

# Social Roles and Health Trends of American Women

LOIS M. VERBRUGGE  
and JENNIFER H. MADANS

*The University of Michigan;  
National Center for Health Statistics*

**W**OMEN'S SOCIAL ROLES HAVE BEEN UNDERGOING dramatic changes. A recent review of three decades of census data on women identifies major shifts in marriage and childbearing patterns, living arrangements, educational attainment, and labor force participation (Bianchi and Spain 1983). Over that period, female employment rates increased greatly, particularly among women with children at home. This increase has prompted concern about the consequences of multiple roles (a mix of job and family responsibilities) for women's health both in the short run and over their lifetimes.

This article discusses how three key social roles (employment, marriage, and parenthood) are related to physical health of American women, and how American women's health changed from the mid-1960s to the late 1970s. We begin by comparing health statistics for various role groups defined by employment-marital-parent statuses, noting which groups have the best and worst health profiles. This is done for all women in the United States, then for white and black women separately. We then describe trends in the health of role groups from 1964-1965 to 1977-1978. Finally, we statistically estimate

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the effects of employment, parenthood, and time on health for white married women.

There is active research on women's roles and health so we wish to note the particular contributions of our analysis at the outset. First, it presents health profiles of role groups for the national population rather than a subnational one. Second, to our knowledge, it is the first report of how multiple roles are related to health of black women. Third, it discusses trends, noting how women's health has been changing in a period of new opportunities and pressures for them. Although there is much speculation about women's health trends, the data so far have been scant.

### Explanations for Role Effects

Two key processes underlie the link between involvement in social roles and physical health. They are social causation (how roles influence health) and social selection (how health influences roles). *First*, involvement in activities that use skills, offer social contacts and intimacy, and provide income may help people maintain good health or even improve it. Low participation in productive social activities during adulthood may be stressful and ultimately jeopardize physical and mental health. These are social causation hypotheses. An additional facet of social causation is how roles influence people's responses to their illnesses and injuries. For example, employed women may need to continue working when ill, while nonemployed women without young children feel freer to cut back their activities; this would reduce restricted-activity days for the first group. Role differences in inclination to adopt the sick role will affect behavioral indicators such as short-term disability, limitation due to chronic conditions, and health services use. *Second*, good health helps people find and keep a job, find a spouse and remain married, and bear and raise children. These are social selection hypotheses. Together, social causation and social selection are prime factors behind social differentials in health status and therapeutic actions.

Several other potential factors should be noted. Health perceptions and health knowledge can affect how people report their health status in interviews. For example, perceptions of "healthy" and "unhealthy" differ among people and they influence measures of self-rated health.

Awareness of one's medical health problems also varies and this affects chronic-condition prevalence rates. Whether role groups differ in their health perceptions and knowledge is not known. These are probably less powerful factors underlying health statistics than are social causation and social selection, and we will concentrate on those two aspects in our interpretations.

In the data to be studied, we cannot distinguish the impact of social causation and social selection in the results. We will offer opinions about those processes and their relative importance, but these are hypothesized reasons rather than demonstrated ones. Throughout the analysis, the word "effect" means "associated with," not "causes."

### Data Source and Variables

The data used are from the National Health Interview Survey (NHIS) conducted by the National Center for Health Statistics (NCHS). NHIS is a continuous survey since 1957 of the civilian noninstitutionalized population of the United States. It collects information about health by household interview, focusing on acute and chronic health problems, short-term activity restrictions for them, long-term activity limitations due to chronic conditions, and health services use. Annual rates are published in *Vital and Health Statistics*, series 10, published by NCHS. (For further information about sampling and questionnaire items, see National Center for Health Statistics 1982.)

This analysis is based on NHIS data for 1964-1965 and 1977-1978. Years have been pooled to increase the stability of the estimates. The reason for the time points is that data tapes for years prior to 1964 do not exist and when this project was started 1978 was the most recent year of data available. The NHIS sample data are weighted in this analysis so that all results are representative of the United States population.

### *Health Indicators*

We shall focus on measures of health status and disability: disability days, activity limitation due to chronic conditions, incidence of acute conditions and health actions taken for acute conditions, and self-rated health status.

Disability days are days people reduce their usual activities because of illness or injury. The health problem can be acute or chronic. Two specific items are used here: average number of restricted-activity days per year and average number of bed-disability days per year. The first is days a person cuts down her/his typical activities for the whole of the day. The second is days a person spends in bed for all or most of the day. Bed-disability days are a subset of restricted-activity days. The statistics are based on interview questions about disability days in the past two weeks; annual rates are derived by summing the short-term responses across respondents for the year.

Chronic activity limitation indicates how chronic conditions affect adults' ability to have a job or do housework. (For children, school and play activities are considered instead.) People are classified by the greatest extent of limitation they have. The categories are: unable to have a job or keep house, limited in amount or kind of job/housework, limited in secondary activities (such as church, clubs, shopping) only, and not limited in major or secondary activities. We use two items: percentage with any activity limitation and percentage with major activity limitation. (All three limitation categories are included in the first item, and the top two in the second. Major activity limitation is analyzed only in our statistical section on white married women.) In the interview, adults are asked what their usual activity was in the past twelve months. Women who were "keeping house" are then asked about current limitations in doing housework; women who were "working" or "doing something else" such as schooling are asked about job limitations; all men are asked about job limitations.

Acute conditions are those lasting less than three months which involved restricted activity or medical care. We use five indicators: average number of acute conditions per year, number of restricted-activity days per acute condition, proportion of acute conditions with both restricted activity and medical care, proportion with restricted activity only, and proportion with medical care only. The first item is an incidence rate. The second shows the average impact of an acute condition; it is computed only for conditions which involved some restricted activity. The last three items indicate the kinds of curative actions taken for acute conditions. All items are derived from interview questions about the past two weeks; responses are aggregated across all respondents in a year to attain annual rates and proportions.

Self-rated health status is a general evaluation of one's health compared to other people the same age. Response categories are: excellent, good, fair, and poor. We use one item: percentage with excellent or good health. The question was introduced in the 1970s so we cannot analyze time trends from 1964-1965 to 1977-1978.

### *Social Roles*

Three key adult roles are employment, marriage, and parenthood. We consider two basic employment statuses: employed and nonemployed. Employed means currently having a paid job. Nonemployed includes people not in the labor force (NLF) (has no job and is not looking for one) and also unemployed people (UE) (has no job but is looking for one). Keeping NLF and UE groups together is not wise because their life situations and, as we shall soon see, health differ so much. But keeping them separate is not feasible either because the number of UE persons in specific marital and parent statuses becomes small. Our solution is to include the UE group in initial comments about employment and health, then delete them from analysis of specific role groups (so the term nonemployed then refers to NLF women only). We shall remind readers of this at important junctures.

Marital statuses are: currently married and nonmarried. Nonmarried includes never married, widowed, divorced, and separated women. Parent statuses are: child present (any child under age 17 present in household) and no child present. We were not able to ascertain the presence of own children for this analysis, but the vast majority of women living in households that have children are their mothers. Even when this is not the case, women typically have some parenting responsibilities for the youngsters. (In 1978, of all families with an adult female and also any children present, 96 percent included the woman's own children [Bureau of the Census 1985]. For comparable information about living arrangements from children's perspective, see Bureau of the Census 1979, tables H and 4; 1983, table D.)

We study women aged 17 to 64 in five age spans: 17-24, 25-34, 35-44, 45-54, and 55-64. The range of 17 to 64 is a broad compass of the ages when women are most likely to be employed and have family (spouse, mother) roles.

Role groups are combinations of employment, marital, and parent statuses (for example, employed married mothers). Table 1 records the percentage distributions of American women in role groups for 1964-1965 and 1977-1978. Over that time interval, the main shift in roles was from nonemployed to employed, especially for women aged 17 to 44 regardless of their family situation. Marriage and parenthood have become less common for young women aged 17 to 34, mainly due to a reduction of the women with both family roles. (Women these ages are now more often either married nonmothers or nonmarried mothers.) Overall, multiple roles (the mix of employment with one or both family roles) have become more common for all age groups, especially for women aged 25 to 44.

### *Analysis Limitations*

We have restricted the scope of this analysis in several ways. First, indicators of health services use, such as physician visits or hospital stays, are not studied. We wished to concentrate on health status and self-care activities. Access to health services through public and private insurance varies sharply among role groups (Berk and Taylor 1984; National Center for Health Services Research 1985), and this additional factor would complicate the already difficult problem of interpreting differentials. Second, three sociodemographic factors that impinge on health are absent: ages of children, the specific marital status of nonmarried women, and socioeconomic status. Later in this article, we will review research evidence on women's health by children's ages and specific marital status. For data on socioeconomic status and health, see National Center for Health Statistics (1979, 1980, 1983). Their absence here is due to computing budget restrictions rather than to disinterest or shortsightedness. Moreover, we wished to present national rates for subgroups and did not want to diminish cell sizes by adding further variables. In studies using multivariate estimation techniques, these three sociodemographic factors should be included whenever possible as well as the basic role statuses used here.

### Social Roles and Health

How are employment, marriage, parenthood, and combinations of those roles related to health for American women? We begin with

results for the more recent 1977-1978 period, and then include 1964-1965. Rates for 1977-1978 are shown in table 2; those for 1964-1965 are available on request. A summary of health comparisons of employed vs. nonemployed women, married vs. nonmarried women, and mothers vs. nonmothers for the two time periods is shown in table 3.

### *Employment*

Currently employed women in 1977-1978 have better health than nonemployed women in virtually all respects (tables 2 and 3). They have fewer restricted-activity days and bed-disability days per year, smaller percentages have long-term limitations, and they report better health status. Employed women do report slightly more acute conditions per year than nonemployed women do, but those conditions may be less severe since the employed women take fewer restricted days per condition and prefer to cut down activities rather than seek medical care. (Table 3 records that the proportions of conditions with any medical care tend to be larger for nonemployed women, whereas the proportion with only restricted activity tends to be smaller for them, compared to employed women.) Shorter restrictions could also reflect employed women's need and desire to return to their job if the condition has caused work absence. The emphasis on little restricted activity is strongest at ages 35 to 44, an especially busy period of employed women's lives because of career development and childcare responsibilities.

Women outside the labor force (NLF) have decidedly the poorest health of the three employment groups. Unemployed (UE) women are intermediate, but they are closer to NLF women in health than to currently employed ones.

These differentials appear at all age groups. They are especially pronounced for nonmarried women; thus, nonmarried women without a job are much less healthy than their employed peers.

### *Marriage*

Married women tend to be healthier than nonmarried ones (tables 2 and 3). They have fewer disability days, less chronic limitation, and better self-rated health. There is some evidence, although it is less

TABLE 1  
Social Role Groups of American Women, Ages 17-64, 1964-1965 and 1977-1978

Age group	Population (thousands)	1964-1965 Percentage in employment- marital-parent group <sup>a</sup>			Summary percentages for age group
		Currently employed	Un- employed	Not in labor force	
Ages 17-24	11,001				
Married, child		7.6	1.2	24.1	43.1% Employed
Married, no child		7.9	0.7	5.0	46.5 Married
Nonmarried, child		13.5	2.5	12.1	61.0 Children
Nonmarried, no child		14.1	1.4	9.9	29.0 Multiple roles <sup>b</sup>
Ages 25-34	11,227				
Married, child		20.9	1.6	54.4	37.3 Employed
Married, no child		5.2	0.3	2.1	84.5 Married
Nonmarried, child		5.0	0.6	2.7	85.2 Children
Nonmarried, no child		6.2	0.2	0.8	31.1 Multiple roles
Ages 35-44	12,469				
Married, child		24.6	1.4	43.4	44.4 Employed
Married, no child		8.6	0.4	6.2	84.6 Married
Nonmarried, child		5.1	0.3	2.4	77.2 Children
Nonmarried, no child		6.1	0.3	1.2	38.3 Multiple roles
Ages 45-54	11,052				
Married, child		12.5	0.5	19.7	50.4 Employed
Married, no child		22.2	0.9	22.6	78.4 Married
Nonmarried, child		3.7	0.3	2.3	39.0 Children
Nonmarried, no child		12.0	0.5	2.8	38.4 Multiple roles
Ages 55-64	8,571				
Married, child		2.1	0.1	4.7	40.5 Employed
Married, no child		18.9	0.5	39.6	65.9 Married
Nonmarried, child		2.3	0.1	3.5	12.8 Children
Nonmarried, no child		17.2	0.5	10.5	23.3 Multiple roles

Age Group	Population (thousands)	1977-1978 Percentage in employment- marital-parent group <sup>a</sup>			Summary percentages for age group
		Currently employed	Un- employed	Not in labor force	
Ages 17-24	16,199				
Married, child		7.2	1.3	10.9	56.8% Employed
Married, no child		12.1	1.1	3.4	36.0 Married
Nonmarried, child		16.9	3.5	12.6	52.4 Children
Nonmarried, no child		20.6	2.2	8.2	36.2 Multiple roles <sup>b</sup>
Ages 25-34	16,776				
Married, child		27.6	2.6	30.0	57.5 Employed
Married, no child		11.1	0.6	2.2	74.1 Married
Nonmarried, child		8.3	1.2	4.0	73.7 Children
Nonmarried, no child		10.5	0.5	1.4	47.0 Multiple roles
Ages 35-44	12,207				
Married, child		34.2	2.3	29.2	57.3 Employed
Married, no child		9.2	0.5	4.7	80.1 Married
Nonmarried, child		7.7	0.7	3.5	77.6 Children
Nonmarried, no child		6.2	0.3	1.5	51.1 Multiple roles
Ages 45-65	11,947				
Married, child		13.4	0.9	14.9	55.0 Employed
Married, no child		26.3	1.2	20.9	77.6 Married
Nonmarried, child		4.0	0.3	2.7	36.2 Children
Nonmarried, no child		11.3	0.5	3.6	43.7 Multiple roles
Ages 55-64	10,723				
Married, child		1.8	0.1	3.9	40.2 Employed
Married, no child		21.8	0.9	39.4	67.9 Married
Nonmarried, child		1.6	0.1	2.7	10.2 Children
Nonmarried, no child		15.0	0.6	12.1	25.2 Multiple roles

Source: Estimates based on the National Health Interview Survey.

<sup>a</sup> The sum of the 12 cells within each age group is 100.0%.

<sup>b</sup> Multiple roles are the combination of employment with one or both family roles (marriage, parenthood)

TABLE 2  
Health of American Women by Social Role Groups, Ages 17-64, 1977-1978<sup>a</sup>

	Average number of restricted-activity days per year			Average number of bed-disability days per year			Percentage with any activity limitation due to chronic condition			Percentage with excellent or good health			Average number of acute conditions per year		
	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF
<b>Ages 17-24</b>															
M, C	14.6	13.6	17.1	6.2	5.3	8.4	3.8	4.3	4.4	90.0	89.2	89.3	3.0	1.5	2.6
M, NC	13.0	19.5	19.2	5.5	6.2	8.2	3.5	2.7	6.5	93.8	90.0	87.9	3.2	2.7	3.0
NM, C	8.1	16.1	15.3	4.1	7.1	8.5	3.5	7.6	8.1	93.8	88.4	87.4	2.2	2.7	2.4
NM, NC	12.0	14.2	12.8	5.7	6.1	5.0	3.8	7.2	7.2	94.2	92.3	91.5	3.2	2.3	2.5
<b>Ages 25-34</b>															
M, C	15.0	26.1	16.6	5.4	11.2	6.3	5.1	8.7	6.6	92.2	89.1	91.2	2.5	2.5	2.6
M, NC	11.8	24.6	22.4	4.2	10.3	10.1	5.2	11.6	9.0	94.6	92.1	88.3	2.7	1.7	2.1
NM, C	18.4	30.8	30.2	7.5	13.3	13.7	6.0	15.2	22.4	88.1	77.1	70.7	3.0	3.0	2.6
NM, NC	16.3	27.2	46.7	6.0	10.6	24.8	7.6	12.6	36.3	92.4	88.7	69.8	3.0	2.8	1.8
<b>Ages 35-44</b>															
M, C	12.6	41.8	18.0	5.0	21.4	7.6	7.4	10.4	11.2	91.0	86.8	87.6	1.8	1.6	1.8
M, NC	12.7	39.9	25.2	5.1	13.6	9.6	8.0	18.9	19.6	89.0	87.2	77.3	1.8	1.6	1.4
NM, C	19.4	34.5	58.5	7.1	20.3	24.6	11.0	19.6	36.2	85.1	78.4	55.1	2.1	1.9	2.6
NM, NC	17.7	56.9	64.1	6.6	28.7	23.1	10.4	16.7	58.8	89.6	85.8	52.7	2.5	0.7	1.7
<b>Ages 45-54</b>															
M, C	12.4	32.8	24.7	5.2	8.2	7.8	9.0	18.9	20.5	87.2	79.4	78.1	1.7	1.1	1.5
M, NC	14.2	42.9	32.0	4.9	16.9	11.9	10.1	17.7	25.3	86.8	79.3	75.5	1.5	1.9	1.5
NM, C	22.0	38.3	67.6	5.7	2.6	29.1	14.6	19.8	51.6	78.3	79.3	49.8	2.2	3.0	1.2
NM, NC	17.9	42.0	82.0	5.8	18.6	32.6	12.6	40.4	58.3	86.8	69.1	46.8	2.0	0.9	2.0
<b>Ages 55-64</b>															
M, C	12.5	10.0	32.8	5.6	10.0	10.1	12.7	24.6	28.2	83.9	82.7	69.4	0.8	6.8	1.4
M, NC	13.9	46.8	30.1	4.2	10.2	11.0	12.5	20.9	30.1	83.9	82.4	70.8	1.4	0.8	1.2
NM, C	26.5	65.3	65.3	6.9	18.6	18.4	18.4	51.1	51.1	81.8	50.0	50.0	1.7	1.7	1.7
NM, NC	18.2	54.6	67.7	6.6	18.3	23.4	16.3	29.6	51.8	85.8	75.0	52.7	1.6	0.7	1.8

Age group	Number of restricted-activity days per acute condition <sup>b</sup>			Proportion of acute conditions with both restricted activity and medical care			Proportion of acute conditions with restricted activity only			Proportion of acute conditions with medical care only		
	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF
Ages 17-24												
M, C	4.8	7.1	6.2	.41	.53	.44	.45	.33	.38	.14	.15	.18
M, NC	4.1	5.8	6.1	.36	.49	.53	.50	.51	.37	.14	¢	.10
NM, C	3.4	6.4	6.1	.39	.41	.41	.47	.32	.34	.14	.28	.25
NM, NC	4.1	4.6	4.8	.37	.30	.32	.47	.55	.50	.16	.15	.18
Ages 25-34												
M, C	5.1	6.1	5.5	.36	.46	.34	.48	.42	.48	.16	.12	.18
M, NC	3.7	7.3	6.5	.32	¢	.41	.53	¢	.49	.15	¢	.11
NM, C	5.3	7.0	8.1	.38	.21	.44	.43	.43	.32	.20	.35	.24
NM, NC	4.4	8.5	9.1	.40	.78	.30	.48	.11	.58	.12	.11	.12
Ages 35-44												
M, C	4.6	18.6	5.3	.38	.28	.28	.45	.56	.47	.17	.16	.16
M, NC	5.2	14.6	9.7	.38	¢	.37	.29	.75	.51	.23	.25	.12
NM, C	7.8	9.2	10.5	.42	.15	.44	.37	.71	.37	.21	.14	.19
NM, NC	6.5	34.8	8.6	.31	¢	.34	.51	¢	.23	.18	¢	.24
Ages 45-54												
M, C	4.0	13.0	8.0	.34	.42	.38	.50	.39	.49	.17	.19	.14
M, NC	5.7	13.0	8.2	.35	.59	.31	.45	.22	.45	.20	.19	.25
NM, C	7.1	1.5	20.6	.31	¢	.43	.60	.43	.44	.09	.57	.13
NM, NC	6.7	12.4	11.8	.46	.44	.42	.41	.56	.41	.13	¢	.17
Ages 55-64												
M, C	10.8	4.0	8.6	.28	.36	.58	.72	¢	.19	¢	.64	.22
M, NC	7.5	¢	10.4	.30	¢	.37	.45	¢	.42	.25	¢	.21
NM, C	7.8	¢	10.8	.75	¢	.56	.25	¢	.34	¢	¢	.10
NM, NC	8.3	¢	10.8	.40	¢	.48	.39	¢	.24	.21	¢	.18

Source: National Health Interview Surveys for pooled years 1977-1978.

<sup>a</sup> A social role group is defined by employment-marital-parent status. Key to abbreviations: E-currently employed, UE-unemployed, NLF-not in labor force, M-currently married, NM-nonmarried, C-child(ren) present at home, NC-no children present at home. All statistics shown here are rounded from the original output.

<sup>b</sup> This is the average for acute conditions which had some restricted activity.

<sup>c</sup> Rate is deleted because sample size for the role group is very small ( $n < 10$ ) or because rate is 0.00 (highly unstable). For the three acute-condition proportion variables, proportions of 1.00 are also deleted.

TABLE 3  
Summary of Social Role Differentials in Health for American Women, Ages 17-64, 1964-1965 and 1977-1978<sup>a</sup>

	Percentage of ratios that show less morbidity and health care for:					
	Employed women		Married women		Mothers	
	1964-1965	1977-1978	1964-1965	1977-1978	1964-1965	1977-1978
Restricted-activity days	95%	95%	57%	73%	47%	57%
Bed-disability days	88	92	57	83	47	52
Chronic activity limitation	100	98	70	93	43	60
Excellent or good health	<sup>c</sup>	97	<sup>c</sup>	83	<sup>c</sup>	50
Acute condition incidence	53	33	55	60	45	43
Restricted-activity days per acute condition <sup>e</sup>	74	92	34	62	59	50
Proportion of acute conditions with both restricted activity and medical care	59	61	48	52	46	38
Proportion of acute conditions with restricted activity only	53	38	59	42	31	50
Proportion of acute conditions with medical care only	46	57	50	48	78	45

*Source:* National Health Interview Surveys for pooled years 1964-1965 and 1977-1978.

<sup>a</sup> For the nonemployed/employed comparisons, ratios of UE/E and NLE/E are computed within marital-parent-age groups (40 ratios). For nonmarried/married, ratios of NM/M are computed within employment-parent-age groups (30 ratios). For no children/children, ratios of NC/C are computed within employment-marital-age groups (30 ratios). Computation rules deleted ratios for small groups ( $n < 10$ ), 0.00 in numerator or denominator, and (for the three proportion variables) 1.00 in numerator or denominator. If unemployed women are excluded from all comparisons (due to relatively small sample sizes), results remain virtually the same; they are available from the first author.

<sup>b</sup> Refers solely to acute conditions which had some restricted activity.

<sup>c</sup> Not asked in 1964-1965.

consistent, that married women have fewer acute health problems and less severe ones. They generally take fewer restricted-activity days per acute condition and choose restricted activity over medical care, compared to nonmarried women.

These differentials appear for all age groups with one exception. (At the youngest ages [17 to 24], married women often have more disability days and feel worse than their nonmarried peers.) The marital differentials are especially pronounced for the two nonemployed groups; that is, nonemployed women with no spouse are much less healthy than their married peers. Joining this with the last result of the prior section, we find that the combination of no job and no spouse is linked with very poor health. This is particularly true for women aged 25 to 54.

### *Parenthood*

There are no uniform differences in health of mothers versus nonmothers (tables 2 and 3). For most indicators, mothers are healthier in about half the comparisons and less healthy in half. The flip-flop differentials appear at all ages. We shall soon see, however, that parenthood does have clear effects within employment-marital groups (and thus, contingent effects).

### *The Relative Importance of Employment, Marriage, and Parenthood*

Employment has by far the strongest and most consistent ties to good health for women. Marriage ranks second; the differentials are somewhat smaller in size and also less consistent. Parenthood ranks a weak third; the differentials are typically small and inconsistent. Thus, currently employed women are notably healthier than nonemployed ones, married women are somewhat healthier than nonmarried ones, and no simple statement can be made about motherhood.

### *Role Groups*

We now consider combinations of employment, marital, and parent statuses. Excluding unemployed women because of small sample sizes, we look at eight employment-marital-parent groups. For each health

indicator, we ranked the groups from best to worst health in each age span and then summarized the ranks (table not included).

Because employment and marriage are each linked to good health, we expect *employed married* women to have the best health profile overall, and the data confirm this. Children have negligible effects on their health; mothers and nonmothers show no consistent differences and have very similar health rates.

*Employed nonmarried* women rank next. Those with children have worse health than nonmothers for all the health indicators. (There is one exception: mothers and nonmothers show no consistent difference in acute-condition incidence.)

The effect of children turns clearly positive for *nonemployed (NLF) married* women, or housewives. These women have worse health than any employed group, but children are ostensibly a benefit to their lives. The differences between mothers and nonmothers are very consistent, with mothers having fewer disability days, less chronic limitation, and better self-rated health. They do tend to have more acute conditions per year, possibly because of infections transmitted by their children. But mothers take shorter restrictions for acute problems and also prefer self-care for them, compared to nonmothers.

*Nonemployed (NLF) nonmarried* women have clearly the worst health of all role groups. Those with children appear to benefit a little; they have less short-term disability, less chronic limitation, and better self-rated health. They do have more acute problems (both incidence and restricted days per condition) than nonmothers. These parenthood effects are parallel to those found for housewives, but they are less consistent across ages and indicators.

In sum, the groups rank from best to worst health profiles as follows:

BEST	Employed, married, no children and employed, married, children (same rank)
	Employed, nonmarried, no children
	Employed, nonmarried, children
	Nonemployed (NLF), married, children
	Nonemployed, married, no children
	Nonemployed, nonmarried, children
WORST	Nonemployed, nonmarried, no children

For nonemployed groups, rankings use all health indicators except acute condition incidence.

Note how the basic effect of employment appears strongly, with that of marriage next, and parenthood last. These rankings appear at all ages, but are especially clear for women aged 25 to 54. Thus, the ties between roles and health are strongest at precisely the ages when role involvements are greatest for women. Inconsistencies that occur are usually for ages 17 to 24; young women are just beginning to take on adult roles, and the health credits or debits due to roles and also the protracted force of selection are not very manifest yet.

### *Are Roles Good for Health or Does Health Force Women into Roles?*

The healthiest women have multiple roles—a job, husband, and often children. The least healthy women have no job, spouse, or child. How do the processes of causation and selection lead to the differences among role groups? First, consider the roles of employment, marriage, and parenthood one by one.

Selection is certainly a factor in the poorer health profiles of non-employed women, compared to employed ones. Unhealthy women have difficulty finding and keeping a job, and some employed women who develop serious health problems decide to quit or are forced to do so. But it is also possible that the resources, contacts, and expressed skills that jobs offer give health benefits to employed women in both the short and long run. Among nonemployed women, the absence of these rewards may diminish perceived and actual physical well-being. Nonemployed women also typically have more time available to care for illnesses except when young children are present.

Selection and causation both figure in the poorer health of nonmarried women, compared to married ones. Young women with serious health problems probably have less chance of finding a husband, and married women who develop serious health problems may incur greater risk of being divorced than their healthy peers. In addition, marriage offers companionship, intimacy, and security, and these may have a favorable impact on married women's health. Lastly, nonmarried women may have less routine in their domestic lives than married women and find it easier to take time off for illness, except when young children are present.

Reproductive health is a requirement for bearing children, but general health status also influences women's ability and decisions to

have them. Before modern contraception was available, nonmothers probably were selected for poorer health. This is not so strongly the case now since many healthy women opt to be nonmothers. Parenthood may also have some positive impact on health, since having children offers pleasures, personal fulfillment, and intimacy.

None of the above statements about social causation (how roles influence health) deny the stresses and troubles that accompany adult roles. They are so often noted that the positive aspects are overlooked. We are asserting that those positive aspects are prominent in people's lives and health.

How might the causal and selective processes operate for role groups?

*Employed married* women experience the rewards of both a job and an intimate companion for their well-being. They also reflect the filtering of very healthy women into that role combination. Income needs for the household are typically shared with the spouse, and day care for young children is also more affordable when both spouses work. Accommodating children and work takes planning, but in the end, children do not appear to jeopardize these women's well-being. Women with triple roles (job, spouse, mother) suffer no undue health problems because of their high responsibilities, and they are as healthy as their peers without children.

*Employed nonmarried* women experience the positive effects of employment, but those are offset somewhat by having children. Nonmarried women feel strong pressure to earn income for themselves and, when present, their children. Relatively healthy women among them are therefore drawn into the labor force. Apart from this selection effect, being employed may have an especially positive impact on nonmarried women's well-being since it is an important source of social ties and benefits. The net negative effect of children for them may be causal. Having solo responsibility for both household income and child care is a difficult circumstance and the stresses may jeopardize health.

For *nonemployed married* women (housewives), having children may be especially satisfying and health-promoting so that illnesses are less frequent and less severe. Motherhood becomes a preeminent role for them, offering opportunities for daily intimacy and productive activity. Child care responsibilities may also discourage housewives from prolonging care for their own health problems. Selection too cannot be ignored, since good health permits women to bear and raise children more easily.

*Nonemployed nonmarried* women are socially and economically disadvantaged. Poor health may have caused their noninvolvement in one or both roles, and the lack of rewarding social activities may exacerbate health problems for them. Those with children have better health than nonmothers do, despite the pressures for income and child care they experience. Perhaps children become a focus for meaningful daily activity for them so their health is enhanced or they opt for less disability time for health problems. Selection is also a factor; relatively healthy women in the group are able to bear children while those with extremely poor initial health end up with none of the three roles.

These explanations emphasize the rewards that accrue to women from employment, marriage, and children. The data buttress the notion that rewards of a job or marriage are sufficient to offset stresses from those roles for many women, with a net positive impact on health. For motherhood, the balance of rewards and stresses may be more delicate: Combining a job and children is not easy but it poses less trouble for married women (nil effect for health) than nonmarried ones (negative effect). Nonemployed women can focus their attentions on child care more readily, and the rewards may surpass the stresses (positive effect). These causal processes for parenthood may be reinforced by variable selective ones. Selection probably operates weakly for employed women but more strongly for nonemployed ones. Specifically, women in good health—the situation of employed women generally—exert more choice about motherhood, and many nonmothers in reproductive ages have chosen that status. By contrast, women in poorer health—truer for nonemployed women—are more likely to be nonmothers.

### *Stability of the Links between Roles and Health*

The links between social roles and health are very stable ones over time. We performed the same comparisons and rankings for 1964-1965 and found virtually every result repeated. The positive effects of employment and marriage, their relative strength, the contingent effects of parenthood, and the overall ranks of the eight role groups are reproduced.

There is one noteworthy change between the two periods: Differences among the role groups are clearer and more distinct in 1977-1978

than in 1964-1965. This means that women's health is better defined now by social roles than in the 1960s. What might account for this? First, women in the 1970s made more conscious choices about the timing and mix of roles. This approach to life probably gave women more opportunity to experience these roles' rewards, especially psychosocial ones, with ultimate profit to physical and mental health. Second, women felt increasing financial and social pressures to be employed due to inflation, marital disruption, and the women's movement. Nonemployed women became increasingly a poor-health group as relatively healthy women left the group to take jobs. Overall, the sorting out of women into roles by conscious choice and stronger selective pressures helps explain why the differentials are sharper in the 1970s.

Is the stability of role effects on health circumscribed by the 1960-1980 period? Probably not. The links of employment to good health are very enduring ones in this century, having been found in health surveys from earlier decades (Collins 1940; Hailman 1941). We know of no early reports with differentials by marital or parent status.

### *Roles and Health across the Life Course*

Being nonmarried can be a very different experience for women aged 17, 40, and 60. Respectively, they are typically never married, often divorced, and often widowed. Being a mother is also fundamentally different for them. The young woman has a preschool child, the middle-aged one typically has teenagers, and the older woman is probably caring for a grandchild. Even employment is a different experience over the life course, with aspirations and commitments changing as women age. Despite these differences, the relations between roles and health are similar to all ages (being strongest at 25 to 54, a little less so at 17 to 24 and 55 to 64). This consistency suggests that *role effects are enduring ones across women's lifetimes*. Benefits from job, marriage, and childrearing can accrue at any age. This is further buttressed by finding the same patterns in two time periods (1964-1965 and 1977-1978), when different cohorts were in each age group.

### *Other Contemporary Reports on Roles and Health*

Our NHIS results tally with other contemporary studies of social roles and health. The link between employment and good physical health

has been found in subnational surveys (Hibbard and Pope 1983; Marcus and Seeman 1981a; Marcus, Seeman, and Telesky 1983; Verbrugge 1982a, 1983a; Welch and Booth 1977; Woods and Hulka 1979) and for other years of NHIS (Nathanson 1980; Rice and Cugliani 1979; Waldron 1980). The link between marriage and good health is also well documented (Gove and Hughes 1979; Marcus and Seeman 1981b; Verbrugge 1979, 1982a). Parenthood per se is weakly associated with good health in several studies (Marcus and Seeman 1981b; Verbrugge 1983a). Stronger effects surface when women's employment and marital statuses are controlled, or when the number and ages of children are considered. Poorer health is generally found among women with no or many children, and among mothers with preschool-age children rather than just older ones (Geersten and Gray 1970; Haynes and Feinleib 1980; Muller 1984; Thompson and Brown 1980; Verbrugge 1986; Welch and Booth 1977; Woods and Hulka 1979).

## White Women and Black Women

In 1977-1978, 87 percent of women in the United States aged 17 to 64 were white and 12 percent were black. We examined the health data for the two races separately in the same manner as for all American women. Tables 4 and 5 present summaries of the results. Appendix tables 1 and 2 show the detailed rates for white and black women.

White women mirror the results for all women with very minor exceptions. Thus, statements in prior sections fit their situation and no further descriptions are needed.

Black women have a poorer health profile than whites in almost all respects. They have more short-term disability days each year and more chronic limitation, and they report worse overall health status. Black women generally have lower incidence rates for acute conditions, but their problems may be more severe since they often take more disability days per condition and opt more often for medical care. Nonemployed black women stand out with particularly poor health compared to nonemployed whites, having notably more short- and long-term disability. These race differences appear across all five age spans, tending to be small for young women aged 17 to 24 but becoming clear and pronounced from age 25 on. Most striking is the finding that the race difference in self-rated health status increases

TABLE 4  
 Summary of Social Role Differentials in Health for White American Women, Ages 17-64, 1964-1965 and 1977-1978<sup>a</sup>

	Percentage of ratios that show less morbidity and health care for:					
	Employed women		Married women		Mothers	
	1964-1965	1977-1978	1964-1965	1977-1978	1964-1965	1977-1978
Restricted-activity days	89%	95%	50%	76%	43%	62%
Bed-disability days	92	92	61	76	50	48
Chronic activity limitation	100	97	68	93	50	59
Excellent or good health	<sup>c</sup>	92	<sup>c</sup>	69	<sup>c</sup>	55
Acute condition incidence	62	33	52	69	41	52
Restricted-activity days per acute condition <sup>b</sup>	68	89	37	57	52	54
Proportion of acute conditions with both restricted activity and medical care	61	59	40	54	33	50
Proportion of acute conditions with restricted activity only	55	39	71	44	33	52
Proportion of acute conditions with medical care only	41	67	52	57	79	50

Source: National Health Interview Surveys for pooled years 1964-1965 and 1977-1978.

<sup>a</sup> See note a, table 3.

<sup>b</sup> Refers solely to acute conditions which had some restricted activity.

<sup>c</sup> Not asked in 1964-1965.

TABLE 5  
Summary of Social Role Differentials in Health for Black American Women, Ages 17-64, 1964-1965 and 1977-1978<sup>a</sup>

	Percentage of ratios that show less morbidity and health care for:					
	Employed women		Married women		Mothers	
	1964-1965	1977-1978	1964-1965	1977-1978	1964-1965	1977-1978
Restricted-activity days	90%	95%	65%	75%	65%	65%
Bed-disability days	95	95	60	65	30	45
Chronic activity limitation	90	95	70	95	45	70
Excellent or good health	<sup>c</sup>	100	<sup>c</sup>	75	<sup>c</sup>	35
Acute condition incidence	78	61	56	56	50	61
Restricted activity days per acute condition <sup>b</sup>	56	89	56	61	56	39
Proportion of acute conditions with both restricted activity and medical care	69	53	41	63	35	40
Proportion of acute conditions with restricted activity only	50	40	50	50	50	50
Proportion of acute conditions with medical care only	36	55	56	46	64	50

Source: National Health Interview Surveys for pooled years 1964-1965 and 1977-1978.

<sup>a</sup> Unemployed women are excluded from all comparisons because of small sample sizes. For the nonemployed/employed comparisons, ratios of NLF/E are computed within marital-parent-age groups (20 ratios). For nonmarried/married, ratios of NM/M are computed within employment-parent-age groups (20 ratios). For no children/children, ratios of NC/C are computed within employment-marital-age groups (20 ratios). Computation rules deleted ratios for small groups ( $n < 10$ ), 0.00 in numerator or denominator, and (for the three proportion variables) 1.00 in numerator or denominator.

<sup>b</sup> Refers solely to acute conditions which had some restricted activity.

<sup>c</sup> Not asked in 1964-1965.

sharply with age, so older blacks rate their health situation as being much worse than do older whites.

The links between roles and health are virtually the same for blacks as for whites. Employment and marital differentials are just as clear and strong for them. Thus, having a job or being married is consistently linked to good health, with employment having the stronger effects. Parenthood has smaller contingent effects (very similar to those for whites); for employed black women, mothers tend to have worse health than nonmothers. This difference is small for employed married women, but pronounced for nonmarried ones. Thus, employed nonmarried blacks with children are very disadvantaged in health compared to their nonparent peers. But among nonemployed (NLF) black women, mothers tend to have better health. This difference is especially large and clear for nonmarried women. Thus, nonemployed nonmarried black mothers are especially advantaged in health compared to their nonparent peers. (The supporting data for parenthood effects show that, among employed black women, mothers have more bed-disability days, worse self-rated health, more restricted-activity days per acute condition, and a larger fraction of their acute problems treated with both self-care and medical care. Among nonemployed black women, mothers have less short-term disability, better self-rated health, and less chronic-activity limitation. Acute health indicators show inconsistent results for the nonemployed women.)

Overall, for the eight role groups, the best health for black women is enjoyed by employed married women without children and the worst is endured by women with none of these roles (no job, spouse, or child). The rankings of role groups are the same for blacks as for all women and whites, differing only in the parenthood effect which separates employed married mothers (rank 1) from employed married nonmothers (rank 2).

Thus, despite significant differences in social status and economic well-being during their lives, black and white women with the same role combination have similarly good or poor health relative to their peers. This does *not* mean they have similar levels of health or similar rewards from their roles. Black women remain disadvantaged in social opportunities and health in all role groups.

In sum, for both white and black women, children seem to be a healthful preoccupation for nonemployed women. The situation changes

	White mothers vs. nonmothers	Black mothers vs. nonmothers
Employed married	Nil effect (no consistent differences)	Worse health in several respects (bed days, self-rated health, length of restriction for acute conditions); otherwise nil
Employed nonmarried	Worse health on several indicators	Worse health on most indicators
Nonemployed married (housewives)	Better health, except more acute conditions	Better health, except more acute conditions
Nonemployed nonmarried	Better health, except more acute conditions	Better health, even fewer acute conditions

FIG. 1. Summarizing the effects of parenthood on health for white and black American women, 1977–1978

for employed women. For both races, combining children with a job is linked with more health problems among nonmarried women. For blacks, this negative effect even surfaces for married women, but not for whites. The results suggest that marriage is a propitious context for women to have dual roles as jobholder and mother, but it offers less protection to blacks than to whites. And for both races, raising children and working without the help of a spouse is very difficult and may aggravate health. Figure 1 shows in brief the parenthood effects for white and black women; readers are invited to offer alternative explanations for them.

### Trends in Health of American Women

Has American women's health deteriorated in the past two decades? Popular articles claim that as more women have jobs and careers, pressures will rise as they try to combine job and family roles, and their health will suffer. Yet, the results above actually suggest the opposite, since being employed is linked to good health for both married and nonmarried women. As more women become employed and remain so for many years, they stand to benefit from the resources and satisfactions that jobs offer. Stresses from jobs and from coordinating family and work roles certainly exist, but they may commonly be

offset by the health-promoting aspects of paid work and careers. Should we actually expect that American women's health has improved in the recent past?

Let us start with data. Elsewhere, one of us has studied trends in American women's and men's health from 1957 to 1981 (Verbrugge 1984). We found that health profiles have worsened at all ages, especially middle (45 to 64) and older (65+) ones. In the United States population, we see increased short-term disability rates for both acute and chronic conditions, longer restrictions per acute condition, rising percentages with chronic activity limitation, higher prevalence rates for chronic diseases that are leading causes of death, and higher prevalence rates for common nonfatal chronic diseases. Why is this so? We argue that risks of acute and chronic disease have not increased profoundly over the period. Instead, the most likely reasons for the trends are lower mortality rates since the late 1960s, earlier medical diagnosis of chronic diseases, and greater willingness and ability to take short- and long-term disability. These, in turn, lead to more ill people being retained in the population, greater awareness of disease, and more care for illness—which have all propelled morbidity statistics upward. (For other discussions of health trends, see Colvez and Blanchet 1981; Manton 1982; Wilson and Drury 1984.)

### *Health Trends of Role Groups*

In the midst of this, what has happened to specific role groups of women? Using the two time points of 1964-1965 and 1977-1978, we examine trends for eight role groups of United States women. Nonemployed groups include NLF women only; unemployed women are excluded here. (Note that the trend analysis mentioned above uses annual rates for the period 1957 to 1981. Most of the health indicators in this analysis and the prior one are the same.)

From the mid-1960s to the late 1970s, *employed married* women's health profile was stable or even improved slightly. For both mothers and nonmothers, the data show a decline in chronic limitation, constant or declining acute incidence rates (for middle-aged women), fewer restricted-activity days per condition, and increased choice of self-care over medical care for acute problems. (Short-term disability rates showed variable changes across age groups. The only sign of worsening health was higher acute incidence rates for young women.) Traditional

housewives—*nonemployed married women with children*—also show signs of improved health. They have fewer disability days, less chronic limitation, and shorter restrictions for acute conditions in the late 1970s than earlier. These trends are small but very consistent across ages.

All other groups show worsening health over time. The shifts are modest for *nonemployed married women without children* and for *employed nonmarried* women (with or without children). The housewives have more chronic limitation, more disability days, and longer restrictions for acute conditions in the late 1970s. The others have more disability days, more chronic limitation at most ages, more acute conditions per year, and increased choice of restricted activity plus medical care for them.

Trends are most striking for *nonemployed nonmarried* women, with or without children. Short-term disability days, chronic limitation, acute condition incidence, length of restrictions for acute conditions, and choice of self-care plus medical care (together) have all increased sharply. The worsening trend is especially dramatic for older women aged 45 to 64.

All of these trends appear for white and black women separately. And they are highly uniform for the five age spans between 17 and 64.

### *Why Has Health Been Stable for Groups with Multiple Roles and Worsened for Groups with Few Roles?*

Assuming that the basic causes of trends (lower mortality, earlier diagnosis, more choice of disability) operate generally for American women, we must turn to other explanations for the diverse trends among role groups. The prime candidates are how roles influence health and selection into roles based on health.

We consider the groups with the clearest trends. Combining a job with marriage (*employed married* women) is apparently as propitious for health now as in the 1960s, and possibly more so. As opportunities for job advancement, assistance with domestic tasks and child care, and emotional support from husbands and friends increase over time, employed married women may gain ever-increasing benefits for their well-being. Stresses of multiple roles are no larger now than in the 1960s, and may even be less. The percentages of employed married

women have risen in all age groups of whites (but not for blacks). Thus, an increasing fraction of white American women enter role groups that manifest good health.

Some cautious thoughts about the positive trends for *housewives with children* indicate that although their percentages are declining for both races, women in this traditional homemaker position gain more health rewards now than their peers did earlier. Presumably, unenthusiastic women now manage to avoid the position by nonmarriage or nonmotherhood or leave it to take jobs. It is the nontraditional housewives—those without children—who are suffering worse health in the late 1970s than before.

At the other end of the spectrum are *nonemployed nonmarried* women. They are a rather small fraction of American women, but their percentage has increased sharply at all ages for blacks (and a very little for whites) since the 1960s. This is a very difficult social position for women, especially when children are present. It is likely that financial pressures and emotional stresses have been rising for them over time, in turn harming their physical and mental health. Increased selection is also a potential factor, if ill women are more able to quit work now than before.

In sum, the data show a worsening health profile for American women overall, but it cannot be attributed to rising proportions of employed women. Employed married women show no signs at all of reduced health. It is groups with few roles who show sharp declines. Absence of roles, not multiple roles, may be a causal factor for poor health—more so now than before.

### Modeling Social Role Effects for White Married Women

We conducted some analyses to test the statistical significance of results reported above. They are limited to white married women aged 25 to 64, who constitute the majority of all women of those ages (68 percent in 1977-1978, 71 percent in 1964-1965). The population studied was restricted to reduce the number of variables for multivariate analysis. Given the different experiences of women in different races and marital statuses, a model for all women would undoubtedly have numerous interactions involving those variables, and this would complicate interpretations. Similarly, the group aged

17 to 24 was excluded because role choices have not yet been made by many young women.

Models were fitted to five-way cross-classifications. There are four dichotomized independent variables:

Time	1977-1978 vs. 1964-1965
Age	25-44 vs. 45-64
Employment	Currently employed vs. not in the labor force
Children	Any child present in household vs. no child present

The dependent variable in each model is a health indicator entered as a rate or proportion.

A generalized weighted least-squares approach (GENCAT) was used to model the relations among the five variables. It excludes any random effects in the cross-tabulations caused by small group sizes. A backward elimination procedure was used. We first estimated a saturated model with all main and interaction effects. This model was then reduced by eliminating nonsignificant terms ( $P < .05$ ) until a final best-fit model was attained. The statistical approach is hierarchical; thus, whenever a significant interaction is included, all lower order effects for its predictors are included as well. Variance of estimates was calculated according to NCHS approximate variance formulas (see National Center for Health Statistics 1982, appendix I). The NHIS sample sizes for white married women aged 25 to 64 are 48,819 in 1964-1965 and 21,374 in 1977-1978.

The results of the model fitting are presented in tables 6 and 7. Table 6 records the terms included in each final model and the associated chi-square statistics. Table 7 records the smoothed rates obtained from each model. Readers can readily see the effects discussed below in those rates.

### *Employment*

Married white women who are employed have a much better health profile than nonemployed ones. They have fewer disability days per year, less chronic limitation, and less restricted time for acute problems. The differences are much larger among older women than younger ones. Selection may explain this: Women aged 25 to 44 have generally good health so it is not often a factor in employment. Chronic illness and impairment are more prevalent at older ages and they influence

TABLE 6  
 Best-fit Models of Time, Age, Employment, and Children Effects on Health of White Married Women,  
 Ages 25–64, in the U.S.<sup>a</sup>

Health indicator	Terms in model <sup>b</sup>	Statistics of fit ( $\chi^2$ , <i>df</i> , <i>p</i> )
Average number of restricted-activity days per year <sup>c</sup>	Age × employment Employment × children	6.87 10 .74
Average number of bed-disability days per year	Age × employment Employment × children	5.56 10 .85
Percentage with any activity limitation due to chronic condition <sup>d</sup>	Time × age × employment Employment × children	4.08 6 .57
Percentage with major-activity limitation due to chronic condition	Time × age × employment Employment × children	4.60 6 .60
Average number of acute conditions per year	Time × age Time × employment Children	8.96 9 .44

Health indicator	Terms in model <sup>b</sup>	Statistics of fit ( $\chi^2$ , <i>df</i> , <i>p</i> )	
Number of restricted-activity days per acute condition <sup>c</sup>	Age × employment Age × children	13.31	.21
Proportion of acute conditions with both restricted activity and medical care	(None)		
Proportion of acute conditions with restricted activity only	Time Children	11.55	.56
Proportion of acute conditions with medical care only	Age × children Time	11.35	.41

Source: National Health Interview Surveys of 1964-1965 and 1977-1978.

<sup>a</sup> Time is 1977-1978 vs. 1964-1965, age is 25-44 vs. 45-64, employment is currently employed vs. not in the labor force, children is any children present in household vs. no child present.

<sup>b</sup> The models are hierarchical, so only the higher order terms of each model are shown. All terms of the model can be determined from them.

<sup>c</sup> Models for the two disability day items are almost identical; the second item is a subset of the first.

<sup>d</sup> Models for the two limitation items are almost identical; the second item is a subset of the first.

<sup>e</sup> This is the average for acute conditions which had some restricted activity.

TABLE 7  
Smoothed Rates for Models of Time, Age, Employment, and Children Effects on Health of White Married Women in the U.S., based on best-fit models (table 6).

Time, age, children	Average number of restricted-activity days per year		Average number of bed-disability days per year		Percentage with any activity limitation due to chronic condition		Percentage with major-activity limitation due to chronic condition			
	Not in the labor force		Not in the labor force		Employed		Employed			
	Employed	Not in the labor force	Employed	Not in the labor force	Employed	Not in the labor force	Employed	Not in the labor force		
1964-1965	25-44	Child	13.4	17.4	5.0	6.5	7.6	9.5	3.9	4.9
		No child	13.1	23.0	4.6	8.9	7.9	15.9	4.0	10.4
	45-64	Child	13.5	24.0	4.5	7.7	11.1	18.5	6.7	11.1
		No child	13.2	29.6	4.1	10.2	11.5	25.0	6.8	16.6
1977-1978	25-44	Child	13.4	17.4	5.0	6.5	6.3	8.4	4.2	5.2
		No child	13.1	23.0	4.6	8.9	6.7	14.8	4.3	10.7
	45-64	Child	13.5	24.0	4.5	7.7	10.5	21.2	7.3	16.2
		No child	13.2	29.6	4.1	10.2	10.9	27.6	7.5	21.7

Time, age, children	Average number of acute conditions per year		Number of restricted-activity days per acute condition		Proportion of acute conditions with restricted activity only <sup>a</sup>		Proportion of acute conditions with medical care only			
	Employed	Not in the labor force	Employed	Not in the labor force	Employed	Not in the labor force	Employed	Not in the labor force		
1964-1965	25-44	Child	1.97	2.11	4.8	5.6	.35	.35	.28	.28
		No child	1.77	1.91	4.8	5.6	.30	.30	.29	.29
	45-64	Child	1.59	1.73	4.5	7.0	.35	.35	.26	.26
		No child	1.39	1.53	6.7	9.2	.30	.30	.35	.35
1977-1978	25-44	Child	2.33	2.23	4.8	5.6	.50	.50	.16	.16
		No child	2.13	2.03	4.8	5.6	.45	.45	.17	.17
	45-64	Child	1.63	1.53	4.5	7.0	.50	.50	.14	.14
		No child	1.43	1.33	6.7	9.2	.45	.45	.23	.23

Source: National Health Interview Surveys for 1964-1965 and 1977-1978.

<sup>a</sup> Smoothed rates for "proportion of acute conditions with both restricted activity and medical care" are not shown since no significant effects for T, A, E, or C were found.

women's employment status (some women quit their jobs or lose them, others do not seek jobs or cannot find one).

### *Children*

How children affect disability and limitations for white married women depends on employment status. Nonemployed married women (housewives) with children have much less short-term disability and chronic limitation than childless ones. By contrast, employed mothers and nonmothers have very similar levels of disability and limitation. As found earlier, mothers have more acute conditions per year than nonmothers do, but acute problems have less impact on mothers. They choose restricted activity without medical care more often. And they have shorter restrictions and less "medical care only" than nonmothers (these two facets are true for older women only). The reasons for these parenthood effects were noted in the descriptive section.

These contingent effects of children have not changed over time. Thus, motherhood had generally positive effects for housewives and no effects for employed women in the mid-1960s as well as the late 1970s.

### *Age*

Younger women have fewer disability days and less chronic limitation than older women. They have slightly more acute conditions per year, an age difference that is routinely true for Americans. But their problems may be less serious since they take fewer restricted-activity days per condition.

### *Time*

Over the past two decades, the percentages of white married women with any chronic limitation have fallen but the percentages with major activity limitation have increased. This seeming contradiction is due to opposite trends in secondary and major activity limitation. Problems in doing secondary activities diminished (this was determined by calculations on the smoothed rates). That downward trend exceeded the upward one for major activity limitation (except among older nonemployed women), so overall limitation rates also declined. The

increased trouble of doing one's major activity was especially great for older women and nonemployed ones, and greatest for women with both characteristics. Thus, older housewives report much more trouble doing housework in 1977-1978 than their peers in 1964-1965.

Why are white married women having *more* trouble with their principal daily activity but *less* doing errands, attending church and clubs, etc. than before? The former may reflect the higher prevalence of chronic problems (due to lower mortality) and greater ability to be disabled without penalty. Severely ill women are now rescued from death more often but may be too ill to work or even perform household tasks with ease. Older nonemployed women would manifest these trends most. The latter can reflect more adequate public aids for people with health problems (DeJong and Lifchez 1983). The importance of psychosocial factors in these trends is buttressed by another fact: Over the same time interval, there was no significant trend in short-term disability among white married women. Thus, whatever the causes, the decrease in basic role capabilities is not forcing women to stay in bed or to cut back more on their daily plans.

The incidence of acute conditions has risen for young women (especially employed ones, though this time/age/employment interaction is not significant). Incidence rates were stable or dropped for older women. At all ages, women's choice of care for acute conditions has shifted toward restricted activity only and away from medical care only. This trend shows up for American women in general—very clearly for whites, slightly less so for blacks—in the descriptive data too. It is an important shift over time which has not been previously documented for NHIS data.

### *Summary*

The statistical results concur closely with descriptive ones presented earlier, indicating that the latter are not results of random variations. The main effects of employment, the contingent effects of parenthood, and the time trends modeled here are the same as reported earlier. (Only two differences occur. First, among white married women, mothers have statistically more acute conditions than nonmothers. We saw this parenthood effect earlier for nonemployed married women, but not for employed ones [results were inconsistent]. The statistical analysis smooths those inconsistencies and reveals that employed mothers

also experience more acute conditions than their nonmother peers. Second, among white married women, older housewives show statistically increased chronic limitation over time. Earlier we saw a rise for housewives without children. The latter parenthood effect is statistically smaller than the age effect.) The singular advantage of the statistical analysis has been its ability to highlight interaction effects among the variables, some of which were not considered in the descriptive section.

Comparing the models, note how those for short- and long-term disability are very similar to each other but distinctly different from the acute-condition models. This means that social roles and age influence short- and long-term disability in the same way. Specifically, both are greater for older and nonemployed women, being especially high for older nonemployed women and housewives without children. By contrast, the most consistent factor affecting acute-condition incidence and impact is presence of children. Children increase their mothers' experience of acute problems but reduce the amount of recuperative time and medical care taken for them.

## Conclusion

Contrary to popular belief, having the triple roles of job, spouse, and mother is linked with the best physical health profile for American women (all women and whites). These women are on par with their employed married peers without children, who are often viewed as a more advantaged group. This does not mean that combining job and childrearing responsibilities is easy; the health benefits may be hard-won for some of the triple-role women.

At the other pole are women with neither job nor spouse. They have the poorest health situation, especially the nonmothers among them (all women, whites, blacks). Selection is certainly one factor since women with long-term illness or impairment find it hard to engage in both a job and marriage. But causation is also likely; namely, that lack of both a job and marital companionship may be stressful over the long run and take a toll on health.

The trends we found from the mid-1960s to the late 1970s buttress the view that roles have health-enhancing consequences. The health profile of American women overall has worsened in the past three decades. But that trend is concentrated among nonemployed nonmarried

women of both races. To a lesser extent, health has declined for employed nonmarried women and for nonemployed married women (housewives) without children. In sharp contrast to this, the health of employed married women remained stable or even improved a little. Thus, best and improving health are conjoined in the same role group, just as poorest and worsening are in another group.

The reasons for population health trends are multiple and complex, both medical and psychosocial. The fact that role groups have moved in such different directions is startling, and the pronounced decline for women with few roles is of concern. Has the lack of key roles become more stressful and worse for women's health over time? Have social policies made it easier for ill women to be out of the labor force, while economic pressures have urged relatively healthy ones into it? Are women with few roles now more willing to define themselves as disabled and ill than before? In sum, is the absence of roles an increasing risk factor for poor health or is it increasingly a catchment zone for women in very poor health?

Postulating causal and selective forces is much easier than demonstrating them empirically. Cross-sectional analyses like this one are informative. But to identify the processes that intervene between role occupancy and health, longitudinal—ideally prospective—data are necessary. That is a costly enterprise; current prospective studies should be adapted and their data exploited whenever possible. For other theoretical insights on the entwining of causal and selective processes, see Waldron (1980).

We now peruse the central hypotheses with an eye toward future research.

Causation may operate through the presence of roles or their absence. We have noted how role involvements offer rewards that can help maintain or even enhance individuals' health. It is also possible that lack of social responsibilities and ties poses enough stress for contemporary women so it damages their health. These are two different processes; one could be true and the other not.

The hypotheses are stated simply; social reality is certainly more complex. Having triple roles is, on balance, fulfilling for some women but overwhelming for others. Having few roles is distressing for some, but for others it is bliss. Having children without a spouse is very manageable for some women but defeating for others. Research must aim at finding the circumstances that make role combinations a positive,

or negative, experience for women and how that in turn influences short- and long-term health. There are undoubtedly many contingent results ahead.

Where do high rewards and great stresses reside? Some circumstances to consider are a woman's occupation, the ages and number of children she has at home, her social class, and satisfaction with her roles. Upper white-collar occupations offer higher incomes, more job security, and more skill development but also more responsibilities than lower blue-collar ones. Preschool children or numerous children pose more pressures to earn income (especially for nonmarried women) and a larger daily load of child care. Social class (measured by education, income, or an index) suggests whether employment is a matter of need or preference. Sociodemographic items like these give clues about role benefits and stresses, but it is even better to have data that ask women directly about them. In this vein, key items are how satisfied a woman is overall with each of her current roles or "nonroles." All in all, is she happy in her job, or is she happy not to have one? Is she satisfied with her marriage or with not being married? Does a mother feel she is a good parent toward her children, or does a nonmother wish she had them? Research has shown that satisfaction with one's main work role (job or housework) is a strong predictor of good health (Verbrugge 1982b) and that overall life satisfaction is linked to longer life (Mossey and Shapiro 1982; Palmore 1969). If we could add a single predictor to this analysis, it would be "preference for a job"; that is, whether a woman wants to be employed or not, apart from any needs for income. Both employed and nonemployed women are eligible for the question. In sum, the quality of one's roles may prove more important than their quantity in determining good physical and mental health outcomes (Baruch, Barnett, and Rivers 1983; Thoits 1983; Verbrugge 1986).

When roles are entered by choice rather than by constraint or chance, women are more likely to experience the positive rewards and gamely cope with the stresses their roles entail. Our analysis takes a positive tone about role involvements for women—because the data support it, and also to redress the imbalanced views in the popular press about troubles contemporary women face in jobs and at home. Many women, especially young ones, make conscious choices about their roles as jobholder, wife, and mother. Others engage in roles by

necessity, limited opportunities, and chance ("It just happened that way"). It is exactly these subjective and voluntaristic aspects of role involvements that may be crucial in determining health outcomes.

These causal hypotheses concern the ways in which roles influence health status. Another facet of social causation creeps into our disability and limitation measures; namely, how roles influence people's willingness and ability to adopt the sick role, and their preferences and access to kinds of therapeutic care. We noted that reluctance to take time off may partly explain why employed women have fewer restricted-activity days than nonemployed ones, and that child care demands may help explain why mothers restrict activities less for acute conditions than nonmothers do. Specific tests of this facet of causation are possible only in multivariate analyses on a wide array of health indicators, some measuring morbidity only and others measuring health behaviors taken for symptoms. (For further insight into the "sick role tendency" of employed people, see Geersten and Gray 1970; Nathanson 1980).

There is an equally great need to learn about social selection. How does poor health inhibit women from seeking or finding a job, urge or force them to quit working, reduce their chances of finding a mate, increase their chances of divorce or separation, and prevent or discourage them from having children? Selection comes partly from personal choices in the face of health problems, but more so from societal gateways. Large-scale economic and demographic opportunities and also legal requirements affect the openness of jobs and availability of mates. (For an insightful discussion of demographic changes that influence women's roles, see Davis and van den Oever 1982.) How much selection accounts for the healthiness of the employed and married populations is not known. Some evidence about selection—that unhealthy women tend to stay out of the labor force or leave it—has been recently reported (Chirikos and Nestel 1982, 1985; Waldron et al. 1982).

These questions about causation and selection are relevant for men as well as women. Employment, marriage, and parenthood are men's key adult roles too. The processes discussed above operate for men, though probably in different ways. For example, nonemployed married men have the poorest health profile of role groups (Verbrugge 1983b). This implies that ill/injured married men stay in the labor force as long as possible because of family financial responsibilities, and only

the most severely ill ones leave their jobs permanently. Comparable research can be performed for American men and would indicate how differently or similarly men and women respond to their role burdens and pleasures.

We conclude with some thoughts about American women's health in coming decades which spring from the role group differences and trends found in this analysis. The prospects for women's future health are optimistic. As more women become employed and have long careers, more will enjoy the financial, educational, social, and emotional benefits that employment offers. Though there are added pressures for women with multiple roles, the net impact on health seems to be positive. This is true in both the mid-1960s and the late 1970s, and will presumably be so for the future as well. Myriad personal and medical factors will influence women's future health, but the impact of a key one—employment—is likely to be positive. As data from the 1980s and 1990s become available, analyses should be undertaken to confirm or modify the trends we found here.

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*Address correspondence to:* Dr. Lois M. Verbrugge, Institute of Gerontology, 300 North Ingalls, The University of Michigan, Ann Arbor, MI 48109; or Dr. Jennifer H. Madans, National Center for Health Statistics, 3700 East-West Highway, Hyattsville, MD 20782.

APPENDIX TABLE 1  
 Health of White American Women by Social Role Groups, Ages 17-64, 1977-1978<sup>a</sup>

Age group	Average number of restricted-activity days per year			Average number of bed-disability days per year			Percentage with an activity limitation due to chronic condition			Percentage with excellent or good health			Average number of acute conditions per year		
	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF
<b>Ages 17-24</b>															
M, C	14.9	12.2	16.3	6.1	5.3	8.1	4.0%	4.7%	4.5%	91.4%	88.7%	89.8%	3.1	1.0	2.7
M, NC	13.0	20.5	19.1	5.5	6.2	8.0	3.5	3.0	6.8	93.9	89.6	88.1	3.2	2.7	2.9
NM, C	8.0	11.0	12.9	4.2	7.1	6.7	3.4	7.2	8.5	95.0	91.4	89.3	2.3	2.1	2.7
NM, NC	11.5	14.1	12.5	5.3	6.1	4.6	3.8	6.9	7.2	94.4	93.6	92.1	3.1	2.3	2.5
<b>Ages 25-34</b>															
M, C	15.2	27.0	16.3	5.3	11.2	6.0	5.4	8.2	6.5	92.8	89.3	91.8	2.6	2.3	2.6
M, NC	11.8	20.3	22.8	4.2	10.3	9.6	5.2	10.6	9.4	94.9	95.4	89.8	2.7	1.6	2.2
NM, C	16.1	41.5	27.6	6.0	13.3	11.4	6.1	16.0	20.3	90.9	82.4	77.6	3.0	3.3	3.0
NM, NC	15.3	30.8	37.4	5.8	10.6	16.6	7.7	11.5	37.3	93.4	89.8	72.2	3.1	2.8	1.5
<b>Ages 35-44</b>															
M, C	12.4	36.9	16.9	4.9	21.4	7.2	7.7	10.7	11.0	92.0	88.5	88.6	1.8	1.4	1.8
M, NC	12.8	43.6	25.2	5.1	13.6	9.3	8.1	19.5	20.0	89.2	85.6	78.5	1.9	1.8	1.5
NM, C	17.6	23.1	57.6	6.5	20.3	22.1	11.4	23.0	34.3	88.0	80.6	63.0	2.0	2.6	2.7
NM, NC	19.5	73.6	52.8	7.6	28.7	16.7	11.1	19.2	55.6	91.0	84.4	58.1	2.6	0.9	1.2
<b>Ages 45-54</b>															
M, C	12.5	23.4	24.0	5.0	8.2	7.1	9.2	16.9	19.6	89.4	84.5	80.5	1.8	1.4	1.5
M, NC	14.1	39.0	30.1	4.7	16.9	10.6	10.1	14.7	24.7	87.6	82.6	76.6	1.4	1.8	1.5
NM, C	22.0	51.9	59.9	5.4	2.6	23.7	12.5	18.9	51.0	84.6	96.2	55.7	2.4	2.9	1.6
NM, NC	17.1	39.6	76.8	5.4	18.6	33.2	13.3	41.6	54.5	88.8	73.7	53.6	2.2	0.5	2.3
<b>Ages 55-64</b>															
M, C	10.9	10.8	32.5	5.2	10.0	9.7	13.9	26.6	26.1	88.9	89.6	66.3	1.0	7.4	1.4
M, NC	13.5	42.7	29.4	4.2	10.2	11.1	12.7	20.2	29.4	84.8	83.3	68.5	1.4	0.8	1.2
NM, C	26.6	62.9	7.8	7.8	6	22.1	19.4	6	47.1	86.5	70.9	56.5	2.2	1.6	1.6
NM, NC	18.8	58.0	64.2	7.0	18.3	21.6	16.0	27.6	48.8	87.6	75.9	55.9	1.6	0.8	1.7

Age group	Number of restricted-activity days per acute condition <sup>b</sup>			Proportion of acute conditions with both restricted activities and medical care			Proportion of acute conditions with restricted activity			Proportion of acute conditions with medical care only		
	E	UE	NLF	E	UE	NLF	E	UE	NLF	E	UE	NLF
Ages 17-24												
M, C	4.7	8.2	6.2	.43	.43	.43	.46	.43	.39	.11	.14	.18
M, NC	4.1	5.8	6.0	.34	.44	.49	.53	.56	.39	.13	ε	.12
NM, C	3.3	4.8	4.8	.40	.30	.37	.48	.42	.36	.13	.27	.28
NM, NC	4.0	4.9	4.7	.36	.26	.33	.48	.61	.49	.16	.13	.18
Ages 25-34												
M, C	5.0	5.4	5.3	.34	.49	.33	.50	.46	.49	.16	.06	.18
M, NC	3.7	6.9	6.0	.31	ε	.42	.54	ε	.47	.14	ε	.11
NM, C	4.5	6.7	7.4	.31	.13	.44	.51	.61	.37	.18	.26	.20
NM, NC	4.4	9.5	7.5	.39	.75	.16	.49	.12	.67	.12	.12	.18
Ages 35-44												
M, C	4.3	18.9	5.0	.36	.28	.35	.48	.50	.48	.16	.21	.16
M, NC	5.0	13.0	8.9	.36	ε	.37	.40	.75	.51	.22	.25	.12
NM, C	7.3	4.9	9.7	.36	.19	.42	.40	.64	.44	.26	.17	.14
NM, NC	6.4	28.4	7.8	.38	ε	.42	.53	ε	.44	.14	ε	.14
Ages 45-54												
M, C	4.0	13.0	8.2	.33	.42	.36	.49	.39	.49	.18	.19	.15
M, NC	6.0	13.5	7.5	.37	.60	.32	.43	.18	.43	.20	.22	.25
NM, C	7.1	1.5	14.6	.29	ε	.45	.59	.68	.39	.12	.32	.16
NM, NC	5.8	16.6	12.0	.46	ε	.47	.42	ε	.41	.12	ε	.12
Ages 55-64												
M, C	7.0	4.0	7.9	.33	.36	.59	.67	ε	.22	ε	.64	.19
M, NC	7.5	ε	10.5	.28	ε	.37	.47	ε	.42	.25	ε	.21
NM, C	5.2	ε	13.5	.82	ε	.46	.18	ε	.46	ε	ε	.08
NM, NC	8.7	ε	11.1	.37	ε	.42	.39	ε	.38	.23	ε	.19

Source: National Health Interview Surveys for pooled years 1977-1978.

<sup>a</sup> A social role group is defined by employment-marital-parent status. Key to abbreviations: E-currently employed, UE-unemployed, NLF-not in labor force, M-currently married, NM-nonmarried, C-child(ren) present at home, NC-no children present at home. All statistics shown here are rounded from the original output.

<sup>b</sup> This is the average for acute conditions which had some restricted activity.  
<sup>c</sup> Rate is deleted because sample size for the role group is very small ( $n < 10$ ) or because rate is 0.00 (highly unstable). For the three acute condition proportion variables, proportions of 1.00 are also deleted.

APPENDIX TABLE 2  
 Health of Black American Women by Social Role Groups, Ages 17-64,  
 1977-1978<sup>a</sup>

Age group	Average number of restricted-activity days per year			Average number of bed-disability days per year			Percentage with any activity limitation due to chronic condition		
	E	UE	NLF	E	UE	NLF	E	UE	NLF
Ages 17-24									
M, C	14.3	9.9	27.7	7.4	4.7	14.3	2.9%	2.8%	3.7%
M, NC	13.7	11.6	19.2	6.3	3.3	12.7	2.9	°	5.2
NM, C	9.0	22.6	20.6	3.2	11.6	12.5	3.9	8.7	7.3
NM, NC	19.3	16.8	16.8	11.1	3.9	8.7	4.5	10.5	8.0
Ages 25-34									
M, C	13.6	25.8	21.6	6.5	20.5	9.3	4.1	12.0	9.2
M, NC	16.5	°	30.0	5.8	°	23.6	6.0	°	8.7
NM, C	24.2	18.4	33.9	11.1	13.2	16.4	6.0	14.5	24.6
NM, NC	27.3	°	90.2	8.4	°	64.3	7.5	°	32.4
Ages 35-44									
M, C	15.7	89.5	39.8	6.9	30.6	14.6	5.4	10.7	16.7
M, NC	13.3	°	23.9	4.5	°	17.7	7.7	°	19.0
NM, C	25.3	53.3	56.8	9.0	25.5	28.2	10.6	14.9	38.1
NM, NC	11.1	17.1	99.4	2.7	14.2	42.8	8.6	10.9	67.2
Ages 45-54									
M, C	12.4	80.1	33.4	7.8	9.4	16.5	8.4	29.9	31.4
M, NC	14.8	95.2	76.6	6.9	27.8	43.8	10.7	44.6	41.6
NM, C	22.0	13.2	82.0	6.2	°	38.3	19.4	21.3	54.6
NM, NC	23.0	50.6	102.0	8.5	15.3	31.6	9.9	36.3	72.8
Ages 55-64									
M, C	5.2	°	41.3	2.2	°	14.9	11.7	°	47.6
M, NC	19.7	°	44.6	2.9	°	10.1	10.8	°	42.8
NM, C	27.8	°	76.7	4.8	°	11.5	14.7	°	64.1
NM, NC	15.1	°	90.4	4.2	°	35.2	18.5	°	71.6

APPENDIX TABLE 2 (cont.)

Percentage with excellent or good health			Average number of acute conditions per year			Number of restricted activity days per acute condition <sup>b</sup>		
E	UE	NLF	E	UE	NLF	E	UE	NLF
84.3%	90.6%	83.5%	2.8	3.9	2.3	5.6	2.6	8.4
91.3	93.6	86.4	3.1	3.3	3.9	3.8	6.0	4.5
87.9	83.1	83.6	1.8	3.4	2.0	4.3	7.4	8.9
90.8	81.3	87.4	3.9	2.0	2.5	5.0	1.0	5.9
87.2	86.4	80.4	1.9	2.8	1.7	5.1	8.8	9.7
91.8	°	59.7	3.7	°	1.0	3.9	°	21.3
81.8	71.1	63.7	3.2	2.4	2.0	7.2	7.6	9.4
84.9	°	59.9	2.7	°	2.7	4.7	°	14.0
83.3	70.2	68.7	2.0	3.6	2.4	6.9	18.1	8.7
86.6	°	60.3	1.1	°	°	9.5	°	°
77.0	74.4	44.2	2.2	0.9	2.2	8.8	25.0	11.7
83.0	89.1	35.5	2.1	°	3.3	8.2	°	9.5
70.5	53.6	49.5	0.5	°	1.4	5.3	°	6.8
76.2	56.7	52.4	2.3	3.2	1.3	3.0	10.5	21.2
64.0	48.1	39.5	1.8	3.1	0.6	7.0	°	40.1
75.9	52.5	24.0	0.8	2.3	1.4	23.0	9.1	9.6
62.5	°	51.0	°	°	1.8	°	°	14.4
71.8	°	45.8	1.4	°	1.5	7.5	°	8.4
67.9	°	33.9	0.6	°	1.8	33.8	°	6.6
73.1	°	32.7	1.2	°	2.6	4.9	°	10.2

Source: National Health Interview Surveys for pooled years 1977-1978.

<sup>a</sup> A social role group is defined by employment-marital-parent status. Key to abbreviations: E-currently employed, UE-unemployed. NLF-not in labor force, M-currently married, NM-nonmarried, C-child(ren) present at home, NC-no children present at home. All statistics shown here are rounded from the original output.

<sup>b</sup> This is the average for acute conditions which had some restricted activity.

<sup>c</sup> Rate is deleted because sample size for the role group is very small ( $n < 10$ ) or because rate is 0.00 (highly unstable). Data are not shown for the acute condition proportion variables, due to many small cell sizes.

*Think where man's glory . . .*

*Think where man's glory most begins and ends,  
And say my glory was I had such friends.*

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*National Institute on Aging/NIH*

Lawrence D. Brown  
*University of Michigan*

Peter P. Budetti  
*House Committee Staff,  
U.S. Congress*

Ira Burney  
*Washington, D.C.*

Daniel Callahan  
*Hastings Center*

Colin D. Campbell  
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Ann Cartwright  
*Institute for Social Studies in  
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*House Committee Staff,  
U.S. Congress*

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