approximately the computed values, $\dfrac{5^d x}{5^L x}$, taken from the 1970 life tables for the U.S. (U.S. National Center for Health Statistics, no date). Adjustments were made for marital status mortality differentials and for undernumeration in the 1970 Census. The rates were then smoothed in order to obtain rates by single-years-of-age corresponding to the data developed from the June, 1971 CPS.

As noted earlier, these data were prepared as input to a marital life process table developed by Schoen and Nelson. At least two possibilities emerge as to how to simulate such a process. Whether a linear approach is taken in the computations of values for l_x or, alternatively, a cubic iterative scheme is used, the results are quite similar, as Schoen points out in his 1975 paper in Demography.

First, a double-decrement table is created for unmarried females. This yields a single stationary population over all ages of interest against which the marital status multiple-increment-decrement apparatus can be applied. Numbers of marital status transitions and the populations from which they come are removed from the constraints of the real world by the computation of rates which are taken into the marital life status process as the basic data. In any case, the survivors in the never-married population at each age are exposed to the risks of marriage and death; those marrying are exposed to the risks of divorce, widowhood, or death; those widowed and those divorced in each age are at risk of

remarrying or dying during each age interval. The process, which begins with a synthetic cohort at age 14 of size 100,000 continues among survivors at each age until an age 65 absorption, since this study is initially concerned with mortality burdens among survivors during the working years of life.

Data Analysis

As can be seen in Table 5, white women may expect to live on the average 8.6 years prior to marriage, to spend 35.9 years as a married person, 1.9 years as a divorcee and 2.5 years of life as a widow prior to retirement at age 65. Moreover, about 85 percent of white women attaining age 14 could be expected to survive to age 65, hence the difference between the 51 years potentially available between the 14th and the 65th anniversaries of birth on the one hand, and the 49.0 years which is the sum of the numbers I have just given you is attributable to the loss of life—amounting to 2.0 years per person on the average—prior to the 65th birthday.

Put somewhat differently, white women are expected to have 8.6 years of single life on the average; of those who marry—some 97.0 percent of the initial group—37.1 years will be accumulated all told as a married person; if she divorces (the chances are roughly one in four that white married women will divorce—the table actually shows that number of divorces correspond to just over one quarter of the total number of women who ever marry) she may expect to spend 7.4 years as a divorcee, for every divorce she has. Finally, should she widow—and her chances as a married women before age 65 are about 1 in 3—she is expected to

spend 7.8 years as a widow prior to the conclusion of her lifetime up to age 65.

Nonwhite women, whose life chances are poorer than those of white women over the ages of interest in this study, may expect to live on the average 11.4 years as a single woman, 28.6 years married, 3.2 years divorced and 3.8 years widowed. Taking into consideration only those immediately exposed to specific risks, the never-married condition remains unchanged at 11.4 years, the prospects of marriage are 92.9 in 100, the duration of married life prior to age 65 is 30.8 years among those who marry before that age. The likelihood of divorce for ever-married nonwhite women is just over 1 in 3 and if she divorces, she may expect to spend about 10.3 years in that state. The chances of widowing among ever-married nonwhite women prior to age 65 are nearly one in two! And, should she widow, she can expect to spend 9.0 years in that status before her 65th birthday or before her own death if she does not survive to that anniversary.

Addressing the issue that is central to the underlying hypothesis of this paper, that nonwhite mortality burden upon survivors is not directly revealed in the mortality rates taken alone, these statistics show that in spite of the life chances of nonwhite women being less than those of white in the ages of concern in this paper (47.0 years vs. 49.0 years, respectively), the sex differentials in mortality for nonwhites are apparently enough larger than for whites to create a longer experience as a widow whether we consider the experience of the entire female synthetic cohorts or whether we look specifically at the prospects of widowhood among only those who marry.

Table 6 provides estimated cumulative life-time person-years of life for women as widows and as divorced persons relative to the duration of married life. These results clearly show that (a) the widowhood experience among ever-married nonwhite women is nearly double that of white women and (b) that the expected durations as widows for both color groups are greater than the durations for divorced. The Table 6 results, it should be noted, take into account the entire lifetime experience over ages 14-65 in both populations regardless of number of marriages, divorces or widowings. Thus, the change in the direction of the difference in the durations of widowhood and divorce for nonwhite women between Tables 5 and 6 arise in the differences between the risks and durations of these two marital conditions. In the aggregate, widowhood accounts for more of the nonwhite women's lifetime than does divorce. However, for those specific subpopulations who widow or divorce, the divorced spend more years in that marital status than do the widowed in their respective status.

Table 7 compares the numbers of person-years of widowed life per 1000 years of married life for 5-year age groups and shows that the magnitude of the difference between whites and nonwhites in the cumulation of widowhood experience is much more pronounced at the younger ages (excepting the 14-19 age class) and that the difference declines dramatically with age, although the concluding difference shows nonwhite still have an 86 percent edge over white women in the duration of widowhood. It is noteworthy that in spite of the truncation which occurs at the ending of the working life at age 65 in these data, numbers of years of widowed life rapidly and persistently increase up through the 60 to 64 age category.

Summary and Conclusions

A marital life status process was applied to national survey data from the U.S. along with mortality rates from the vital statistics system to estimate the effects of color differences in mortality of breadwinners among surviving family members. In the aggregate, non-white women have a much greater share of their working lifetimes given over to widowhood than do white women. This difference is particularly pronounced in the 20's and declines with age, although even at the end of the working years of life, there is still a large white-nonwhite difference.

For both color groups, the risk of widowhood is greater than the risk of divorce. Moreover, widowhood accounts for a larger share of the expected lifetime through the working years of life than does divorce, contrasting with public opinion which expresses concern over the growing numbers of married persons affected by divorce.

The experience of women subject to specific risks, as the married are subject to widowhood, reveals parallel differences by color, although the outcomes are somewhat attenuated. Nonwhite women are at a clear and substantial disadvantage as measured by the effects of color differentials in mortality in that there are more frequent and longer periods of widowhood in the working years of life among nonwhite women than among white women.

APPENDIX

Mortality Estimates for Input to Schoen-Nelson Marital Life Status Table

Process. (Schoen and Nelson, 1974)

The Schoen-Nelson process computer program (a copy was kindly provided by

Verne Nelson) as modified for the purposes of this study calls for numbers of

deaths and numbers in the populations for each year of age of women in the ages

14-64. These estimates of deaths were prepared by computing adjusted central

death rates from 1970 life tables for the U.S. and assuming that the "L_x"

values which had been computed from the June, 1971 CPS for each color by

marital status could be used as estimated mid-year populations against which

these rates could be applied to obtain numbers of deaths required for program

input.

The mortality rates by age, color, sex and marital status used in this

study were prepared in the following manner. First, 1970 five-year central

death rates were computed by assuming that they would approximate the

ratio d_x/L_x for each age class, sex, and color as shown in the 1970 Life

Tables for the U.S. (U.S. National Center for Health Statistics, no date).

These values were adjusted for underenumeration by age, color and sex using

estimates published by the Census Bureau (U.S. Bureau of the Census, 1974b).

Mortality statistics by marital status, age, sex and color for 1960 were used

to adjust the 1970 figures by marital status   (U.S. National Center for

Health Statistics, 1970). Lastly, the adjusted five-year mortality rates

were graduated over single-years of age using the Karup-King third-

difference method (U.S. Bureau of the Census, 1971b).

Upon graphing the resultant values, it became apparent that
the irregular age intervals for which the 1960 marital status specific
mortality rates were published produced an irregular pattern in the single-
years of age series. Although the results from the Schoen-Nelson process
are not expected to be materially altered, I plan to re-process these
data after applying a divided difference interpolation to the 1960 data.

A Note on National Vital Statistics Data and the Use of Survey Data

Locating data which are reasonably appropriate for the purposes of
this study turned out to be somewhat difficult and much of the work on
this project to date has been devoted to this matter. Data on the risks
of widowhood are not directly available in published national statistics.
The vital statistics system does not inquire into this matter and census/
CPS data deal with the necessary topics only occasionally and then some-
what indirectly. Characteristics of divorces and even of marriages are
incomplete insofar as the Marriage and Divorce Registration Areas and
the data collection systems associated with them are incomplete in their
coverage of the nation and are deficient in collecting data on color.
In 1971, about 81 percent of the marriages in the U.S. are estimated to
have occurred in the Marriage Registration Area, for which information
on population characteristics is generally available, but even for this
share of all marriages, only 63 percent had color reported. For divorces,
an even more deficient picture exists, with only 61 percent of the esti-
mated divorces nationally occurring in the Divorce Registration Area and
75 percent of these reported with information on color. Thus, color
identification on half the marriages and half of the divorces in the U.S.
is not available in this source for 1971 (U.S. National Center for Health

Statistics, 1975, Tables 1-1, 2-1, 2-7 and page 4-8). Even in the

matter of mortality itself, which has had fairly complete coverage in

the Death Registration Area since the early 1930s, deaths by marital

status are not regularly reported and have not been coded since 1960

(Armstrong, 1976).
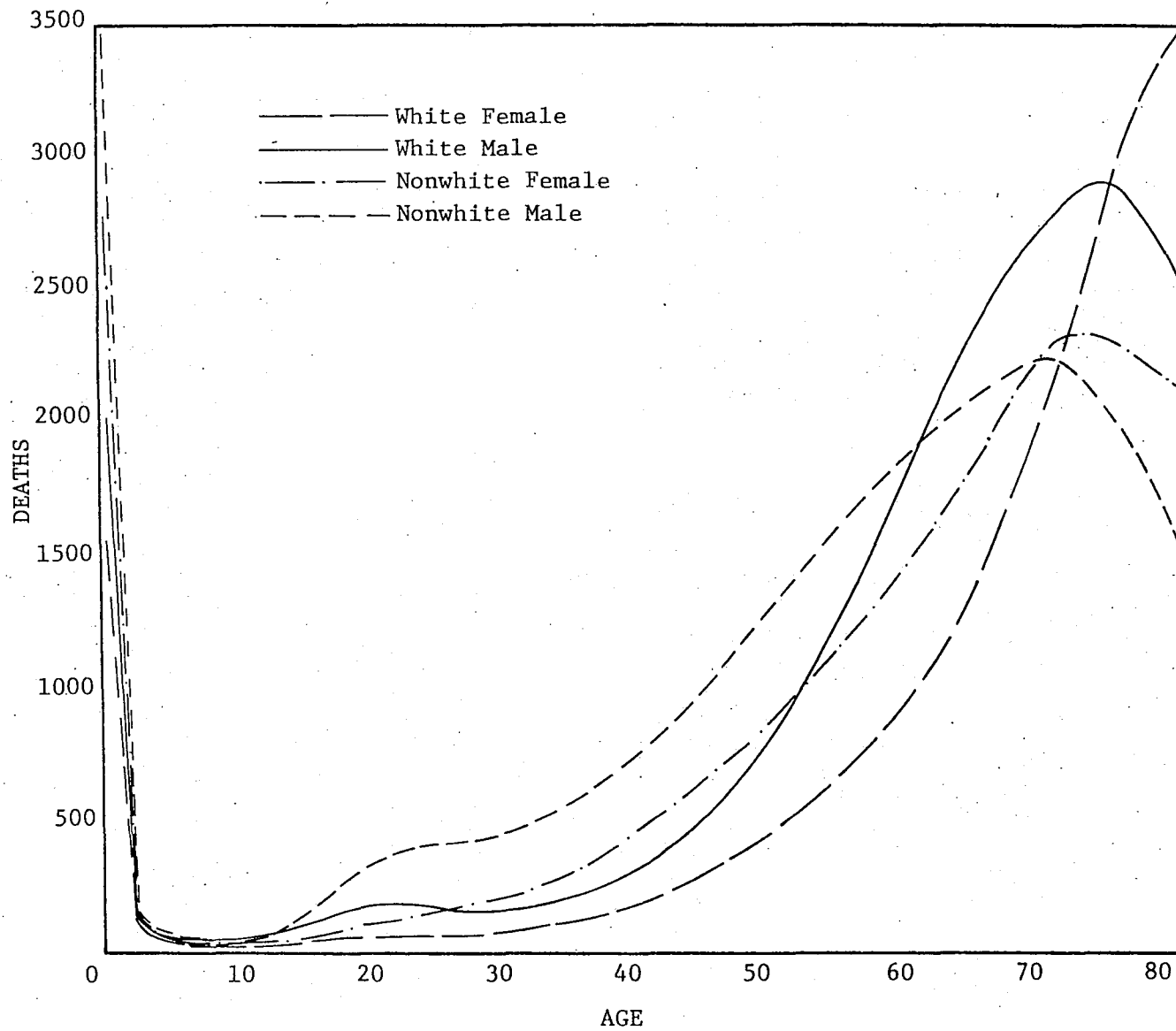
Figure 1. Number Dying in Year by Age (Graph of Life-Table Function).
Source: U.S. National Center for Health Statistics, 1970.

Table 1. Mortality Color Ratio by Age and Sex: United States, 1969

Age	Male	Female
All Ages	1.04	.98
Under 1	1.62	1.75
1-4	1.73	1.67
5-9	1.37	1.38
10-14	1.55	1.43
15-19	1.53	1.61
20-24	1.95	2.07
25-29	2.64	2.70
30-34	3.20	2.98
35-39	2.97	2.85
40-44	2.55	2.55
45-49	2.07	2.32
50-54	1.81	2.13
55-59	1.57	2.07
60-64	1.39	2.05
65-69	1.39	2.11
70-74	1.39	1.62
75-79	0.94	0.98
80-84	0.74	0.78
85 and over	0.49	0.50

Source: U.S. Department of Health, Education, and Welfare. 1973.

Public Health Service, Health Resources Administration.

Vital and Health Statistics, Series 20, Number 15. Mortality

Trends: Age, Color, and Sex. United States-1950-69. Table

3. Washington, D.C.: U.S. Government Printing Office.

Table 2 .—Risks of Widowing Among Women by Color Based Upon Observations of Married Women Having Specified Birthdays in the Ten-Year Period July, 1961 to June, 1971 (Number of Observations in thousands).

Birth anniversaries	White Women		Nonwhite Women		
	Number of observations	Widowing per 1000 observations	Number of observations	Widowing per 1000 observations	Computed number of widowings (4) x (1) ÷ 1000
	(1)	(2)	(3)	(4)	(5)
Total	354,933	7.3	39,947	10.7	–
14-19	7,285	4.0	955	5.2	38
20-24	38,862	1.2	4,539	4.4	171
25-29	45,097	1.4	5,707	3.5	158
30-34	44,561	1.9	5,579	4.3	192
35-39	47,233	3.4	5,444	6.4	304
40-44	47,889	5.6	5,228	6.9	330
45-49	44,216	8.5	4,485	17.6	779
50-54	38,114	13.4	3,504	24.5	935
55-59	29,046	22.2	2,435	28.8	835
60-64	12,630	31.8	971	52.5	663

Source: June, 1971 Current Population Survey micro-data file.

Age-adjusted number widowing per 1000 observations among nonwhites

$$\frac{\sum col. (5)}{\sum col. (1)} = 12.4$$

Table 3.--Females Aged 14-75 in the June, 1971 CPS Sample
(weighted): Micro-data file.

	Color and Marital Status									
	White					Nonwhite				
Age	Never Married	Married	Widowed	Divorced	Total	Never Married	Married	Widowed	Divorced	Total
Total	14,142	43,475	5,592	2,364	65,573	2,603	4,671	858	481	8,613
14 years	1,741	11	–	–	1,752	310	2	–	–	312
15-19	7,163	976	4	27	8,170	1,210	121	1	1	1,333
20-24	2,571	4,874	11	206	7,662	546	578	9	26	1,159
25-29	563	5,299	36	286	6,184	197	607	14	61	879
30-34	267	4,592	35	271	5,165	89	579	16	61	745
35-39	184	4,370	71	234	4,859	57	554	25	69	705
40-44	225	4,624	156	259	5,264	63	553	38	65	719
45-49	211	4,865	240	287	5,603	45	512	63	65	685
50-54	234	4,262	484	252	5,232	25	408	103	50	586
55-59	226	3,590	761	184	4,761	25	317	132	36	510
60-64	271	2,717	990	163	4,141	11	236	128	24	399
65-69	257	1,884	1,226	107	3,474	18	118	164	13	313
70-74	200	1,218	1,267	66	2,751	5	61	126	8	200
75 years	29	193	311	22	555	2	25	39	2	68

-23-

Table 4.—Paradigm for Experience in Last Complete Interval of Age of Women in the Survey in Each Year Over the Decennium as of the Survey Date: June, 1971 Current Population Survey

Age of women at last birthday as of June, 1971	From July: To June:	12-Month Periods									
		1961 1962	1962 1963	1963 1964	1964 1965	1965 1966	1966 1967	1967 1968	1968 1969	1969 1970	1970 1971
15 Years											14
16										14	15
17									14	15	16
18								14	15	16	17
—							—	—	—	—	—
—		—	—	—	—	—	—	—	—	—	—
—		—	—	—	—	—	—	—	—	—	—
24		14	15	16	17	18	19	20	21	22	23
25		15	16	17	18	19	20	21	22	23	24
—		—	—	—	—	—	—	—	—	—	—
—		—	—	—	—	—	—	—	—	—	—
—		—	—	—	—						
72		62	63	64							
73		63	64								
74		64									

Table 5 .__Selected Values from a Marital Life Status Table for the U.S. Based on The Experience of Women in the Period July, 1961 to June, 1971 (Synthetic Cohort of 100,000 Females Beginning at Exact Age 14 and Terminating at Age 65.)

Color and marital status	Ultimate disposition of population in the table	Number of person-episodes	Number of deaths	Cumulative person-years in the table	Mean Person-Years computed in relation to: All Women	Ever-married women Total	Widowed	Divorced
WHITE								
Total	100,000	283,504	16,127	4,896,733	49.0	–	–	–
Spinsterhood	3,139	100,000	1,017	855,461	8.6	–	–	–
Ever-married	96,861	183,504	15,110	4,041,272	40.4	41.7	–	–
Married	–	124,547	11,537	3,594,682	35.9	37.1	–	–
Widowed	–	32,509	2,484	252,284	2.5	2.6	7.8	–
Divorced	–	26,448	1,089	194,306	1.9	2.0	–	7.4
NONWHITE								
Total	100,000	294,299	28,306	4,697,414	47.0	–	–	–
Spinsterhood	7,124	100,000	3,395	1,143,504	11.4	–	–	–
Ever-married	92,876	194,299	24,911	3,553,910	35.5	38.3	–	–
Married	–	121,050	15,020	2,856,906	28.6	30.8	–	–
Widowed	–	42,486	7,201	380,538	3.8	4.1	9.0	–
Divorced	–	30,763	3,690	316,466	3.2	3.4	–	10.3

Source: Values computed using the Schoen-Nelson marital life status process (Schoen and Nelson, 1974) with data from the June, 1971 Current Population Survey and mortality estimates by marital status, race, and sex based upon 1970 life tables, and mortality estimates by marital status for 1960 from the National Center for Health Statistics, corrected for underenumeration with data published by the Bureau of the Census. See appendix.

Table 6.--Person-years of Life in the Synthetic Female
        Population Based on the Experience Period
        July, 1961 - June, 1971. (Data from the June, 1971
        Current Population Survey

Color	Marital Status (Per 1,000 years of married life)	
	Widowed	Divorced
White	70.2	54.1
Nonwhite	133.2	110.8

Source: See source note for Table 5.

Table 7.--Person-Years of Widowed Life per 1000 Years of
Married Life in the Synthetic Population Based
on the Experience of American Women in the Period
July, 1961 to June, 1971 for Selected Ages by
Color. (Data from June, 1971 Current Population
Survey.)

| | | | Difference | |
In the ages	White women	Nonwhite women	Number (2) - (1)	As a percent of white value (3) ÷ (1) X 100
	(1)	(2)	(3)	(4)
14 to 19	1	2	1	100
20 to 24	1	4	3	300
25 to 29	2	7	5	250
30 to 34	4	15	11	275
35 to 39	7	24	17	243
40 to 44	13	36	23	177
45 to 49	27	64	37	137
50 to 54	50	120	70	140
55 to 59	94	186	92	98
60 to 64	172	320	148	86

Source: See source for Table 5.

References

Armstrong, R.J. 1976.. Personal conversation with the author.

Farley, R 1975. The Economic Status of Blacks : Have the Gains of the
1960s Disappeared in the 1970s? Population Studies Center,
University of Michigan. Processed.

Hoem, J.M. 1975. The Construction of Increment-Decrement Life Tables:
A Comment on Articles by R. Schoen and V. Nelson. Demography 12:
661-662.

Jones, J.P. 1962. Remarriage Tables Based on Experience Under OASDI
and United States Employees Compensation Systems. Actuarial
Study No. 55: Washington, D.C. Division of Actuary, Social
Security Administration.

Mallan, L.B. 1975. Young Widows and Their Children: A Comparative
Report. Social Security Bulletin 38:3-21.

Miller, Herman P. and E. A. Hornseth 1967. Present Value of Estimated
Lifetime Earnings (Technical Paper No. 16) Washington, D.C.:
U.S. Bureau of the Census. Department of Commerce.

Niessen, A.M. 1960. A New Remarriage Table. Transactions of the Society
Actuaries XII: 1-21.

Schnaiberg, A. 1973. The Concept and Measurement of Child Dependency:
An Approach to Family Formation Analysis. Population Studies
27:69-84.

Schoen, R. 1975a.. Constructing Increment-Decrement Life Tables.
Demography 12:313-324.

Schoen, R. 1975b. Author's Correction Notice (Constructing Increment-
Decrement Life Tables. Demography 12:313-324) Demography
12:571.

Schoen, R. and V.E. Nelson 1974. Marriage, Divorce, and Mortality :

A Life Table Analysis. Demography 11:267-290.

Schoen, R. and V.E. Nelson 1975. Reply to Hoem. Demography 12:663-664.

Schorr, Alvin L. 1966. Poor Kids: A Report on Children in Poverty.

New York: Basic Books, Inc., Publishers.

Snyder, D.W. 1974. A Comment on Schnaiberg's Measure of Fertility

and Child Dependency. Population Studies 28:345-346.

Sutton, G.F. 1971. Assessing Mortality and Morbidity Disadvantages

of the Black Population of the United States. Social Biology

18:369-383.

U.S. Bureau of the Census. 1971a. June, 1971 Current Population

Survey. (Micro-data file copy at Center for Demography and

Ecology, University of Wisconsin, Madison.)

U.S. Bureau of the Census. 1971b. The Methods and Materials of

Demography (by Henry S. Shryock, Jacob S. Siegel, and

Associates) U.S. Government Printing Office: Washington, D.C.

Volume II.

U.S. Bureau of the Census. 1971c. Social and Economic Variations

in Marriage, Divorce, and Remarriage: 1967. Current

Population Reports P-20, No. 223.

U.S. Bureau of the Census. 1974a. Annual Mean Income, Lifetime

Income, and Educational Attainment of Men in the United

States, for Selected Years, 1956 to 1972. Current Population

Reports Series P-60, No. 92 (prepared by Mary F. Henson).

U.S. Bureau of the Census. 1974b. Estimates of Coverage of

Population by Sex, Race, and Age: Demographic Analysis.

1970 Census of Population and Housing (Evaluation and Research Program) PHC(E)-4. Department of Commerce, Washington, D.C.

U.S. National Center for Health Statistics. no date. Life Tables, 1970. Vital Statistics of the United States. II, 5. Department of Health, Education, and Welfare, Rockville, Maryland.

U.S. National Center for Health Statistics. 1970. Mortality from Selected Causes by Marital Status: United States. Vital and Health Statistics 20: 8a,b (prepared by A. Joan Klebba, M.A.).

U.S. National Center for Health Statistics. 1973. Mortality Trends: Age, Color, and Sex: United States, 1950-69. Vital and Health Statistics 20 15.

U.S. National Center for Health Statistics. 1975. Vital Statistics of the United States, Vol. III, Marriage and Divorce, 1971. Department of Health, Education and Welfare, Rockville, Maryland.

Watts, Harold. 1975. A Model of the Endowment of Human Wealth Or Let's Look at Social Policy through the Eyes of the Twenty-First Century's Adults. Institute for Research on Poverty Discussion Papers, University of Wisconsin, Madison, 282-75.