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ABSTRACT

The two papers in this report focus on some of the social, demographic, and economic consequences of the increasing entry of women into the workforce. Arthur Norton and Louisa Miller in "The Family Life Cycle: 1985" show trends in the frequency and timing of marriage, divorce, remarriage, and fertility across several generations of women. Martin O'Connell in "Maternity Leave Arrangements: 1961-85" presents research on factors associated with childbearing and labor force participation. Data from Norton and Miller's study show that younger cohorts of women had a tendency to marry later, begin childbearing later, and have fewer children. They also divorced more often and did so at a younger age than women in older cohorts. Despite within-cohort differences, members of the same birth cohort showed an overriding commonality with respect to basic patterns of life cycle change. O'Connell's study found that women most likely to work during their first pregnancy were relatively older, white, and at least high school graduates. Among women who did work during pregnancy, teenagers, black women, and high school dropouts were most likely to return to work within 6 months of their child's birth. Between the 1961-65 and 1976-80 periods, women most often quit their jobs during pregnancy; by 1981-85, almost one-half of all women received maternity benefits while only 28 percent reported quitting their jobs. (RH)

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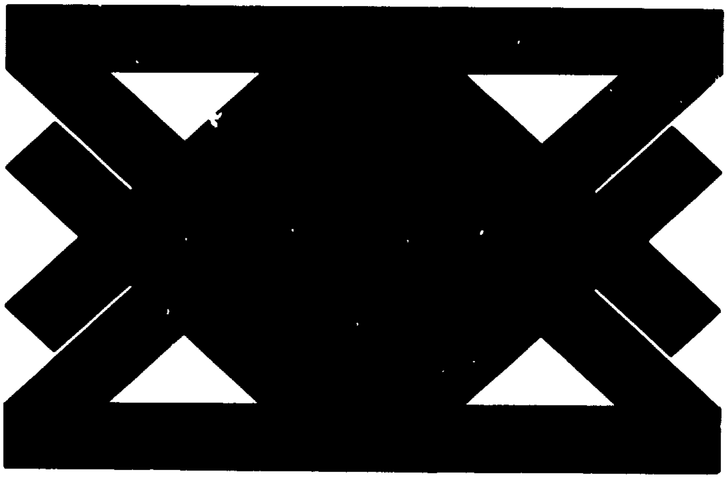
Work and Family Patterns of American Women



The Family Life Cycle: 1985
Maternity Leave Arrangements: 1961-85

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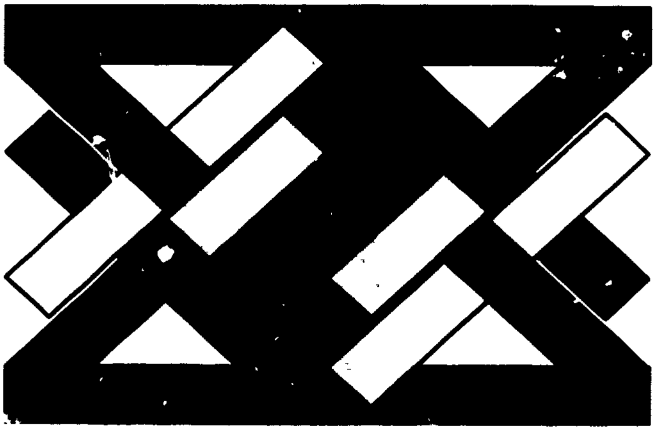
Work and Family Patterns of American Women



The Family Life Cycle: 1985
Maternity Leave Arrangements: 1961-85

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Preface

An implicit redefinition of the roles of women in U.S. society is among the most important social and cultural transformations of the past several decades. There is now a broader acceptance of the involvement of women in activities beyond those of wife and mother and consequently, the array of options available to American women is wider than ever before. Gains in post-secondary education and in employment and earnings by women are associated with this broadening social perspective about women. It is unclear what forces are most responsible for these changes, although economic needs, technological improvements in fertility control, and a drive toward self actualization in one's chosen field of concentration are all certainly contributors.

The papers in this report focus on some of the social, demographic, and economic consequences of the expanding roles for women. Arthur Norton and Louisa Miller in "The Family Life Cycle: 1985" show trends in the frequency and timing of marriage, divorce, remarriage, and fertility across several generations of women. Martin O'Connell in "Maternity Leave Arrangements: 1961-85" presents research on factors associated with childbearing and labor force participation.

Table of Contents

Preface iii

The Family Life Cycle: 1985

By Arthur J. Norton and Louisa F. Miller

Introduction 1
Data and definitions 1
Differences between cohorts 2
  Overall trends 3
  Mothers still in their first marriage 3
  Mothers with marital disruptions 3
Characteristics of recent cohorts 3
  Mothers still in their first marriage 5
  Mothers with marital disruptions 6
Childless women 7
Discussion 9
References 9
Figure 10
  Women who experienced certain life-cycle events, by year of woman's birth: June 1985 1
Tables
  A. Ever-married mothers at stages of the family life cycle, by year of birth: 1985 2
  B. Once-married, currently married mothers at stages of the family life cycle, by year of birth: 1985 3
  C. Once-married, currently divorced mothers at stages of the family life cycle, by year of birth: 1985 4
  D. Twice-married, currently married mothers at stages of the family life cycle, by year of birth: 1985 4
  E. Ever-married mothers born from 1940 to 1944 at stages of the family life cycle, by selected social and economic characteristics: 1985 6
  F. Once-married, currently married mothers born from 1940 to 1944 at stages of the family life cycle, by selected social and economic characteristics: 1985 7
  G. Once-married, currently divorced mothers born from 1940 to 1944 at stages of the family life cycle, by selected social and economic characteristics: 1985 8
  H. Twice-married, currently married mothers born from 1940 to 1944 at stages of the family life cycle, by selected social and economic characteristics: 1985 8
  I. Ever-married childless women at stages of marital life, by year of birth: 1985 9

Maternity Leave Arrangements: 1961-85

By Martin O'Connell

Introduction 11
  Work history during pregnancy 11
  Maternity leave 11
  Returning to work 11
Definitions and population coverage 11
Social and economic circumstances of the first birth 12
  Consequences of delayed childbearing 12
Employment status during first pregnancy 13
  Overview of trends 13
  Women who work during first pregnancy 14
  Three illustrative profiles of working women 15
Duration of work during first pregnancy 16
  Overview of trends 16
  Women who work the longest 16
Maternity leave arrangements: 1961-85 17
  Changes in leave arrangements: an overview 17
  Current leave arrangements: 1981-85 18
  Job quitting during pregnancy: 1961-65 19
  Maternity leave during pregnancy: 1961-85 20
Returning to work 21
  Overview of trends 21
  Prior work experience during pregnancy 22
  Maternity benefits and returning to work 22
  Likelihood of a rapid return to work 23
  Re-entry by former workers 25
Conclusions 25
References 27

Figures

1. Educational attainment of women at the time of their first birth: 1970 and 1985 12
2. Women who worked continuously for pay 6 or more months before their first birth, by race: 1961-65 and 1981-85 13
3. Women who worked during their first pregnancy: 1961-65 to 1981-85 13
4. Women who worked during their first pregnancy, by illustrative profiles: 1961-65 to 1981-85 15
5. Women working during their first pregnancy, by month before birth: 1961-65 to 1981-85 16
6. Percentage of women who quit their jobs before their child's birth, by race: 1961-65 to 1981-85 20
7. Women working at a job, by interval after first birth: 1961-65 to 1981-84 21
8. Percentage of women returning to work less than 6 months after first birth, by month left work during pregnancy: 1981-84 22
9. Percentage of women returning to work less than 6 months after first birth, by maternity benefit receipt: 1961-65 to 1981-85 23

Tables

A. Distribution of women, by age at first birth: 1960-85 12
B. Women working full time at last job held during pregnancy: 1961-65 to 1981-85 14
C. Women who worked during their first pregnancy, by selected characteristics: 1961-65 to 1981-85 14
D. Leave arrangements used by women who worked during their first pregnancy: 1961-65 to 1981-85 17
E. Type of leave arrangements used by women who worked during their first pregnancy: 1981-85 18
F. Logistic regressions for using a specific type of leave arrangement for first births: 1981-85 19
G. Degree of employer payments for maternity leave for the first birth: 1961-65 to 1981-85 20
H. Employer payments for maternity leave for first births: 1981-85 21
I. Women working full time at first job after birth of first child, by interval after birth: 1961-65 to 1981-84 22
J. Female employees, median years of tenure, and median age of employees for selected occupations: 1987 23

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K. Model-based estimated percentages of women working during first pregnancy and working less than 6 months after birth of first child: three illustrative cases, 1961-65 to 1981-85 24
L. Total amount of time lost before and after first birth among women employed during their first pregnancy: 1961-65 to 1981-85 26

Appendixes

A. Educational Attainment Data in SIPP 28
  A-1. Educational attainment of women at the time of their first birth 28
B. Detailed Tables 29
  B-1. Educational attainment of women at the time of their first birth: 1970 to 1985 29
  B-2. Women who worked for pay continuously for 6 or more months before their first birth, and who worked during their first pregnancy, by race: 1961-65 to 1981-85 30
  B-3. Distribution of women, by year of first birth, age at first birth, and employment status during pregnancy, by race: 1961-65 to 1981-85 31
  B-4. Logistic regression for odds of working during first pregnancy: 1961-65 to 1981-85 32
  B-5. Women at work during their first pregnancy and after their first birth, by monthly interval before and after first birth and employment status during first pregnancy: 1961-65 to 1981-85 33
  B-6. Women who worked during their first pregnancy, by when they stopped working before first birth: 1961-65 to 1981-85 35
  B-7. Women who worked during last trimester of first pregnancy or worked within one month of child's birth, by selected characteristics: 1961-65 to 1981-85 36
  B-8. Logistic regression for odds of working in last trimester of pregnancy among employed women: 1961-65 to 1981-85 37
  B-9. Distribution of type of leave arrangements used by women who worked during their first pregnancy
    A. First births, 1976-80 38
    B. First births, 1971-75 39
    C. First births, 1966-70 40
    D. First births, 1961-65 41
  B-10. Logistic regression for odds of quitting job before birth of first child: employed women, 1961-65 to 1981-85 42
  B-11. Logistic regression for odds of receiving employee maternity benefits for the first child: employed women, 1961-65 to 1981-85 43
  B-12. Women who worked after their first birth, by interval after the first birth: 1961-65 to 1981-84 44
  B-13. Women returning to work less than 6 months and less than one year after the birth of their first child, by selected characteristics: 1961-65 to 1981-84 45
  B-14. Logistic regression for odds of working less than 6 months after birth of first child: all women, 1961-65 to 1981-84 47
  B-15. Logistic regression for odds of returning to work less than 6 months after first birth: women employed during pregnancy, 1961-65 to 1981-85 48
  B-16. Logistic regression for odds of returning to work 6 to 11 months after first birth: women employed during pregnancy, 1961-65 to 1981-84 49
Appendix C. Overview of the SIPP Program 50
Appendix D. Facsimile of SIPP Questionnaire 51

Source and Accuracy of Data

Source of data 53
Accuracy of estimates 54

Tables

A. Standard error parameters for CPS estimates 56
B. Standard error parameters for CPS fertility ratios 56
C. SIPP selected generalized variance parameters for use with combined data from the 1985 panel 57

The Family Life Cycle: 1985

By Arthur J. Norton and Louisa F. Miller

Introduction

During the last few decades, important social, economic, and demographic trends have added to the number of events signaling major transitions in the lives of families and individuals. In social science research, these transitions have been recognized and categorized for creating a construct called the family life cycle (FLC) (Loomis, 1936; Glick, 1947; Duvall, 1971). Glick (1989) provides a particularly useful history of family life cycle studies in the context of social research. Family life cycle measures provide a statistical perspective to observe the frequency and timing of important events influencing a family's structure as it passes through its life course. The FLC is a descriptive tool that permits analysis of the family as a dynamic entity changing as members flow from one status to another.

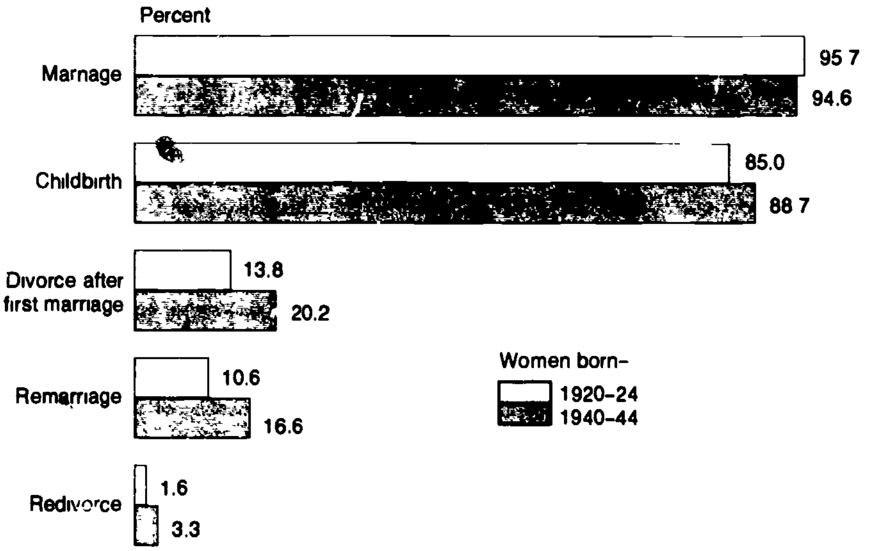
One common type of analysis based on FLC measures involves determining the economic circumstances of families at various life cycle stages to more fully understand the relative economic needs of families as they move through the life cycle (Murphy and Staples, 1979). Another type of life cycle analysis concentrates on major social and demographic changes—trends in fertility, age at marriage, marriage dissolution—and how these trends alter the frequency and timing of FLC events.

Early FLC studies considered basic life cycle stages to include first marriage, birth of first child, birth of last child, last child leaving home, and death of spouse. These stages represented the typical family as it passed from the beginning to the end of its "life." Recent shifts in patterns of marriage, fertility, and divorce have added several important dimensions to the FLC. As behavior that was once atypical has become more nearly typical, the typology of traditional life cycle stages has had to be modified to accurately describe contemporary family development.

At a minimum, additional FLC stages of divorce and remarriage were needed in order to take account of two events that are increasingly common in the lives of people and families. Studies estimate that at least one-half of all recent marriages can be expected to end in divorce and that the majority of divorced persons will eventually remarry (Norton and Moorman, 1987; Martin and Bumpass, 1989). The addition of these stages brings new complexity to FLC analysis insofar as the extended FLC measures begin to describe events occurring to more than one family. For example, divorce can be defined as effectively ending the existence of one family while creating one or more new families. Similarly, remarriage can be defined as creating a new family while ending one or more previously existing families.

The figure illustrates the character of change in life course experiences of women approximately one generation apart. It shows the frequency with which women experienced various life course events according to whether they were born during the 1920-24 or 1940-44 periods. Clearly, the younger women are more likely to have ended a marriage in divorce, to have remarried, and to have redivorced. There is no statistical difference between the two groups of women in the proportion ever married. A higher proportion of the younger women had ever borne a child reflecting the generally declining rate of childlessness among women born between 1900 and 1940 (U.S. Bureau of the Census, 1984 and U.S. National Center for Health Statistics, 1988). (For cohorts born in 1940-44 and later, the rate of childlessness has increased.) Thus, the most dramatic changes between the two groups of women have involved the likelihood of divorcing and remarrying.[1] Redivorcing is also increasing but affects such a small minority of women that it is not reasonable to consider it a major life cycle event. The differences between the two groups of women in the proportion experiencing divorce, remarriage, and redivorce will become

Figure
Women Who Experienced Certain Life Cycle Events, by Year of Woman's Birth: June 1985



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[1] The increase in the proportion of women remarrying between the 1920-24 birth cohort and the 1940-44 birth cohort (+6.0 percent) is statistically different from the increase in the proportion of women having children between the same two cohorts (+3.7 percent) at the 87-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

even more striking when the younger women eventually complete their divorcing and remarrying; activities the older group, on average, has completed. The important point is that the family life cycle increasingly involves transitions associated with divorce and remarriage and that a statistical portrayal of the modern family life cycle would be seriously deficient without including these events as explicit stages. Norton (1983), Hill (1986), and Hohn (1987) are among the researchers who have attempted to adapt the FLC to accommodate some of the important new events common to modern families.

One way to present FLC measures so that they reflect the current realities of family living is to show data for several family types. This paper offers information on major FLC events for different "family types" characterized by the marriage and fertility histories of women. Each family type's FLC data are represented by the median age of women at various FLC stages. The presumption is that the frequency and timing of life course events for women mirrors those of their families. Family life cycle measures thus presented indicate significant points of stress and/or need during the lifetime of families.

Data and Definitions

The data used for this paper were collected in a marriage and fertility history survey conducted by the Bureau of the Census in 1985. The survey was sponsored by the National Institute of Child Health and Human Development (NICHD) and was a supplement to the June 1985 Current Population Survey (CPS). The survey asked detailed questions about the marriage and fertility histories of women in a national sample of approximately 60,000 households. Answers to the questions provided the basis for calculating the statistics on the frequency and timing of marriage, divorce, remarriage, and childbearing shown in tables A through I. The 1985 survey is the latest in a series of quinquennial surveys on marriage and fertility done by the Census Bureau with the sponsorship of NICHD. Several studies of the family life cycle have focused on data from earlier surveys in this series (Norton, 1974; Spanier and Glick, 1980; Norton, 1980; Norton, 1983).

This paper examines the marriage and fertility experiences of women born between 1920 and 1954. For the most part, the analysis concentrates on mothers but some data are shown for the marital histories of women who have never borne a child. The tables show data for 5-year birth cohorts of women according to marriage history, race and Hispanic origin, education, and family income in order to provide a basis for comparing FLC information across demographic, social, and economic strata.

The maximum number of FLC stages shown in this paper is six: age of women at 1) first marriage, 2) birth of first child, 3) birth of last child, 4) separation before divorce after first marriage, 5) divorce after first marriage, and 6) remarriage after divorce (for women married twice). Notably missing from this typology are the traditional FLC stages indicating the age of a woman when her last child left home and at the death of her spouse. These two stages have been omitted from this presentation for different reasons. In the case of the "last-child-left-home" stage, previous measures were based on the assumption that the child left the parental home when he or she married for the first time. Recent trends toward later age at marriage, the relative fluidity of young adult living arrangements as they move from and to their parents' homes, increased formation of one-person households among young adults, and more extensive cohabitation involving young adults in nonfamily households have rendered that assumption obsolete (U.S. Bureau of the Census, 1989). There is currently little empirical evidence available to use as an alternate measure.

Unquestionably one of the most important demographic trends in recent times is the increased longevity of both men and women. For marriages that survive to the death of a spouse, this development means a much longer post-childbearing interval shared by couples. However, the "death-of-a-spouse" stage has not been used in this analysis because of the concentration on women of relatively young ages, the oldest being 65 in 1985. The age restriction was imposed to give more emphasis to the impact of social trends in marriage, separation, divorce, and remarriage after divorce on the family life cycle.

Table A.
Ever-Married Mothers at Stages of the Family Life Cycle, by Year of Birth: 1985

Stage	All mothers born 1920-54	Birth cohort						
		1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54
Total (in thousands)	40581	4819	5181	4930	5199	6212	7118	7122
Median age at—								
First marriage	20.4	21.0	20.7	20.2	19.9	20.3	20.5	20.3
Birth of first child	22.3	23.3	22.7	22.0	21.5	21.9	22.4	22.4
Birth of last child	28.8	31.5	31.1	30.1	28.7	28.0	27.9	27.3
Years between age at—								
First marriage and first birth	1.9	2.3	2.0	1.8	1.6	1.6	1.9	2.1
First birth and last birth	6.5	8.2	8.4	8.1	7.2	6.1	5.5	4.9
Average number of children per woman	2.89	3.18	3.38	3.45	3.27	2.82	2.44	2.20

Differences Between Cohorts

Overall Trends

Tables A to D present data on the timing of major transitions during the life courses of several different family types. Table A shows family life cycle measures for the 40.6 million women born between 1920 and 1954 who had ever been married and borne a child by the survey date. Comparing behavior of the different 5-year age cohorts of women from the oldest (those born from 1920 to 1924) to the youngest (those born from 1950 to 1954), the data show a trend over time of an increase in fertility followed by a decline (as measured by the average number of children ever born per woman). The estimates of age at first marriage show a decrease followed by an increase. The shift toward lower fertility and later age at marriage appears to have occurred among women born in the latter half of the 1930's and the first half of the 1940's. Women born in the 1950–54 period were still in their early thirties when the survey was taken and had not yet completed their marriage and childbearing experiences. Once they have completed marriage and childbearing, it seems likely that the age at first marriage estimate for these women will increase as compared with the previous cohort, while the average number of children born by women in this group will decrease slightly, as women who begin their childbearing at later ages generally complete their reproductive lives with smaller families.

The age of ever-married women at the birth of their first child varied across cohorts in a similar fashion to age at first marriage. However, the age of women at the birth of their last child has steadily decreased over time, as family size has decreased for cohort families since the late 1930's. Consequently, the younger cohorts have spent increasingly fewer years bearing children. Overall, one would expect that women will follow, with some degree of variation, the basic patterns shown in table A, regardless of family type.

Mothers Still In Their First Marriage

Table B shows FLC information for once-married mothers who were still in their first marriage at the time of the survey. Age at first marriage for these women decreased for successively younger cohorts of women born between 1920 and 1939 and increased for each successive cohort born after 1939,[2] the same trend as for all ever-married mothers. A similar trend exists regarding age of mothers at the birth of their first child with the cohort of women born between 1940 and 1944 serving as the turning point beginning a trend toward later age at first birth. The data also indicate the interval between first marriage and first birth declined across cohorts born before 1940 but increased for those born in 1940 or later. This increase for younger women is consistent with the recent pattern of delaying childbearing which may, in turn, be related to timing concerns associated with career and education activities of young women. Age of women at the birth of last child shows a fairly steady decline across cohorts from the oldest to the youngest women.

Among women born before 1940, the average number of children ever born fluctuated between 3.2 and 3.4 births per woman. For women born in 1940 or later, the average number of children ever born per woman declined from 2.8 for the 1940–44 cohort to 2.2 for the 1950–54 cohort. Overall, the data for women born since 1940 indicate a now familiar pattern of change in the direction of later onset of childbearing, fewer children, and earlier completion of childbearing.

Table B.
Once-Married, Currently Married Mothers at Stages of the Family Life Cycle, by Year of Birth: 1985

(Excludes separated women)

Stage	All mothers born 1920-54	Birth cohort						
		1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54
Total (in thousands)	25194	2645	3203	3118	3262	3795	4497	4674
Median age at—								
First marriage	20.9	21.5	21.0	20.5	20.3	20.9	21.2	21.0
Birth of first child	22.9	23.9	23.2	22.4	21.9	22.6	23.2	23.4
Birth of last child	29.2	32.1	31.3	30.2	28.9	28.6	28.6	28.0
Years between age at—								
First marriage and first birth	2.0	2.4	2.2	1.9	1.6	1.7	2.0	2.4
First birth and last birth	6.3	8.2	8.1	7.8	7.0	6.0	5.4	4.6
Average number of children per woman	2.85	3.19	3.29	3.40	3.20	2.77	2.46	2.21

Mothers with Marital Disruptions

Tables C and D show FLC data for women whose first marriage had ended in divorce but who had not remarried (table C) and for women who were in a remarriage after ending a first marriage in divorce (table D). These data show that having had a divorce and being remarried after divorce are behaviors associated with distinct timing of FLC measures. For example, mothers born before 1940 who were divorced after

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[2] The median age at first marriage for the 1950–54 birth cohort of mothers will most probably rise further as more of the birth cohort both marry for the first time and have children for the first time.

Table C.
Once-Married, Currently Divorced Mothers at Stages of the Family Life Cycle, by Year of Birth: 1985

Stage	All mothers born 1920-54	Birth cohort						
		1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54
Total (in thousands)	3590	287	334	370	449	656	776	720
Median age at—								
First marriage	20.4	21.9	21.5	21.2	20.2	20.1	20.0	19.8
Birth of first child	22.0	23.7	23.2	22.8	22.1	21.5	21.7	20.8
Birth of last child	27.2	31.0	30.4	29.1	28.5	27.0	26.3	24.0
Separation before divorce	32.7	44.0	43.7	40.2	37.5	34.4	31.2	27.3
Divorce	34.2	46.3	46.3	41.5	39.5	36.1	32.5	28.7
Years between age at—								
First marriage and first birth	1.6	1.8	1.7	1.6	1.9	1.4	1.7	1.0
First birth and last birth	5.2	7.3	7.2	6.3	6.4	5.5	4.6	3.2
Average number of children per woman	2.65	3.04	3.23	3.17	3.14	2.72	2.33	1.93

Table D.
Twice-Married, Currently Married Mothers at Stages of the Family Life Cycle, by Year of Birth: 1985

(Excludes separated women and women whose first marriage ended in widowhood)

Stage	All mothers born 1920-54	Birth cohort						
		1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54
Total (in thousands)	4485	311	374	512	588	787	957	957
Median age at—								
First marriage	19.0	19.1	18.9	18.6	18.8	19.2	19.3	19.0
Birth of first child	20.3	21.9	21.7	20.4	20.4	20.6	20.8	21.0
Birth of last child	27.6	28.8	29.9	28.7	27.5	26.9	26.8	26.8
Separation before divorce	26.1	27.8	27.1	28.9	28.9	27.6	25.7	23.9
Divorce	27.3	28.9	29.2	30.5	30.2	28.8	26.7	25.0
Remarriage	30.9	35.4	34.5	35.1	34.9	33.3	30.1	28.1
Years between age at—								
First marriage and first birth	1.8	2.8	2.8	1.8	1.6	1.4	1.5	2.0
First birth and last birth	6.8	6.9	8.2	8.3	7.1	6.3	6.0	5.8
Average number of children per woman	2.76	2.78	3.23	3.47	3.28	2.82	2.39	2.19

their first marriage and who had not remarried generally had comparatively older ages at first marriage than twice-married mothers who had divorced after their first marriage. Mothers born in 1940 or later who divorced after their first marriage but did not remarry had a lower age at first marriage than mothers in an intact first marriage but a higher age at first marriage than mothers who divorced and remarried.[3] This pattern of difference in age at first marriage for the younger cohorts is consistent with the findings reported by Norton and Moorman (1987) indicating an inverse relationship between age at first marriage and likelihood of divorce.

Mothers in a remarriage (whose first marriage had ended in divorce) had the youngest age at first marriage of the three marital history groups (family types), as well as a considerably younger age at separation before divorce and age at divorce than women who divorced but never remarried. Thus, across family types, mothers born between 1920 and 1954 who were still in their first marriages generally had the highest fertility.[4] Among younger women (those born in 1940 or later), an older age at first marriage characterizes women still in their first marriage.[5] Among the ever-divorced mothers, early marriage and divorce characterize women who divorce after first marriage and subsequently remarry.

Women born in 1940 and later were still in their thirties and early forties when the survey was taken and had not completed their marriage, divorce, and childbearing careers. The ages at FLC events shown for these women will increase as these women finish marrying, divorcing, remarrying, and having children. It does not seem likely, however, that the basic comparative patterns across cohorts and across family types will be altered.

Unlike the pattern for women of other family types, women who divorced after their first marriage but had not remarried by the time of the survey showed an across-cohort general decline in both age at first marriage and in age at the birth of first child. These women also show declining fertility (after the 1920–24 birth cohort) and markedly declining age at divorce when comparing cohorts from the oldest to the youngest women. Not surprisingly, since these women ended their only marriage in divorce, they also have lower overall fertility than women in either of the other two family types.[6]

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[3] For the 1940–44 birth cohort, the difference between the median age at first marriage for once-married, currently married mothers (20.9 years) and for once-married, currently divorced mothers (20.1 years) is significant at the 85-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[4] The difference between the average number of children ever born to mothers still in their first marriages (2.85) and to mothers in a remarriage after a divorce (2.76) is significant at the 87-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[5] See footnote 3.

Women who remarried after their first marriage ended in divorce (table D) show little change in age at first marriage across cohorts. Age at first marriage occurred at around 19 years for women regardless of their year of birth. These women also had a comparatively younger age at the onset of childbearing especially for women born starting in the 1930's.[7] (There seems to be a general positive relationship between age at first marriage and age at the beginning of childbearing for women regardless of year of birth or family type such that the direction of change if not the magnitude is similar.)

The span of childbearing years (the difference between the ages at birth of first and last children) for women who divorced and remarried was slightly longer than that of women still in their first marriage and considerably longer than that of women who divorced but did not remarry. The latter's fertility was probably truncated prematurely by separation and divorce, while fertility for women who divorced and remarried was only interrupted by separation and divorce. Fertility for women of each family type followed the same general pattern of across-cohort shifts from a period of increasing fertility among the older cohorts to one of decline among the younger cohorts.[8]

Differences shown in table D between cohorts in ages at divorce and remarriage indicate no significant variation between the groups of women born before 1940 but decreasing ages at these events for women born in 1940 or later.

The data in tables A through D show differences in FLC measures according to birth cohort and family type. Even though there are clear differences in FLC measures according to family type, there seem to be overriding patterns of behavior among mothers in specific birth cohorts (e.g., declines in fertility among younger women as compared with an increase in fertility among successive cohorts born before 1935, a decline in age at first marriage across cohorts for mothers born before 1940, and a subsequent increase in age at first marriage across cohorts born in 1940 or later).[9] This suggests that all women may respond in a general way to the prevailing conditions unique to historical time. To further pursue this possibility the next section of the paper presents FLC information for selected groups of women according to social and economic characteristics as well as according to birth cohort and family type.

Characteristics of Recent Cohorts

Many things can have an effect on the timing and prevalence of family life cycle events. Earlier tables have shown that the birth cohort to which a woman belongs is related to the timing of significant events in her life, and indeed to the number of children she has borne or will bear. Actual historical events (e.g., the Great Depression and World War II), the fashion of the times, and other things that occur during the life courses of birth cohorts can lead to different life-course trends among different birth cohorts.

In addition to birth cohort effects, demographic characteristics also have effects on the timing of life-course events and the average number of children a cohort of women has borne or will bear. Tables E-H deal with demographic characteristics. Mothers born between 1940 and 1944 are the main focus of this section. These women would have been roughly between 41 and 45 years old at the time of the survey. They were old enough to have completed their childbearing and most of their marital events, yet young enough to reflect patterns of life-course behavior currently present among young women. In fact, it may be that the women of the 1940-44 birth cohort represent the beginning of the modern era of relatively low fertility, later age at marriage, and high divorce rates.

Table E shows data for ever-married mothers born between 1940 and 1944. This is a very gross delineation since most mothers (and most women for that matter) marry at least once by the time that they are 41 years old. In fact, 87.3 percent of all of the women born between 1940 and 1944 had both borne a child and been married by the survey date.

Among ever-married mothers born between 1940 and 1944, Blacks married for the first time at a slightly later age (20.9 years) than Whites (20.2 years).[10] The apparent difference between the median age at first marriage for Black mothers (20.9 years) and for Hispanic mothers (20.2 years) is not statistically significant.[11] Black mothers had a slightly younger median age at first birth (21.0 years) than their White (21.9 years) or Hispanic (21.8

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[6] The difference between the average number of children ever born to mothers who were divorced after their first marriage and had not remarried (2.65) and to mothers in a remarriage after a divorce (2.76) is significant at the 83-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[7] Among mothers born between 1950 and 1954, there is no statistically significant difference between the median age at first birth for twice-married, currently married mothers whose first marriage ended in a divorce (21.0 years) and the comparable median for once-married, currently divorced mothers (20.8 years).

[8] The apparent increase in the average number of children born to once-married, once-divorced mothers between the 1920-24 cohort and the 1925-29 cohort is not statistically significant.

[9] See footnote 2.

[10] The difference between the median ages at first marriage for Black (20.9 years) and White (20.2 years) ever-married mothers is significant at the 87-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[11] Persons of Hispanic origin may be of any race.

years) counterparts.[12] This seeming anomaly can be explained by the higher proportion of Black children born before first marriage (U.S. National Center for Health Statistics, 1989 and earlier years, and U.S. Bureau of the Census, 1986 and earlier years).

Ever-married White mothers born between 1940 and 1944 had fewer children on average (2.77) than either their Black (3.22) or their Hispanic (3.48) analogues. **Fewer births are associated with a shorter period of childbearing, which is reflected in the number of years between the median age at first and last birth for these groups. White mothers had their births compressed into an interval of 6.1** years, Black mothers spent about 7.2 years in childbearing, and Hispanic mothers spread their births over a period of 8.4 years.[13]

Age at first marriage and age at first birth are both positively related to income and to educational attainment (see table E). This is not surprising since women often delay marriage and childbearing until they have finished their formal education. Further, since it is well-documented that education and income are positively correlated (U.S. Bureau of the Census, 1987), one would expect that income would have the same relationship to age at first marriage and age at first birth that education does. The average number of children per mother is inversely correlated to both income level and education. Mothers with a family income of less than $10,000 had an average of 3.49 children per mother while those with a family income of $75,000 or more had an average of only 2.61 children per mother.[14] A similar relationship held for educational attainment: mothers with less than a high school diploma had an average of 3.54 children per mother while those with at least 5 years of college had only 2.25 children on average.

Table E.
Ever-Married Mothers Born From 1940 to 1944 at Stages of the Family Life Cycle, by Selected Social and Economic Characteristics: 1985

Characteristic	All mothers born 1940-44 (thous.)	Median age at—			Years between age at—		Average number of children per woman
		First marriage	Birth of first child	Birth of last child	First marriage and first birth	First birth and last birth	
Race and Hispanic origin:							
White	5376	20.2	21.9	28.0	1.7	6.1	2.77
Black	656	20.9	21.0	28.2	0.1	7.2	3.22
Hispanic origin[1]	373	20.2	21.8	30.2	1.6	8.4	3.48
Family income:							
Less than $10,000	738	19.8	20.8	28.4	1.0	7.6	3.49
$10,000 to $19,999	1127	19.6	21.0	27.6	1.4	6.6	2.97
$20,000 to $29,999	1143	20.2	21.8	28.0	1.6	6.2	2.76
$30,000 to $39,999	1099	20.3	22.0	27.8	1.7	5.8	2.64
$40,000 to $74,999	1445	20.6	22.4	27.9	1.8	5.5	2.62
$75,000 and over	348	21.7	23.8	28.8	2.1	5.0	2.61
Years of school completed.							
Less than 12 years	1165	18.7	19.9	28.1	1.2	8.2	3.54
12 years	2933	19.9	21.3	27.4	1.4	6.1	2.75
13-15 years	1135	20.8	22.6	28.2	1.8	5.6	2.63
16 years or more	980	22.4	24.9	29.8	2.5	4.9	2.38
16 years	569	22.4	24.6	29.5	2.2	4.9	2.47
17 years or more	411	22.4	25.3	30.3	2.9	5.0	2.25

[1] Persons of Hispanic origin may be of any race.

Mothers Still in Their First Marriage

The pattern of the life-course events of mothers born between 1940 and 1944 who married once and were still married to (and living with) their original husbands at the survey date closely mirrors the pattern for ever-married mothers from the same birth cohort (see tables E and F). The only notable difference is the tendency for the median ages at first marriage, first birth, and last birth to be slightly older for the once-married, currently married mothers.

Some differences among demographic groups are noted in the likelihood that ever-married mothers will be married to and living with their first husbands on the survey date. White and Hispanic mothers are more likely to be living with their first spouse (63.1 percent and

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[12] There is no statistically significant difference between the median ages at first birth for White ever-married mothers (21.9 years) and for Hispanic ever-married mothers (21.8 years). The difference between Blacks (21.0 years) and Hispanics (21.8 years) is significant at the 84-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[13] There is no statistically significant difference between the average number of births for ever-married Black mothers (3.22) and ever-married Hispanic mothers (3.48). Also, the difference between the length of the periods of childbearing for Black (7.2 years) and Hispanic (8.4 years) mothers is significant at the 87-percent level of confidence. The usual minimum level of confidence accepted by the Bureau of the Census is 90 percent.

[14] Family income was transcribed from information first obtained at the time a household entered the Current Population Survey and updated when it re-entered the survey. For about one-quarter of the sample, the data are for the year ending June 30, while for the other quarters the data are for the years ending March 31, April 30, and May 31, respectively. Income is based on the respondent's estimate of total family money income in broad, fixed income levels. Previous research has shown that the use of broad income levels to record money income tends to reduce the rate of nonreporting while increasing the likelihood that the amounts reported will be significantly understated as compared with results from more detailed questions. The family income data used in this paper have not been adjusted for nonreporting of income.

Table F.
Once-Married, Currently Married Mothers Born From 1940 to 1944 at Stages of the Family Life Cycle, by Selected Social and Economic Characteristics: 1985

(Excludes separated women)

Characteristic	All mothers born 1940-44 (thous.)	Median age at—			Years between age at—		Average number of children per woman
		First marriage	Birth of first child	Birth of last child	First marriage and first birth	First birth and last birth	
Race and Hispanic origin:							
White	3391	20.8	22 6	28.5	1.8	5.9	2.74
Black	274	22.0	21.4	28.7	−0.6	7.3	3.01
Hispanic origin[1]	222	20.5	21.7	30.2	1.2	8.5	3.46
Family income:							
Less than $10,000	204	20.3	20.8	29.3	0.5	8.5	3.67
$10,000 to $19,999	517	20.0	21.8	28.8	1.8	7.0	2.94
$20,000 to $29,999	691	20.6	22.4	28 6	1.8	6.2	2.75
$30,000 to $39,999	800	20.7	22.5	28.0	1.8	5.5	2.71
$40,000 to $74,999	1128	21.0	23.0	28.4	2 0	5.4	2.81
$75,000 and over	261	22.2	24.4	29.8	2.2	5 4	2 70
Years of school completed:							
Less than 12 years	627	19.0	20.0	28.1	1.0	8.1	3.50
12 years	1845	20.2	21.8	27.7	1.6	5.9	2.72
13-15 years	660	21.4	23.3	28.8	1.9	5 5	2.56
16 years or more	663	22.8	25.7	30.7	2.9	5 0	2 40
16 years	385	22.7	25.5	30.5	2.8	5 0	2.47
17 years or more	2,7	23.1	26.2	31.0	3.1	4 8	2.30

[1] Persons of Hispanic origin may be of any race.

59.5 percent, respectively) than Black mothers (41.8 percent).[15] Women in high income families are also more likely to be living with their first spouse. Only 27.6 percent of ever-married mothers in families with incomes of under $10,000 were still living with their first spouses at the survey date, compared with 75.0 percent of those women in families with incomes of $75,000 or more.

The relationship between educational attainment and the likelihood of an ever-married mother still being in her first marriage (and living with her spouse) is not as straightforward. Only 53.8 percent of ever-married mothers who completed less than 12 years of school were still married to and living with their first husbands, while 67.7 percent of those with 16 or more years of school completed were still living with their first spouses. However, a consistent positive relationship does not exist. There is a fall in the proportion still in their first marriage among those with 13 to 15 years of school completed.

Mothers With Marital Disruptions

Although the differences are not statistically significant, table G shows that once-married, currently divorced mothers born between 1940 and 1944 appear to have slightly fewer children on average than ever-married mothers (of which they are a subset) born during the same period. What is most interesting is how few ever-married mothers got divorced and never got remarried (by the survey date)—only 10.6 percent.[16] This proportion varies significantly by certain demographic characteristics. Black ever-married mothers are more likely (19.4 percent) than White (9.5 percent) or Hispanic (9.9 percent) ever-married mothers to be once-married and currently divorced at the survey date.[17]

Poorer ever-married mothers are also more likely to be once-married, currently divorced than their wealthier counterparts. For example, 23.4 percent of those with family incomes of less than $10,000 per year were once-married and currently divorced at the survey date, while only 1.7 percent of those with a family income of $40,000 or more had the same marital history. Of course, being currently divorced, and thus not having a husband's potential income available, helps to explain the lower income level of divorced mothers. No similar relationship can be seen with the educational attainment data.

Table H shows the FLC of twice-married, currently remarried (after divorce) mothers born between 1940 and 1944. These mothers married at a younger age than mothers who had been married once and were currently divorced. They also separated and divorced at significantly younger ages (generally their mid- to late-twenties) than their counterparts who were divorced from their first spouses (generally in their mid-thirties) but had not remarried by the survey date.

The typical cell size in table H is too small to make valid comparisons for most demographic characteristics. However, White ever-married mothers (3.5 percent) were more likely than Black (7.6 percent) and Hispanic (8.3 percent) ever-married mothers to be

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[15] There is no statistically significant difference between the proportion of White ever-married mothers still living with their first husbands (63.1 percent) and the comparable proportion for Hispanic ever-married mothers (59.5 percent).

[16] This is less than the 12.6 percent of ever-married mothers who were living with a second husband (at the survey date) after having been divorced from a first husband.

[17] There is no statistically significant difference between the proportion of White ever-married mothers who have been once-married and are currently divorced (9.5 percent) and the number of Hispanic ever-married mothers who have been once-married and are currently divorced (9.9 percent).

Table G.
Once-Married, Currently Divorced Mothers Born From 1940 to 1944 at Stages of the Family Life Cycle, by Selected Social and Economic Characteristics: 1985

Characteristic	All mothers born 1940-44 (thous.)	Median age at—					Years between age at—		Average number of children per woman
		First marriage	First separation	First divorce	Birth of first child	Birth of last child	First marriage and first birth	First birth and last birth	
Race and Hispanic origin:									
White	513	19.9	34.9	36.2	21.5	26.8	1.6	5.3	2.60
Black	127	21.9	33.2	35.0	20.9	27.9	-1.0	7.0	3.30
Hispanic origin[1]	37	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Family income:									
Less than $10,000	173	19.8	34.2	36.1	21.3	26.8	1.5	5.5	3.09
$10,000 to $19,999	236	19.8	34.8	36.1	21.0	27.3	1.2	6.3	2.69
$20,000 to $29,999	129	20.7	34.7	36.[illegible]	21.3	25.9	0.6	4.6	2.66
$30,000 to $39,999	48	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
$40,000 to $74,999	25	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
$75,000 and over	6	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Years of school completed:									
Less than 12	122	19.0	33.2	35.6	20.8	28.4	1.8	7.6	3.31
12 years	272	19.8	34.9	36.7	20.9	25.9	1.1	5.0	2.60
13-15 years	131	20.5	3[illegible].5	36.1	21.5	27.0	1.0	5.5	2.66
16 years or more	131	21.6	34.3	34.9	23.4	27.4	1.8	4.0	2.05
16 years	67	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
17 years or more	64	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)

B Base less than 75,000.
[1]Persons of Hispanic origin may be of any race.

Table H.
Twice-Married, Currently Married Mothers Born From 1940 to 1944 at Stages of the Family Life Cycle, by Selected Social and Economic Characteristics: 1985

(Excludes separated women and women whose first marriage ended in widowhood)

Characteristic	All mothers born 1940-44 (thous.)	Median age at—						Years between age at—		Average number of children per woman
		First marriage	First separation	First divorce	Second marriage	Birth of first child	Birth of last child	First marriage and first birth	First birth and last birth	
Race and Hispanic origin:										
White	727	19.2	27.8	29.1	33.4	20.7	26.8	1.5	6.1	2.80
Black	50	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Hispanic origin[1]	31	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Family income:										
Less than $10,000	68	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
$10,000 to $19,999	125	19.2	26.8	28.2	32.0	20.4	27.5	1.2	7.1	3.34
$20,000 to $29,999	142	19.0	26.8	28.1	33.9	20.5	27.7	1.5	7.2	2.84
$30,000 to $39,999	155	19.2	29.3	30.2	33.4	20.9	26.9	1.7	6.0	2.38
$40,000 to $74,999	199	18.9	26.9	28.0	32.6	20.3	25.5	1.4	5.2	2.76
$75,000 and over	61	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Years of school completed:										
Less than 12 years	138	17.8	26.0	27.5	29.5	19.1	28.3	1.3	9.2	3.53
12 years	410	19.1	27.9	29.2	33.7	20.6	26.4	1.5	5.8	2.65
13-15 years	142	19.3	26.6	27.5	33.5	20.3	26.9	1.0	6.6	2.82
16 years or more	96	20.5	29.2	30.7	35.2	23.0	27.5	2.5	4.5	2.52
16 years	61	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
17 years or more	34	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)

B Base less than 75,000.
[1]Persons of Hispanic origin may be of any race.

twice-married, once-divorced, and currently married at the survey date.[18]

Childless Women

Women who complete their childbearing years with no lifetime births (whether by choice or otherwise) are clearly following an anomalous FLC course. Only 5,000,000 (or 11.0 percent) of the 45,581,000 ever-married women born between 1920 and 1954 were still childless by June 1985 (see table I). Of course, some of these women in more recent cohorts were still in their childbearing years in June 1985 and may still give birth sometime after the survey date.

Childless women had later median ages at first marriage regardless of the particular marital history path that they followed. Among all ever-married women born between 1920 and 1954, those who were childless had a median age at first marriage of 23.3 years, fully 2.9 years higher than the median (20.4 years) for their counterparts who had had at least one lifetime birth. Childless women who had been married once and were currently divorced were both separated and divorced at younger ages than their counterparts who had had lifetime births. The older median age at first marriage combined with the younger median age at separation means that childless women with this marital history only lived with their spouse for a median of 7.5 years. This is much shorter than the median of 12.3 years that women with at least one lifetime birth (and the same marital history) lived with their spouses. Twice-married, currently married childless women whose first marriage ended in divorce spent 6.2 years living with their first spouse, while their counterparts with lifetime births spent 7.1 years with their first spouse.[19]

Discussion

This paper has presented information, in the context of a family life cycle frame, on recent trends affecting family development. The data are from the most recent quinquennial survey of marriage and fertility histories conducted by the Bureau of the Census and sponsored by the National Institutes of Child Health and Human Development. The results of this survey represent the most recent large national source of information available on life cycle measures and serve as the latest in a series of family life cycle updates. Taken together, the various studies of the family life cycle (dating back to Loomis' 1936 study) provide a unique way of looking at how major changes in marriage and fertility behavior appear to have affected family development processes and timing over a comparative span of several generations. Shifts in patterns of family development have important implications for the family service policies and programs of public and private sector agencies. Early or late first marriage, early or late onset of childbearing, the frequency and timing of marital disruption, and the number of children borne per woman are all indicators that have a far-reaching influence on the efficacy of programs designed for families.

Data from the 1985 study show that younger cohorts of women have a tendency to marry later, begin childbearing later and have fewer children.

They also divorce more often and do so at a younger age than women in older cohorts. Within cohorts there are fairly pronounced differences between social, demographic (exclusive of age), and economic groups. Despite these differences, members of the same birth cohort show an overriding commonality

Table I.
Ever-Married Childless Women at Stages of Marital Life, by Year of Birth: 1985

Stage	All childless women born 1920-54	Birth cohort						
		1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54
Women ever married (thous.)	5000	636	590	456	394	526	913	1485
Median age at first marriage	23.3	24.0	22.5	22.5	24 8	22.7	23.3	23.5
Women married once, currently married (thous.)	2775	311	333	227	207	276	536	887
Median age at first marriage	24.7	25 3	23.9	23.2	25.7	23.1	24 4	25.7
Women married once, currently divorced (thous.)	733	43	43	68	70	82	165	263
Median age at:								
First marriage	22.9	(B)	(B)	(B)	(B)	22 6	23 0	21 8
First separation	30.4	(B)	(B)	(B)	(B)	31 4	30 9	27 0
First divorce	31.5	(B)	(B)	(B)	(B)	33 3	31.8	28 3
Women married twice (currently married), divorced after first marriage (thous.)	608	58	55	59	49	81	117	189
Median age at:								
First marriage	20 6	(B)	(B)	(B)	(B)	22 3	21 3	20 1
First separation	26 8	(B)	(B)	(B)	(B)	30.1	26 7	24 6
First divorce	27.6	(B)	(B)	(B)	(B)	30.3	27 9	25 6
Second marriage	31 9	(B)	(B)	(B)	(B)	34.2	32 4	29 6

B Base less than 75,000.

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[18] There is no statistically significant difference between the likelihood of Black (7.6 percent) and the likelihood of Hispanic (8.3 percent) ever-married mothers being twice-married, once-divorced, and currently married at the survey date.

[19] The apparent difference in the median number of years spent living with a first spouse (6.2 years versus 7.1 years) is not statistically significant.

with respect to basic patterns of life cycle change.

The findings reported in this paper not only corroborate other studies' conclusions with respect to the direction and magnitude of change in marriage and fertility behavior, but provide a useful perspective from which to analyze timing patterns. Whether one is marketing household goods and services or providing public assistance for families, knowledge of the timing of events is critical to planning successful interventions.

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Maternity Leave Arrangements: 1961–85

by Martin O'Connell

Introduction

This study analyzes employment patterns and maternity leave arrangements used by women who had their first child born between January 1961 and December 1985. While major increases in the labor force participation of women with young children occurred during this period, little is known about the leave arrangements used by women during their pregnancy or about job exit and re-entry rates of women at the time of their first birth. It is important that we understand how current trends in fertility and employment have evolved so we can anticipate changes in childbearing and labor force patterns of women during their early years of family formation.

We examine these issues using retrospective fertility and employment history data from the 1984 and 1985 panels of the Census Bureau's Survey of Income and Program Participation (SIPP) conducted early in 1986.

Work History During Pregnancy

Between 1961 and 1985, the proportion of women having work experience before the birth of their first child increased. Among women who had their first births in 1961–65, 60 (± 2.2) percent worked 6 or more months continuously before the birth of their first child; by 1981–85, 75 (± 1.7) percent had reported a similar work experience.[1]

Employment during pregnancy also became increasingly common: it rose from 44 (± 2.2) percent in 1961–65 to 65 (± 1.9) percent in 1981–85. The women most likely to work during first pregnancy are relatively older women, White women, and women who had at least a high school education.

Most women who work during pregnancy are full-time workers: since 1961, between 80 and 90 percent of pregnant workers reported that the last job they held before their child's birth was a full-time job (35 or more hours worked per week). Among women who worked during their first pregnancy in 1981–85, 78 (± 2.0) percent worked during their last trimester (less than 3 months before their child's birth), and 47 (± 2.4) percent were still at work less than one month before their child's birth.

Maternity Leave

This sharp change in employment patterns coincided with increasing proportions of women receiving maternity benefits from their employers. In the early 1960's, only 16 (± 2.4) percent received maternity or paid leave with an assurance that their job would be held for them after their child's birth. Most women, 63 (± 3.2) percent, quit their jobs at some point during their pregnancy or shortly after giving birth.

Twenty years later, the situation had completely changed: in 1981–85, 47 (± 2.4) percent of pregnant workers received maternity benefits, while the proportion quitting their jobs fell to 28 (± 2.2) percent. The women most likely to have received maternity benefits in the 1980's were relatively older at the birth of their first child, college educated, fulltime workers, and those who worked into their last trimester.

Employer financial contributions for maternity benefits have also increased since the 1960's: 81 (± 2.9) percent of expectant mothers on maternity leave in 1981–85 received cash benefits, compared with only 50 (± 8.3) percent in 1961–65. In both periods, however, only about one-half receiving cash payments reported receiving full compensation for all their leave time.

Returning to Work

Not only do more women now work longer into their pregnancy, but they also return to work at a more rapid pace. Only 17 (± 1.6) percent of the women who had their first birth in 1961–65 were working by the 12th month after their child was born; by 1981–84, this proportion increased to 53 (± 2.1) percent. In fact in 1981–84, one-third were working 3 months after their child's birth. This level of workforce participation was not attained by women who had their first birth in the early 1960's until 5 years after childbirth.

Which women are most likely to return most rapidly to work? Women employed during their first pregnancy. Of all employed women, teenagers, Black women, and high school dropouts are most likely to return to work within 6 months of their child's birth even though they were least likely to have worked during pregnancy. Greater financial dependency upon their own earnings as the principal source of their total family income possibly accounts for their rapid return. This suggests that the factors related to the likelihood of working during pregnancy, such as labor force and educational experience, are different from those that induce women to return to work after childbirth.

In addition to demographic factors, two highly significant characteristics associated with a mother's rapid return to work are the number of months before the child's birth she stopped working and whether the employer provided her with any maternity leave benefits. Seventy-one (± 3.6) percent of women who had a first birth in 1981–84 and who stopped working within 1 month of their child's birth returned to work within 6 months after childbirth. A similar proportion (71 ± 3.7 percent) returned to work within 6 months if they had received maternity benefits during or after their pregnancy. The overall average for all employed women in this period was 56 (± 2.4) percent. This rapid return reflects both the commitment of the women to their work and employer, and the reduction in time spent searching for a new job, given an assurance of job security after childbirth.

Definitions and Population Coverage

Childbearing and labor force experience information was derived from personal interviews of a combined total of about 9,000 women in wave 8

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[1] Figures following the ± notation in this section represent ± 1.6 standard errors of the estimated statistics or the 90-percent confidence level for the estimate.

Table A.
Distribution of Women. by Age at First Birth: 1960-85
(Numbers in thousands)

Year	Number of first births	Percent	Age at first birth			
			Less than 20	20-24	25-29	30 or older
1985	1,555	100.0	23.7	35.6	26.9	13.8
1980	1,546	100.0	28.2	39.2	24.1	8.6
1975	1,319	100.0	35.1	39.2	20.4	5.3
1970	1,431	100.0	35.6	45.6	14.8	4.0
1965	1,157	100.0	38.0	44.6	12.1	5.3
1960	1,090	100.0	37.0	43.2	13.0	6.8

Source: National Center for Health Statistics, Vital Statistics of the United States, annual issues.

of the SIPP 1984 panel and wave 4 of the 1985 panel. The interviews were conducted between January and April 1986 (January through March for the 1984 panel interviews). (See appendix C for an overview of the SIPP program and appendix D for a facsimile of the SIPP questionnaire.)

The term "first pregnancy" as used in this report refers to the pregnancy of the respondent's first live-born child (excluding stillbirths, miscarriages, or voluntary abortions). The work history data collected in this survey refer to the actual dates when women stopped and started working and not the dates of employment. (Labor force surveys usually count women on maternity leave as being "employed, at a job" even though they may not be actually "working" at that job during their period of maternity leave.)[2] Data shown in this report cover the period from January 1961 to December 1985. Since the survey was conducted early in 1986, worker participation rates for the year after childbirth cannot cover all first births born during calendar year 1985 as insufficient time would have elapsed after childbirth for a full year's worth of data. For this reason, return to work statistics cover only births occurring through calendar year 1984.

Only a minimal amount of information was collected about the specifics of the jobs pregnant women held and returned to after childbirth as the questions potentially spanned a quarter century of the respondent's memory. The respondents were asked their full time/part time work status during the last job they held before childbirth and their first job held after childbirth, and the type of leave they used during pregnancy and up to 6 weeks after giving birth. Plans for including a similar set of questions are currently under consideration for new panels of the SIPP introduced after 1990.

Social and Economic Circumstances of the First Birth

This section briefly describes some of the factors associated with the likelihood of a woman working during her first pregnancy. Subsequent sections will show the relationship between these employment patterns and the type of leave arrangements an expectant mother is likely to secure.

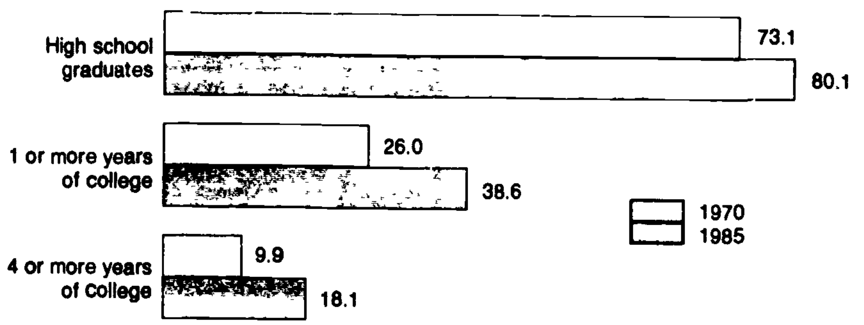
Consequences of Delayed Childbearing

Delays in childbearing among young women have contributed to growing numbers and proportions of first births to older women. Vital statistics data (table A) show that 41 percent of the first births occurring in 1985 were to women 25 years old and over, up from 20 percent in 1960.

A shift in childbearing to older ages produces cohorts of expectant mothers who on average have potentially more education and labor force experience than would cohorts of younger mothers. Vital statistics data in figure 1 graphically reveal the changing educational attainment levels of first-time mothers since 1970 (when such data first became available). Between 1970 and 1985, a 50-percent increase in the proportion of women who completed at least 1 year of college was recorded (from 26 to 39 percent), while the proportion graduating from college also increased from 10 to 18 percent.

Increases in educational attainment are noted principally for first time mothers 25 and over (table B-1). In 1985, 60 percent of first-time mothers 25 to 29 years old and 72 percent of firsttime mothers 30 years old and over had 1 or more years of college completed, compared with 53 and 42 percent, respectively, in 1970. A large increase also was recorded in the proportion of

Figure 1.
Educational Attainment of Women at the Time of Their First Birth: 1970 and 1985



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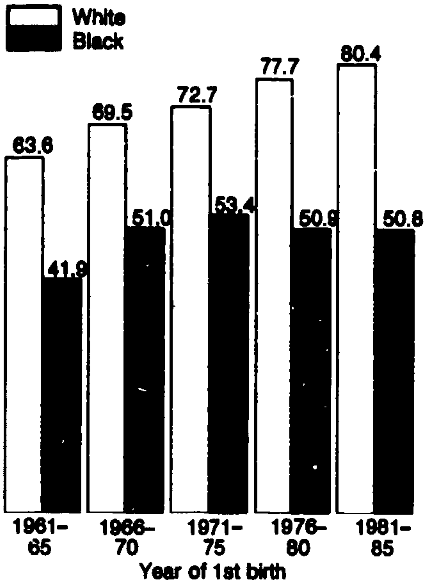
[2] This latter definition is used in the Current Population Survey.

Figure 2.
Women Who Worked Continuously for Pay 6 or More Months Before Their First Birth, by Race: 1961-65 to 1981-85

(In percent)



first-time mothers 30 years and over who were college graduates.

Work history data from SIPP also show increasing proportions of women with labor force experience before their first birth. For example, 75 percent of all women who had their first birth in 1981-85 reported having worked 6 or more months before their child was born, compared with 60 percent for women who had their first births in 1961-65 (table B-2). Throughout the period, White women consistently reported higher levels of work experience than did Black women before the birth of their first child (figure 2).[3]

Teenage mothers recorded little consistent change since the early 1960's in pre-birth work activity, probably because school enrollment made any continuous length of employment very difficult, even for as little as 6 months (table B-2). However, increases in work experience were up sharply for women 25 and over between 1961-65 and 1981-85.

Summarizing these trends, we find increasing delays in childbearing to older ages in recent decades associated with increases in educational attainment and labor force experience for first-time mothers. These changing circumstances suggest that women have developed greater attachment to the labor force. In turn, this behavior will manifest itself in increasing proportions of women working during their pregnancy and working longer into their pregnancy.

Other researchers have also concluded that work attachments developed by women before their first birth may generate a greater commitment or psychological need for work after childbirth to establish a continuity of social behavior in their life after their pregnancy.[4]

What factor is most likely to influence a woman's decision to work during her pregnancy? Probably her employment status immediately before her pregnancy. Among first-time mothers who ever worked 6 or more consecutive months before their first birth, 83 percent also worked during their pregnancy in 1981-85, up from 70 percent among first-time mothers in 1961-65 with similar work experience. Among those who never worked 6 or more months before their first birth, very few decided to work during their pregnancy: only 8 percent did so among women with first births in 1981-85, not significantly different from the 6 percent reported for 1961-65.

This suggests a significant degree of continuity in labor force behavior both before and during a woman's first pregnancy, and that the circumstances influencing a woman's decision to work during her pregnancy will be similar to those associated with her working before her first pregnancy.

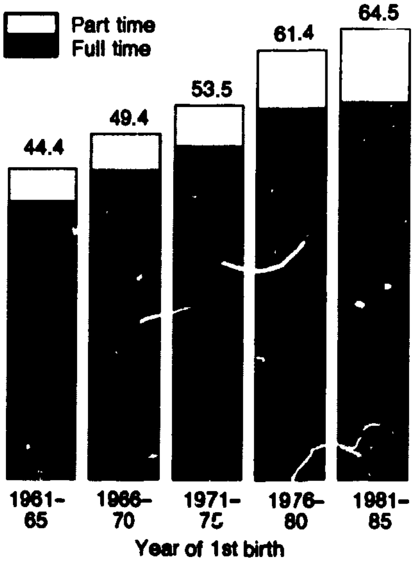
Employment Status During First Pregnancy

Overview of Trends

Between 1960 and 1985, the proportion of females in the civilian noninstitutional population age 16 years and over who were employed increased from 36 to 50 percent.[5] Employment during first pregnancy also increased in this period (figure 3). Forty-four percent of women who had their first births in 1961-65, were employed during first pregnancy; this increased to 65 percent by 1981-85.[6] Most women worked full-time during their pregnancy, regardless of the point in the pregnancy

Figure 3.
Women Who Worked During Their First Pregnancy: 1961-65 to 1981-85

(In percent)



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[3] Mott and Shaw (1986) also noted that during the 1950's, the level of prebirth employment among Black women was below that of White women. They partly attribute this difference to the younger age of Blacks at their first birth, therefore, giving them a shorter period of adult life in which to be employed.

[4] See Presser (1989), Mott and Shapiro (1983), and McLaughlin (1982).

[5] Bureau of Labor Statistics (1989, table 2).

[6] Comparative international data from Australia in 1984 indicate that three-quarters of women who had their first birth in May 1984 worked during their pregnancy (Glezer, 1988).

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Table B.
Women Working Full Time at Last Job Held During Pregnancy: 1961-65 to 1981-85

Subject	Year of first birth				
	1981-85	1976-80	1971-75	1966-70	1961-65
Percent working full time before first birth	83.7	86.6	88.9	89.5	89.5
Stopped working before birth:					
Less than 1 month	88.6	89.1	89.9	91.8	88.2
1 month	83.0	90.8	91.5	91.8	91.9
2 months	76.7	84.5	93.7	90.0	88.2
3 to 5 months	76.6	79.8	86.9	88.5	91.8
6 or more months	80.7	83.2	80.0	85.1	67.5

Full-time employment status refers to last job held before birth of child.
Source: Derived from table B-6.

when they left work. Since 1961, between 80 and 90 percent of women who worked during their first pregnancy worked full-time at the last job they held before their child's birth (table B).

Women Who Work During First Pregnancy

The likelihood of working during one's first pregnancy varies significantly by age, race, and educational level.[7] Between 1961–65 and 1981–85, the percentage of women employed during their first pregnancy was consistently higher for women 25 and over than for teenagers, for White women than for Black women, and for women with 1 or more years of college completed than for women who did not complete high school (table C). The data also show that women who had premarital births were less likely to be employed than were women who had their first birth within or after their first marriage.

Logistic regressions, which take into account the complex sampling design of the SIPP, are used to analyze the likelihood of being employed during pregnancy (table B–4).[8] The parameters for each of the individual factors (main effects) show the log of the odds of women working during their pregnancy over the entire 25- year study period, controlling for all other variables in the regression. The interactions of the four demographic factors (age at first birth, race,[9] marital status at childbirth, and educational attainment as of 1986) with the categorical variable for the period of the child's birth, show if any of the foregoing relationships have altered during the 25-year period.

The multivariate analysis in table B–4 supports the differences noted in table C with one exception: no difference by marital status at first birth is found in the likelihood of working during pregnancy. Since a high proportion of premarital births are born to Black women, teenagers, and women with

Table C.
Women Who Worked During Their First Pregnancy, by Selected Characteristics: 1961-65 to 1981-85
(In percent)

	Year of first birth				
	1981-85	1976-80	1971-75	1966-70	1961-65
Employment status[1]:					
Total	64.5	61.4	53.5	49.4	44.4
Full time	54.0	53.1	47.6	44.2	39.7
Part time	10.5	8.3	5.9	5.2	4.7
Age at first birth.					
Less than 18 years	16.8	23.5	25.1	19.1	25.0
18 and 19 years	38.9	40.8	38.3	40.1	29.2
20 and 21 years	59.3	57.4	57.4	50.8	49.4
22 to 24 years	71.9	73.1	66.6	61.4	56.8
25 to 29 years	82.3	81.1	73.1	66.2	54.4
30 years and over	83.4	74.0	60.7	44.3	51.9
Race:					
White	69.3	65.5	57.0	51.6	46.7
Black	42.9	40.5	39.8	37.9	32.2
Child born:					
Before first marriage	45.4	41.7	42.0	42.9	36.7
Within first marriage	72.1	67.5	56.9	50.6	46.5
After first marriage	73.0	69.4	67.9	58.3	40.7
Educational attainment:					
Less than high school	24.9	28.2	25.6	26.0	21.8
High school	66.5	81.0	53.7	50.2	48.8
College, 1 to 3 years	79.8	72.5	82.6	57.8	51.5
College, 4 or more years	83.8	81.8	77.0	87.0	82.9

[1] Refers to status at last job held before child's birth.

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[7] The level of educational attainment in this report from SIPP data sources is as of the survey date in 1986, not at the time of the child's birth. Estimates of educational attainment at birth from SIPP are overstated for very young mothers who had children in the 1960's and 1970's and who may have subsequently furthered their schooling after their child's birth. See appendix A for a discussion of the extent of this problem.

[8] For a detailed description of the statistical routine, CPLX, used in this report see Fay (1982). An updated version of this program and the documentation for it is available from the Census Bureau.

[9] When references are made to White women in any of the logistic regressions or accompanying models shown in this report, the reference is to White and all other races, excluding Black.

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relatively low levels of schooling—all groups with low employment levels—the marital status variable as shown in table C was apparently representing the effects of all these factors (all of which persist in the multivariate analysis) rather than intrinsically having any effect by itself.

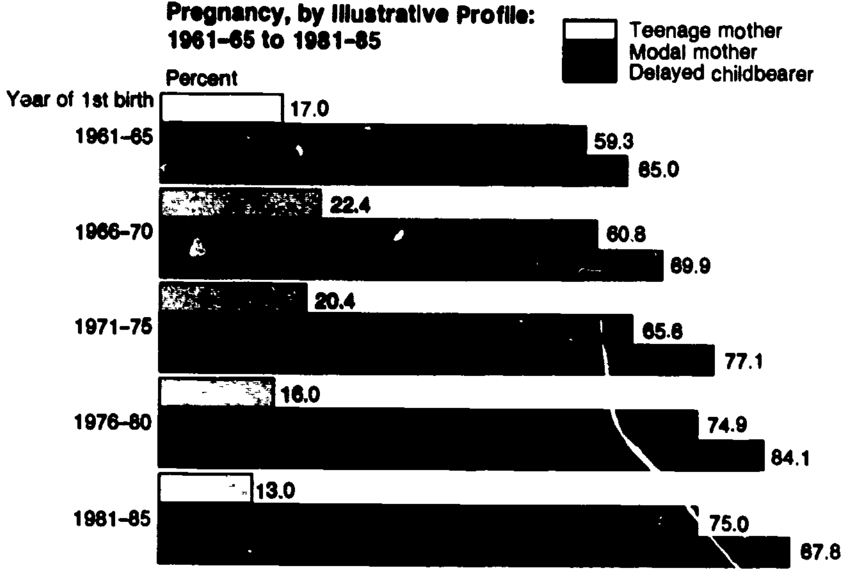
The interaction of the marital status variable with the birth cohort indicator (table B-4), however, suggests that women who had postmaritally born children in the late 1970's were significantly more likely to work during their pregnancy than were women who had postmaritally born children in the late 1960's.

The sizes of the individual parameters show that a woman's age and her level of educational attainment are the most significant factors related to the odds of working during first pregnancy. These factors broadly represent the labor force experience and job skills associated with increasing age which would influence the likelihood of a woman working, regardless of her fertility status.

Also noted are increasingly divergent trends in employment by age at first birth and levels of schooling. Very young women did not experience significant increases in employment during their pregnancy, compared with women 25 and over, while high school dropouts lost ground in employment by 1981-85.

The interaction of the race and education variables also suggests that White women are more likely to work during their pregnancy if they graduated from high school than if they did not. In addition, among women having their first birth at ages 20 or 21 years, those with 1 or more years of college were less likely to have worked during their pregnancy than were women who had gone no further than a high school education. This latter group had probably finished their schooling before their pregnancy and may have been already working at the time of the birth. College educated women becoming mothers at age 20 to 21, however, were probably enrolled in school at the time of their pregnancy rather than being at work.

Figure 4.
Women Who Worked During Their First Pregnancy, by Illustrative Profile: 1961-65 to 1981-85



Three Illustrative Profiles of Working Women

The analysis so far indicates that the women most likely to work during their pregnancy are older women, White women, and women with high levels of educational attainment. Few, if any, increases in work force participation are noted since the 1960's for teenagers, Black women, high school dropouts, or women who had a premarital first birth. Some of the changes that have occurred over time in the proportion of women who worked during their pregnancy are summarized in figure 4 which develops three hypothetical profiles of American mothers based on the logistic regression in table B-4.

The Teenage Mother. At one end of the labor force spectrum is the young Black woman, her first birth as a teenager born premaritally, and having less than a high school education, possibly as a result of the premarital birth. About 92 percent of all first births in 1985 to Black teenagers were to unmarried women and 63 percent of births to Black teens (all marital statuses and parities combined) were to women who failed to complete high school.[10]

Expectant mothers fitting this profile had employment rates during pregnancy that never exceeded the 25 percent level (figure 4). Among women giving birth in 1981-85, 13 percent had worked during their pregnancy, down from 22 percent in the late 1960's. Perhaps the initiation of programs to enable pregnant women to remain in school or the availability of greater social welfare benefits in recent years have resulted in the lower levels of employment experienced by these young women during their pregnancy.

The Modal Mother. The average or modal American woman since the 1960's at the time of her first birth is White, married, a high school graduate, and between 22 and 24 years of age. Figure 4 shows that 75 percent of expectant women with these characteristics in 1981-85 worked during their pregnancy, up from 59 percent in 1961-65. Having finished high school, in all likelihood while teenagers, these women probably had several more years of potential labor force experience before their first birth than the teenage mother group, and their higher employment rates during their first pregnancy suggest this experience.

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[10] These statistics are based on vital registration data for 1985 from the National Center for Health Statistics, Vital Statistics of the United States, 1985, Vol. I-Natality, tables 58, 72, and 76.

The Delayed Childbearer. Women who delay their first birth until age 25 or older make up a growing segment of first time mothers (table A). The majority of women who delay their first births to this age are White women and married women. In comparison to the previous group of women, most first time mothers at older ages have completed at least 1 year of college (63 percent in 1985).[11]

About two-thirds of women with these characteristics worked during their first pregnancy in the early 1960's; by 1981-85, almost 9 out of every 10 of these women worked during their first pregnancy. Given such a high rate of employment during their pregnancy, it is very likely that many of these women had worked prior to their pregnancy and would continue working after becoming pregnant.

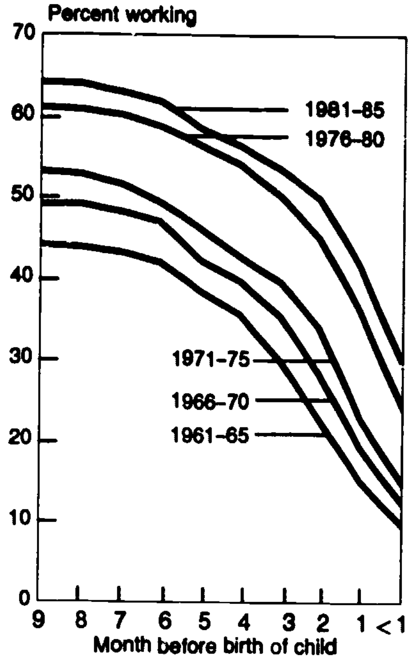
Duration of Work During First Pregnancy

Overview of Trends

As previously noted, the proportion of expectant mothers who worked during their pregnancy increased by about 20 percentage points between 1961-65 and 1981-85. This difference still persisted when the proportions were examined more closely according to single months before childbirth (table B-5). Even among women working within 1 month of their child's birth, 31 percent were employed in 1981-85, compared with 10 percent among women who had their first children born in 1961-65.

Proportions working on a month-by-month basis are graphed in figure 5 for the entire length of the pregnancy. Although all birth cohorts of women show a declining pattern of worker rates during pregnancy, there was an unusually large upward shift in the curves between 1971-75 and 1976-80 by about 10 percentage points, both at the beginning of the pregnancy and throughout the pregnancy. The typical increase observed between successive 5-year birth cohorts was usually about 3 to 5 percentage points before and after the 1976-80 birth cohort of children. The increase in the late 1970's occurred in the context of unusually large increases in the proportions of women working, regardless of parity.[12]

Figure 5.
Women Working During Their First Pregnancy, by Month Before Birth: 1961-65 to 1981-85



In addition, an increasing proportion of employed women are working closer to their child's birth (table B-7). About one-half of all women who worked during their pregnancy in 1961-65 worked into their last trimester (less than 3 months before the child's birth). By 1981-85, this proportion increased to slightly over three-quarters of all expectant mothers. In fact, almost one-half of women in the most recent birth cohort who worked during their pregnancy were still working less than 1 month before their child was born, up from 23 percent in 1961-65.

Women Who Work the Longest

The preceding section indicated that older women, White women, and women with more years of schooling were more likely to work during their pregnancy. But, some employed women are more likely than others to work longer into their pregnancy. Table B-7 summarizes changing patterns of employment between 1961 and 1985, while table B-8 shows the results of a logistic regression which examines the likelihood of working during the last trimester among women who worked during pregnancy.[13] The regression results show that college-educated women and women who were full-time workers were more likely to work during their last trimester.

Furthermore, interaction terms in the regression suggest that full-time workers who had at least 1 year of college were more likely to work than were full-time workers who were high school dropouts.[14] The parameters of the birth cohort variable also indicate that significantly more women worked in their last trimester in the most recent birth cohort than in prior time periods.

The birth cohort interaction terms in the regression suggest that in the early 1960's, the women who worked longer into their pregnancy were those in need of greater financial assistance: teenage women, part-time workers, and high school dropouts who may have sought employment if they were unable to continue their schooling (table B-8). These women may have expected that they would more be more dependent on their own incomes for the support of their family than older, more educated women, hence, they worked longer into their pregnancy.

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[11] Ibid., table 72.

[12] The proportion of women 16 years old and over employed increased from 42 percent in 1975 to 48 percent in 1980 (Bureau of Labor Statistics, 1989, table 2). This 5-year increase was larger than that observed between consecutive 5-year intervals on either side of this period.

[13] The proportions of women who worked in their last trimester of pregnancy and within 1 month of their child's birth are shown in table B-7.

[14] McLaughlin (1982), in his analysis of employment patterns of pregnant women between 1968 and 1972 also concluded that the higher level of educational attainment, the greater the delay in leaving the labor force as the birth approaches.

Employment patterns had changed so by 1981-85, women 25 and over at the time of their first birth, college-educated women, and married women worked relatively longer into their pregnancies than did their younger, less educated, and unmarried counterparts. Women in the 1980's may work longer into their pregnancy for reasons other than immediate financial needs. Perhaps they view their jobs from a long-term perspective and feel that a reduction in time lost from a job during pregnancy would increase the likelihood of job retention after childbirth and enhance their long-term opportunities with their employer.

This survey was not designed to investigate either the "institutional norms" that may govern employer attitudes toward women working during pregnancy or the attitudes of the women and their husbands toward working during pregnancy. Are employers more tolerant of pregnant women as workers today than they were 25 years ago? Have they altered their perceptions of a pregnant woman's productivity or her ability to serve clients or customers? Has medical advice to pregnant women changed during this period regarding maternal health aspects of working while pregnant? And if circumstances have changed, are they a reflection of true changes in attitudes or rather the exigencies of business policies as women today increase their share of the labor force?

Maternity Leave Arrangements: 1961-85

Changes in Leave Arrangements: An Overview

This section presents an overview of the type of leave arrangements women used either during their pregnancy or up to 6 weeks after the birth of their child. The survey specified five categories of leave, and the respondents were free to check all applicable leave arrangements (2 percent of the respondents provided multiple answers to the question). The five categories were: 1. Quit job 2. Maternity/sick/paid leave 3. Unpaid leave of absence 4. Let go from job 5. Never stopped working

The unpaid leave of absence category designated leave without pay but with an informal agreement that the woman would be able to return to work within an agreed period after childbirth. The maternity/sick/paid leave category represented leave with either a cash payment of benefits or a formal agreement regarding retention of employee benefits such as job security or seniority.

Table D presents the overall changes in the type of leave arrangements used by women who worked during their first pregnancy since the 1960's. In the early 1960's when less than one-half of women worked during their pregnancy, 63 percent of pregnant working women quit their jobs before their child's birth. This was the most commonly identified type of job termination mentioned by women regardless of their social or economic circumstances (table B-9, Part D).[15]

Maternity leave or unpaid leave of absence were less frequently used in the early 1960's, together totaling about 30 percent all leave arrangements. Five percent of pregnant women were let go from their job, a proportion that did not vary throughout the entire study period. Likewise, no more than 3 percent of women over this entire period stated that they never stopped working either during or after their pregnancy.

By 1981-85, the most commonly mentioned type of arrangement was some form of maternity or paid leave, amounting to 47 percent of all

Table D.
Leave Arrangements Used by Women Who Worked During Their First Pregnancy: 1961-65 to 1981-85
(Numbers in thousands)

Type of leave	Year of first birth				
	1981-85	1976-80	1971-75	1966-70	1961-65
Number of women	5,239	4,414	3,700	3,435	2,797
Percent	100.0	100.0	100.0	100.0	100.0
Leave arrangement					
Quit job	28.3	41.3	51.1	58.9	62.8
Maternity/sick/paid leave	46.6	34.0	23.4	18.3	16.0
Unpaid leave	20.3	20.2	20.8	17.6	14.1
Let go from job	4.6	4.9	4.6	4.2	5.0
Never stopped working	2.8	2.0	1.7	1.4	2.7

Note: Individual leave arrangements exceed 100.0 because of multiple answers arrangements.[18] A decline in the proportion of women quitting their job either during their pregnancy or within 6 weeks of their child's birth had occurred since the 1960's, so by 1981-85 only 28 percent of pregnant women had voluntarily quit work before their child's birth. The proportion taking an unpaid leave of absence remained at about the 20 percent level since the 1970's.

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[15] The only exception being among Black women where no statistical difference was found between the use of maternity leave or voluntarily quitting one's job.

Current Leave Arrangements: 1981-85

Sharp contrasts are evident for the most recent cohort of mothers in the type of leave arrangements mentioned by pregnant workers in different socioeconomic categories. Younger women today are more likely to quit their jobs or to be let go from work than are women who have their children at relatively older ages (table E). About twice as many women (43 percent) who had their first birth between ages 18 and 22 quit their jobs in 1981-85 compared with women who had their first child at age 25 and over (20 percent). In addition, about 14 percent of 18- and 19-year-olds were let go from their job while pregnant, compared with only 2 percent of women age 30 and over at first birth.

Older women are also more likely to receive maternity benefits than are younger women. In all probability, the greater labor force experience and job security enjoyed by older women translates into better benefits when interrupting their job to have their baby.

No significant differences by race are found in either quitting work, receiving maternity benefits or taking an unpaid leave of absence. Black women, however, were twice as likely to be let go from their jobs when pregnant than were White women (8.7 and 4.2 percent, respectively). Even after controlling for other factors in the

Table E.
Type of Leave Arrangements Used by Women Who Worked During their First Pregnancy: 1981-85
(Numbers in thousands. Percent distribution may exceed 100.0 because of multiple answers)

Characteristic	Number of women	Percent	Quit job	Maternity sick/paid leave	Unpaid leave	Let go from job	Never stopped working
Total	5,239	100.0	28.3	46.6	20.3	4.6	2.8
Employment status at last job:							
Full time	4,387	100.0	25.2	51.7	19.6	3.6	2.9
Part time	851	100.0	44.1	20.2	24.4	10.0	2.7
Stopped working before birth:							
Less than 1 month	2,475	100.0	13.8	59.5	24.0	0.5	6.0
1 month	914	100.0	30.0	51.7	19.1	2.8	-
2 months	682	100.0	38.4	41.7	15.4	5.4	-
3 to 5 months	709	100.0	49.7	18.0	18.6	14.6	-
6 or more months	458	100.0	55.1	18.1	13.0	13.8	-
Age at first birth:							
Less than 18 years	136	100.0	(B)	(B)	(B)	(B)	(B)
18 and 19 years	405	100.0	42.3	19.7	22.6	14.2	3.2
20 and 21 years	772	100.0	42.7	34.6	15.4	6.2	2.9
22 to 24 years	1,249	100.0	29.6	45.0	22.8	2.2	1.3
25 to 29 years	1,816	100.0	20.8	55.6	21.0	3.7	2.3
30 years and over	860	100.0	18.9	60.1	19.3	1.8	5.1
Race:							
White	4,612	100.0	28.6	46.6	20.3	4.2	2.8
Black	508	100.0	26.3	47.6	17.8	8.7	2.3
Child born[1]:							
Before first marriage	1,071	100.0	35.5	35.6	2[illegible]	8.7	4.3
Within first marriage	3,794	100.0	27.2	48.9	[illegible]0.8	3.3	2.2
Educational attainment:							
Less than high school	377	100.0	50.7	20.4	15.3	12.2	5.2
High school	2,340	100.0	29.2	43.0	21.5	6.9	1.4
College, 1 to 3 years	1,336	100.0	29.1	49.4	19.7	1.8	3.6
College, 4 or more years	1,184	100.0	18.6	59.0	20.3	1.0	4.2

- Represents zero.
(B) Base too small to show derived measure
[1] Data not shown separately for births occurring after first marriage because of too few sample cases

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[18] Referring again to the Australian maternity leave survey of 1984 (Glezer, 1988), 44 percent of pregnant Australian workers interviewed replied that they had received maternity leave benefits. Among the principal determinants of taking maternity leave were having a high level of education and a high status occupation, and a strong commitment to working before their first pregnancy.

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Table F.
Logistic Regressions for Using a Specific Type of Leave Arrangement for First Births: 1981-85

Characteristic	Quit job		Maternity leave		Unpaid leave		Let go from job	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Constant	-0.209	0 143	**-1.477	0.191	**-1.535	0.164	**-2.497	0 196
Age at first birth:								
Less than 20 years	0.224	0.174	**-0 865	0 248	0.115	0.240	**0.716	0.279
20 and 21 years	**0.381	0.114	-0.015	0.138	*-0.332	0.187	-0.021	0.377
22 to 24 years	-0.057	0.128	*0.234	0.126	0.167	0.162	**-0 749	0.370
25 years and over	**-0.548	0.129	**0.647	0 127	0 050	0.141	0.054	0.264
Race:								
White[1]	0.142	0.125	-0 130	0.100	0.066	0 119	*-0.337	0 198
Educational attainment:								
Less than high school	**0.441	0.185	**-0.467	0 211	-0.254	0.220	0.487	0 312
High school	**-0.278	0.104	*0.191	0.107	*0.206	0.118	*0.431	0 220
College, 1 or more years	-0.164	0.135	*0.276	0.142	0 048	0.152	**-0.918	0.279
Employment status at last job:								
Full time	**-0.315	0.086	**0.621	0.106	*-0 182	0.099	**-0.410	0.161
Left work last trimester	**-0.618	0.082	**0.785	0.082	*0.168	0.099	**-0.974	0.133
Degrees of freedom	87	(X)	87	(X)	87	(X)	87	(X)
Jackknifed X2	4.21	(X)	0 42	(X)	5.77	(X)	3 48	(X)

X Not applicable.
* Coefficient significant at the 0.10 level
** Coefficient significant at the 0.05 level.
[1] Includes White and all other races except Black.
Note: Coefficients represent the log of the odds of using that specific leave arrangement during first pregnancy.

logistic regressions shown in table F which analyze the likelihood of securing each particular type of arrangement, the odds of being let go from a job during pregnancy were greater for Black women than White women.

(Prior analysis, not shown in this paper, indicated that the women's marital status at time of birth provided no significant explanatory contributions to the logistic analysis once age at childbirth and race controls were included in the regressions, as very high proportions of premarital births occur to Black women and to teenagers. Hence, the marital status variable became redundant and was dropped from the analysis.)

The logistic analysis in table F also shows that high school dropouts were most likely to quit their jobs during pregnancy and least likely to receive maternity benefits. Women with 1 or more years of college were also the least likely workers to be let go from their jobs during pregnancy. The group of women most likely to obtain an unpaid leave of absence were neither women with the least or most education but women with 4 years of high school.

Two employment characteristics—hours worked per week and when the woman left work during her pregnancy—proved to be the most consistently significant factors across all four types of leave arrangements shown in the logistic regressions in table F. Full-time workers and women who worked into their last trimester were more likely to obtain maternity benefits and less likely to either quit their jobs or be let go by their employer than either parttime workers or women who left work before their last trimester of the pregnancy.

Unpaid leave of absence from a job was also obtained more frequently by women working in their last trimester. Part-time workers, as opposed to full-time workers (who were more likely to receive paid or maternity leave), were more likely to receive an unpaid leave of absence.

Job Quitting During Pregnancy: 1961-85

The major changes in leave arrangements since 1961 have been the declines in the proportion of women quitting their jobs during their pregnancy and the increases in the proportion receiving maternity benefits. As the distribution of leave arrangements has changed over time, so have the characteristics of the women likely to obtain different arrangements.

The regression for the entire 1961-85 period (table B-10) shows that women 25 and over at first birth, full-time workers and women who worked in their last trimester were the least likely candidates to quit work during their pregnancy, much as they were in 1981-85.[17] In fact, the relative gap between younger and older women, and between women who did or did not work in their last trimester, widened by 1981–85, as noted in the birth cohort interactions with these two variables (table B–10).

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[17] It should be noted that the logistic regression in table F for the 1981-85 period is completely derivable from the regression in table B-10 by adding the birth cohort*factor interactions to each main effect parameter.

However, while the results from the 1981–85 analysis (table F) indicate no differences in job quitting by the race of the women, for the entire 1961–85 period, White women were more likely to quit their jobs during pregnancy than were Black women (table B–10).

In 1961–65, 66 percent of White women quit their jobs during pregnancy, compared with 39 percent of Black women (figure 6). Greater declines in job quitting by White women than by Black women in the past two decades resulted in no statistical difference in the proportion quitting by 1981–85 (29 and 26 percent, respectively). Perhaps in earlier years, White women were more likely or financially better able to give up their labor force ties than Black women if they had less intention of returning to work after childbirth.[18]

Figure 6.
Percentage of Women Who Quit Their Jobs Before Their Child's Birth, by Race: 1961–65 to 1981–85
(Limited to women who worked during first pregnancy)

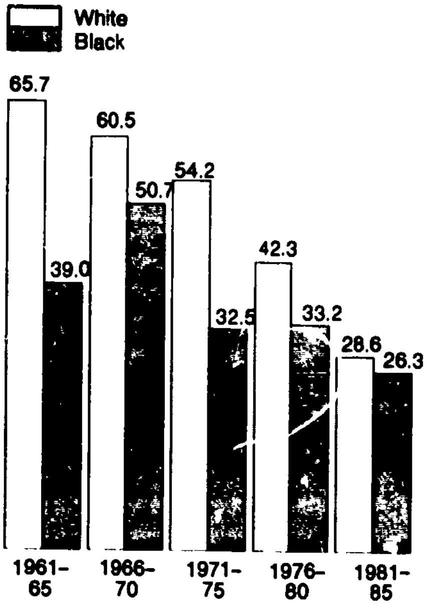

Table G.
Degree of Employer Payments for Maternity Leave for the First Birth: 1961-65 to 1981-85
(Numbers in thousands)

Employer payment	Year of first birth				
	1981-85	1976-80	1971-75	1966-70	1961-65
Number of women on maternity leave	2,440	1,502	867	629	449
Percent	100.0	100.0	100.0	100.0	100.0
Paid for all leave	42.0	39.0	29.5	26.3	24.8
Paid for some leave	38.9	33.4	27.8	27.9	24.8
No payment for leave	19.1	27.6	42.8	45.8	50.3

Note: Question asked was "Did your employer pay for all or part of your leave through maternity benefits or sick pay?"

The logistic analysis in table B–10 also shows no overall differences by educational level in the likelihood of quitting one's job during pregnancy for the 1961–85 period.[19] Between 60 and 65 percent of pregnant workers quit their jobs in the early 1960's, regardless of educational level (table B–9, Part D). No differences in job quitting by educational level were noted in the early 1970's with an overall level of about 50 percent quitting their jobs (table B–9, Part B). By 1981–85 the proportion quitting their jobs during pregnancy was still at the 50 percent level among high school dropouts but only 1 out of 5 college graduates reported quitting their job during their pregnancy (table E).

Maternity Leave During Pregnancy: 1961–85

Women with at least one year of college were the most likely recipients of maternity benefits over the 1961–85 period as indicated by the logistic regression in table B–11. Full-time workers, women 25 and over at first birth, and women who worked into their last trimester were also more likely to receive maternity benefits. Perhaps the greater relative gains in labor force experience and schooling made by older mothers since the 1960's have given them the edge in securing these benefits.

The odds of Black women receiving versus not receiving maternity benefits over the entire 1961–85 period were greater than that of White women. However, relative increases in the likelihood of receiving maternity benefits by White women over this period resulted in 47 percent of all women, regardless of race, receiving maternity benefits by 1981–85 (table E). The interaction between the race and the birth cohort variables in table B–11 indicate that for more recent birth cohorts, White women have made greater relative gains in securing maternity leave than Black women.

The three-fold increase in the proportion of pregnant working women receiving maternity leave between 1961–65 (16 percent) and 1981–85 (47 percent) is not just the result of increases in the proportion of women working closer to the time of their child's birth. If the monthly distribution of the time that women left work during their pregnancy was the same in 1981–85 as it was in 1961–65, the aggregate percentage of women receiving maternity benefits in 1981–85

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[18] Mott and Shaw (1986) also found less discontinuity among Black women than White women during the 1950's in work activity immediately before and after childbirth.

[19] Since the educational attainment level is at the time of the survey in 1986 and not at the time of the birth, it is possible that the educational patterns for the 1981–85 period more accurately portray the likelihood of job quitting during pregnancy than do the relationships noted over the entire 1961–85 period.

Table H.
Employer Payments for Maternity Leave for First Births: 1981-85
(Numbers in thousands)

Characteristic	Number of women	Percent	Employer paid for— All leave	Employer paid for— Some leave	Employer paid for— No leave
Total	2,440	100.0	42.0	38.9	19.1
Employment status at last job:					
Full time	2,268	100.0	42.9	39.5	17.5
Part time	172	100.0	29.4	31.1	39.5
Stopped working before birth:					
Less than 1 month	1,472	100.0	45.6	39.3	15.1
1 month	473	100.0	38.4	36.0	25.6
2 months	284	100.0	33.7	41.1	25.2
3 or more months	211	100.0	36.0	39.8	24.2
Age at first birth:					
Less than 20 years	85	100.0	(B)	(B)	(B)
20 to 21 years	267	100.0	40.3	33.7	26.0
22 to 24 years	562	100.0	34.9	43.3	21.8
25 to 29 years	1,009	100.0	44.6	38.7	16.7
30 years and over	517	100.0	44.8	41.3	13.9
Race:					
White	2,150	100.0	42.3	38.0	19.7
Black	242	100.0	42.8	49.3	7.9
Child born::					
Before first marriage	381	100.0	41.1	37.2	21.6
Within first marriage	1,855	100.0	41.6	39.1	19.3
After first marriage	203	100.0	47.0	40.5	12.6
Educational attainment:					
Less than high school	77	100.0	(B)	(B)	(B)
High school	1,005	100.0	44.6	38.1	17.3
College, 1 to 3 years	659	100.0	40.3	38.4	21.3
College, 4 or more years	698	100.0	41.8	41.9	16.3

(B) Base too small to show derived measure.

would still have increased to 36 percent.

Women receiving maternity/sick or other paid leave benefits during first pregnancy were also asked if their employer paid for all or part of their leave. These responses shown in table G indicate that increasing proportions of pregnant workers are receiving cash payments associated with maternity leave.

In 1961-65, about 50 percent of women receiving maternity benefits received some monetary compensation. There were no significant changes in the next 10 years but by 1976-80, the proportion receiving cash benefits had increased to 72 percent and by 1981-85, 81 percent of women with maternity benefits reported receiving some cash benefit. Throughout the study period, about one-half of those receiving some cash payment received it for all their leave.[20]

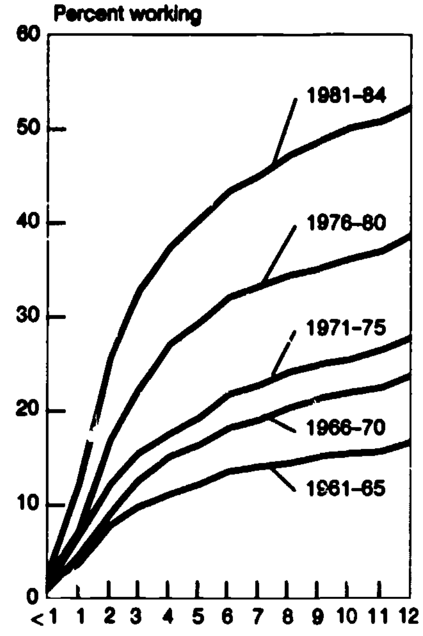
The extent of cash payments received by pregnant workers on maternity leave by selected characteristics is shown in table H for women who had their first birth in 1981-85. The sample size and associated standard errors make it difficult to distinguish group differences in the proportion of women having all of their leave paid for, but obviously, full-time employees, older workers with more job experience, and women working close to the time of childbirth would be the most likely employees to received full compensation.

Returning to Work

Overview of Trends

Even more dramatic than the changes in the labor force participation of women during pregnancy has been their increasingly rapid return to work after the birth of their child. Figure 7 shows the cumulative monthly proportion of women working after their first birth. Working within one year of childbirth was a fairly rare occurrence in the early 1960's. Only 14 percent of mothers with newborns had returned to work by the 6th month, increasing to only 17 percent by the 12th.[21] Among

Figure 7.
Women Working at a Job, by Interval After First Birth: 1961-65 to 1981-84



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[20] Leave arrangements only refer to those used during their pregnancy and up to 6 weeks after childbirth. Information was not obtained on the extent of payments made to employees who were on maternity leave more than 6 weeks after their child's birth.

[21] Mott and Shaw (1986) estimated that between 20 and 25 percent of White women who had their first birth between 1945 and 1959 worked in the first year after their child's birth.

Table I.
Women Working Full Time at First Job After Birth of First Child, by Interval After Birth: 1961-65 to 1981-84

Month returned to work	Year of first birth				
	1981-84	1976-80	1971-75	1966-70	1961-65
Percent working full time.					
Less than 3 months	76.5	78.8	85.8	76.8	61.2
3 to 5 months	57.1	74.7	75.5	77.4	75.9
6 to 12 months	55.9	69.1	66.4	75.6	73.0
13 to 24 months	(X)	67.0	61.8	70.5	71.2
25 to 36 months	(X)	58.7	66.0	61.3	68.1
37 to 48 months	(X)	52.3	65.0	74.0	67.1
49 to 60 months	(X)	59.6	61.2	70.0	69.0

X Incomplete data for this interval.
Source: Derived from table B-12.

women having their first birth in 1981–84, 44 percent had already returned to work 6 months after childbirth, increasing to 53 percent by the twelfth month.

The data also indicate that among women who returned to work by the 12th month after childbirth, most had returned by the 3d month. Between 50 to 60 percent had returned 3 months after birth while 75 to 85 percent were working by the 6th month. This relationship remained consistent throughout the 1961–84 period (table B-5).[22]

In response to the questionnaire item on whether the first job held after childbirth was a full-time or part-time job, most responded that the first job was full-time (table I). Throughout the 1961–85 period, about 75 to 85 percent of women returning to work less than 3 months after childbirth returned to work full time. But among women beginning work 3 to 12 months after childbirth, a smaller proportion in 1981–84 (57 percent) returned to work full time, compared with women who had their first birth in 1961–65 (74 percent).

Perhaps in previous years when relatively few women returned to work within 1 year of childbirth, those who did may have been financially pressed to work, so when they returned to work, they returned full–time. It may also be that today's employers are more willing to hire or re–hire mothers with newborns on a parttime basis structuring jobs to accommodate the mother's family obligations.

Prior Work Experience During Pregnancy

Work experience during pregnancy is an important determinant of how rapidly women return to work. Among women having their first birth in 1981–84, 59 percent had returned to work by the 6th month after their child's birth if they had worked during their pregnancy, compared with only 16 percent among women who had not worked during their pregnancy (table B–5). Differences by work experience were found in earlier periods but at lower levels: 21 percent of women who worked during their pregnancy in 1961–65 returned 6 months after their child's birth, compared with only 8 percent who did not work during their pregnancy.

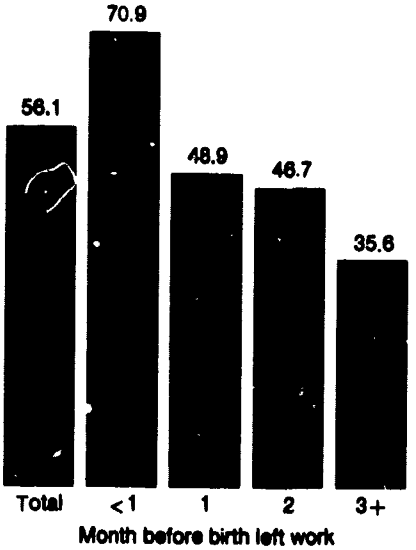
And among women who worked during their pregnancy, the longer into the pregnancy they worked, the more rapidly they returned to work. For the 1981–84 birth cohort, figure 8 illustrates the proportion of women who returned to work within 6 months of their child's birth by the interval from their child's birth when they left work. Among women employed during their first pregnancy in 1981–84 who left work less than 1 month before their child's birth, 71 percent had returned within 6 months after childbirth, compared with 36 percent among women who left their job 3 or more months before their birth. Relatively large differences in the likelihood of returning to work were also found during the 1960's and 1970's by duration of work during pregnancy (table B–13).

Maternity Benefits and Returning to Work

Figure 9 shows that since the mid–1960's, recipients of maternity benefits returned to work more rapidly than those not receiving benefits. Among women who gave birth in 1981–84, 71 percent of those who received benefits returned to work less than 6 months after childbirth, compared with 43 percent among women not receiving any benefits.

Offering maternity benefits with the promise of job retention may encourage more women to work longer into their pregnancy and to return to work more rapidly as income loss associated with job search costs and time would be minimized. Maternity benefits, however, may not equally affect the

Figure 8.
Percentage of Women Returning to Work Less Than 6 Months After First Birth, by Month Left Work During Pregnancy: 1981–84
(Limited to women employed during first pregnancy)



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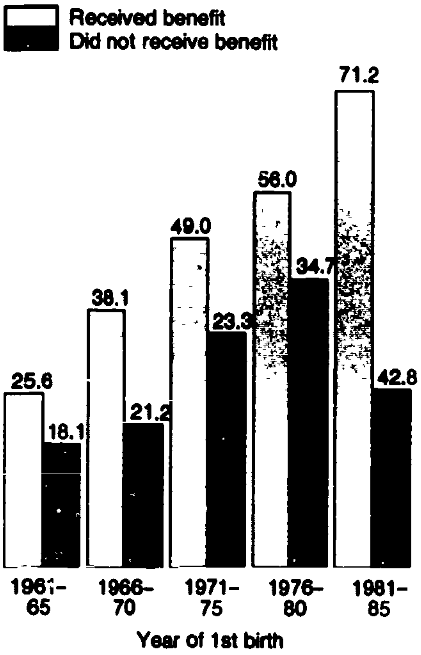
[22] McLaughlin (1982) also reported similar proportional rates of return within the first year after the child's birth during the late 1960's and early 1970's.

Figure 9.
Percentage of Women Returning to Work Less Than 6 Months After First Birth, by Maternity Benefit Receipt: 1961-65 to 1981-85



likelihood of returning to work among women in different occupations. Some occupations, by the nature of their skill level, daily work schedule, or pay scale, may not engender long-term commitments among workers.

Entry level jobs which young people occupy or occupations which utilize workers on a part-time basis are typical of occupations which persons may view as only temporary. Hence, maternity benefits may not offer strong inducements for a rapid return to work, regardless of current or prospective family size, if the job is viewed only from a short-term perspective.

Table J illustrates the median years of job tenure for a spectrum of occupations in which women make up significant proportions. Tenure is defined as the number of years a person currently in that occupation has worked in that job for his or her entire working life. Obviously, occupations like teachers, nurses, and accountants, which require a high degree of training and education, are found among the occupations with greater than average tenure. Jobs like typists, receptionists, waitresses, cashiers, and child care workers, which tend to employee relatively young people, have low occupational tenure.

It is important, then, to consider the effect of maternity leave benefits in the context of the nature of the occupation itself. Unfortunately, the maternity leave questions in SIPP did not ask occupation before and after childbirth. When the association between maternity leave recipience and returning to work is examined in later sections, this omission will be addressed to the extent possible by controlling for factors such as age at childbirth and educational level which are likely to affect the chances of returning to work after childbirth.

Likelihood of a Rapid Return to Work

In general, the most important factor related to a rapid return to work after childbirth is a woman's work history during her pregnancy, even after controlling for other socioeconomic characteristics. An examination of the magnitude of the logistic regression coefficients in table B-14 clearly indicates that women who worked during first pregnancy were more likely to return to work within 6 months of their child's birth than women who were not employed during their pregnancy. The interaction of the employment

Table J.
Female Employees, Median Years of Tenure, and Median Age of Employees, for Selected Occupations: 1987

(Numbers in thousands. Number employed includes both males and females)

Occupation	Number employed	Percent Female	Median years of—	
			Tenure	Age
All employees	112,440	44.6	6.6	35.6
Teachers:				
Secondary school	1,172	54 3	12 5	39.6
Elementary school	1,329	85.3	12.4	39.0
Licensed practical nurses	406	97.0	10.3	36.9
Registered nurses	1,588	95.1	9.3	36.5
Hairdressers	743	89.3	6.9	35.5
Accountants and auditors	1,255	45.7	7.6	35.0
Secretaries	4,107	99.1	7.5	36.1
Bookkeepers, accountants, and auditor clerks	2,004	92.4	7.1	38.9
Sewing machine operators	755	91.0	6.6	37.8
Private household cleaners and servants	472	96.0	6.2	45.9
Nursing aides, orderlies, and attendants	1,324	90.4	5.6	36.5
Typists	843	94.6	5.2	32.6
Computer operators	911	[illegible]	4.6	31.3
Maids and housemen	602	84.6	4.6	38.2
Waiters and waitresses	1,383	85.1	4.2	25.9
Bank tellers	467	90.6	3.6	28.4
Cooks, except short-order	1,627	50.1	3.6	29.3
Receptionists	766	97.5	3.3	31.4
Child care workers:				
Private household	405	96.9	2.7	21.9
Not private household	827	96.0	2.7	34.2
Cashiers	2,286	83.0	2.4	24.4

Note: Number of employed persons and percent female refer to monthly averages for 1987. Median years of tenure and age refer to occupations as of January 1987. Tenure refers to the cumulative number of years a person has worked in his or her current occupation, regardless of the number of employers, interruptions in employment, or time spent in other occupations.

Source: Number of employed persons and employed females are from U.S. Bureau of the Census, Statistical Abstract of the United States, 1989, table 642. Occupational tenure and median age are from Max L. Carey, "Occupational Tenure in 1987: Many Workers Have Remained in their Fields," Monthly Labor Review, Vol. 111, No. 10 (October 1988), table 3. Data source is the January 1987 Current Population Survey; standard errors for the medians shown in this table are not available from the published article.

variable with the birth cohort indicator also indicates that these differences have widened over time, stressing the increasing ties between labor force behavior immediately before and after childbirth.

However, the characteristics of those women most likely to return to work after their first birth are not necessarily the same as those who were most likely to have worked during their pregnancy. Previously it was shown that the women most likely to work during first pregnancy are relatively older women at first birth, White women, and high school or college educated persons (table B-4).

The results of the logistic regression in table B-14 show quite a different profile of women most likely to make a rapid return to work. Among all women who had first births between 1961 and 1985, teenagers, Black women, and women with premarital first births were most likely to be working within 6 months of their child's birth, after controlling for the effects of employment during pregnancy. This suggests that women who are most dependent on their own earnings for their family's support return most rapidly to work. College-educated women, who were previously shown to be more likely to work during their pregnancy than high school dropouts (table B-4), return to work after childbirth no faster than the average for all mothers in the survey.

Other researchers[23] similarly agree that economic need is more likely to be an important factor in generating rapid returns to work after childbirth than it is in determining the likelihood of working before one's first birth. Concerning prebirth labor force activity, other characteristics such as job skills and educational attainment levels may be more important in determining employment opportunities.

Using the same three hypothetical socioeconomic profiles of women developed in earlier sections, estimated proportions of women returning to work within 6 months of childbirth are shown in table N based on the logistic regressions in table B-14. For comparative purposes, model-based estimates of the proportions of women who worked during pregnancy (based on the loglinear regression in table B-4) are also shown in the table.

Among women who did not work at all during their pregnancy (column 1), the proportions returning to work within 6 months of childbirth have been very low since the 1960's for all three categories (table K). Only about 10 to 15 percent of teenagers who did not work during their pregnancy began working less than 6 months after childbirth. For the other two groups (the modal mothers and delayed childbearers), the level was less than 10 percent before the 1980's, increasing to only 15 percent by 1981-84.

Among women who worked during their pregnancy in the 1960's (column 2), 30 to 40 percent of the teenage mother group returned within 6 months of their child's birth compared to 15 to 20 percent for older, married women with relatively more schooling (table K). This pattern suggests that in the 1960's, women who returned to work most rapidly were probably those women who were in greatest economic need to support their families. Relatively older, married women who may have had other financial resources to support themselves other than their own income, returned only half a rapidly.

By the 1970's, 50 percent of women in the teenage mother group who worked during pregnancy had returned to work within 6 months of childbirth, a proportion which has not changed since reaching this level. However, increases in the rapidity of returning to work since the 1970's are noted for the modal mother and delayed childbearer groups who worked during their

Table K.
Model-Based Estimated Percentages of Women Working During First Pregnancy and Working Less than 6 Months After Birth of First Child: Three Illustrative Cases, 1961-65 to 1981-85

Category and child's birth cohort	Percent working less than 8 months after birth: Did not work during pregnancy	Percent working less than 8 months after birth: Worked during pregnancy	Percent working during pregnancy
Teenage mother:			
1981-85[1]	12.0	50.4	13.0
1976-80	12.4	52.8	18.0
1971-75	15.1	50.1	20.4
1966-70	15.3	40.5	22.4
1961-65	10.8	30.8	17.0
Modal mother:			
1961-85[1]	14.7	56.3	75.0
1976-80	8.4	35.0	74.9
1971-75	8.4	27.7	85.8
1966-70	7.0	22.1	60.8
1961-65	5.5	17.4	59.3
Delayed childbearer:			
1981-85[1]	14.8	56.5	87.8
1976-80	8.8	43.2	84.1
1971-75	5.8	25.1	77.1
1966-70	5.4	17.8	89.9
1961-65	4.5	14.7	85.0

[1] Period for working after birth refers to 1981-84.
Note: Characteristics of the three illustrative groups are as follows:
Teenage mother: Less than 20 at first birth, Black, premarital first birth, and high school dropout.
Modal mother: 22-24 at first birth, White, married, high school graduate.
Delayed childbearer: 25+ at first birth, White, married, 1 or more years of college completed.
Source: Derived from loglinear regressions in tables B-4 and B-14.

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[23] See Mott and Shaw (1986) and McLaughlin (1982).

pregnancy (second column of figures in table K). About one-quarter of the women in the modal mother and delayed childbearer groups returned within 6 months of childbearing in the 1971-75 period, increasing to 56 percent, for both groups, by 1981-84.

Regardless of economic need, returning to work rapidly after childbirth is becoming the norm among all social groups. But although differences in returning to work had greatly diminished among these three groups by the 1980's, the teenage mother group was still highly unlikely to have worked at all during their first pregnancy, compared with the other two groups of women (third column of figures in table K).

Re-Entry by Former Workers

The previous section showed the importance of work experience during pregnancy in affecting the likelihood of working after first birth. This final section examines how rapidly women return to work within 1 year after their child's birth among those employed during their pregnancy. Separate analyses were done for women returning to work within 6 months and 6 to 11 months after their child's birth.

Among women employed during their pregnancy, the likelihood of returning to work within 6 months of childbirth was greater for teens, Blacks, and high school dropouts (table B-15). Although women with these characteristics are more likely to return to work if employed during their pregnancy, they were initially less likely to be have been employed during their pregnancy (table B- 4). Pregnant workers with these characteristics, then, may represent a select group of persons with more pressing economic needs, hence their more rapid return to work.

There were no significant associations between early returns and the woman's marital status at birth or whether her last job before pregnancy was full time or part time. However, women who worked during their last trimester of their pregnancy or who were the recipients of maternity benefits, returned to work more rapidly than their counterparts.

The strong associations found between these two work-related variables and rapid returns to work may be indicative of highly motivated working women or women promised a job after childbirth by their employer. If the latter is the case, maternity benefits are measured not only in immediate monetary benefits given to pregnant workers but also in indirect benefits which reduce time and money involved in searching for a new job. These costs would be incurred by women who either quit their jobs or who were let go from work.

A second regression analysis for women who returned to work 6 to 11 months after their child's birth was performed (table B-16), omitting from the analysis women who had already returned to work within the first 6 months. Very weak associations were found as compared with the previous results. No differences were found in the likelihood of returning to work by race or recipience of maternity benefits. Women working into their last trimester of pregnancy were still more likely to return to work during this second 6 month period after their infant's birth and in this instance so were married women.

Persons 22 to 24 years old and high school graduates, the modal age-education profile of first-time mothers, were also less likely to return in this period as they were in the first 6 months after childbirth. It could be that these women withdrew from the labor force for longer time periods in anticipation of subsequent childbearing. A longitudinal analysis of married women by Jones (1982) for the period 1970 and 1975 suggested that women who intended to have at least one more child (at any given birth-order level) enter the workforce at a slower pace after their most recent birth than women whose last birth marked the completion of their intended family size.

Conclusions

This study has discussed the changes in the employment behavior of women before and after the birth of their first child and the type of leave arrangements that employed women used during their pregnancy and after childbirth. Today, women have their first child at older ages and have more schooling and labor force experience before their first birth than did their predecessors. Increasing proportions of women are working during pregnancy, rising from 44 percent in 1961-65 to 65 percent in 1981-85. Among women working during pregnancy, the proportion working into their last trimester increased from 52 to 78 percent during this same period.

Even more remarkable in the last 25 years has been the change in the role women play as family providers within the first year of their child's life. In the early 1960's, very few women, only 1 out of every 6, were working before their child's first birthday; now, one-half of women with newborns are working within a year of their child's birth.

The women most likely to work during their first pregnancy are relatively older women, White women, and women who had at least a high school education. But among women who did work during pregnancy, teenagers, Black women, and high school dropouts were most likely to return to work within 6 months of their child's birth. Apparently, women who depend primarily on their own income to support their new family are most likely to return quickly to work, even though they were least likely to have been employed during their pregnancy.

A shift in leave arrangements used by women at the time of their first birth has accompanied this change in the workforce. Between the 1961-65 and 1976-80 periods, women most often quit their jobs during pregnancy: by 1981-85, the situation had reversed as almost one-half of all women received maternity benefits while only 28 percent reported quitting their jobs.

Strongly associated with the receipt of maternity benefits is the rapid return to work after childbirth. Maternity benefits, in addition to providing monetary assistance to a mother-to-be, give assurance to a pregnant worker that her job will be waiting for her after giving birth. As such, maternity leave indirectly reduces employee time and costs associated with searching for a new job. Maternity leave policies can also benefit employers by reducing potential costs and lost time associated with finding new replacement workers.

Recent media attention has focused on the potential work disruptions experienced by female executives at the time of their first birth.[24] Although the SIPP questionnaire did not ask about the occupation of the women during their pregnancy, we can put together a likely demographic profile of a female executive and estimate the proportion returning to work after childbirth.

Demographically, suppose this hypothetical executive had her first child in her late twenties, was White, had a college education, and was married at the time of her birth. Suppose also, that being an executive, she worked full time at her job during her pregnancy, worked into her last trimester, and received maternity benefits from her employer. The current estimated proportion of women with these characteristics who would return to work less than 6 months after their child's birth is 70 percent (as estimated from the logistic regression in table B-15 for the most recent period).

Table L.

Total Amount of Time Lost Before and After First Birth Among Women Employed During their First Pregnancy: 1961-65 to 1981-84

(Numbers in thousands)

Time lost	Year of first birth				
	1981-84	1976-80	1971-75	1966-70	1961-65
Number of women	4,237	4,414	3,700	3,435	2,797
Percent	100.0	100.0	100.0	100.0	100.0
Less than 3 months	25.0	18.3	11.5	7.2	6.9
3 to 5 months	22.1	18.8	10.1	9.7	8.9
6 to 8 months	11.7	8.4	8.3	7.4	5.8
9 to 11 months	8.7	4.9	4.4	4.8	4.0
12 or more months	34.8	51.8	65.8	70.9	78.6

The one demographic factor among all of those mentioned that contributes most to this overall estimated proportion is whether or not she had received any maternity benefits during her pregnancy. If no maternity benefits were received, only 44 percent of the women with these characteristics are estimated to return to work within 6 months. A maternity benefit consisting of an offer of job retention after childbirth must be considered to be of primary importance in understanding why some women return to work faster than others.

As a final summary, table L presents the overall changes in the time lost from work by women employed during their pregnancy. In 1961–65, only 7 percent of pregnant workers reported losing less than 3 months from their job either during their pregnancy or after birth, while 77 percent lost at least 12 months time from work. By 1981–84, one-fourth of all pregnant workers lost less than 3 months while the proportion losing 12 or more months declined to 35 percent.

This transition in employment patterns, accomplished by both working longer into the pregnancy and returning more rapidly after childbirth undoubtedly reflects changes in attitudes and needs by the mother, her family, and her employer. Time lost from work because of childbearing is being reduced from a career halting event to a relatively short-term interruption in the course of a woman's working life.

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[24] See the article by Schwartz (1989) and the follow-up commentaries (Olofson, 1989) this article generated.

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Appendix A.

Educational Attainment Data in SIPP

The only available educational attainment indicator from the SIPP is the educational attainment of the woman at the time of the survey in 1986. This results in a significant overestimation of schooling levels at the time of first birth for some groups of women who had their first birth in the 1960's and 1970's and who subsequently continued their schooling.

Table A-1 presents the SIPP educational attainment levels as of the survey date in 1986—as used in this report—by the age of the women and the period of first birth. In comparison with Vital Statistics estimates from birth records, SIPP data show considerable differences in educational attainment among teenage mothers.

Between 1970 and 1980, Vital Statistics data show that 40 percent of teenage mothers had at least a high school education at the time of their first birth. Data from the SIPP show that about two-thirds of the women who had their first birth between 1971 and 1980, on average, had received at least a high school education by 1986. The problem of overestimation is less severe for older women or for SIPP estimates for the 1981-85 period. The SIPP educational indicator used in this report, however, also seems to overestimate college attainment levels for older women who had first births in the early 1970's.

Table A-1.
Educational Attainment of Women at the Time of Their First Birth
(Vital statistics estimates, 1970-85, and SIPP estimates of attainment as of the survey in 1986)

Educational attainment, source of data, and year of first birth	Age at first birth			
	Less than 20	20-24	25-29	30 and over
Percent 12+ Years				
Vital statistics:				
1985	40.7	87.9	96.0	96.8
1980	40.3	88.3	96.2	95.2
1975	37.8	88.1	94.7	89.9
1970	43.6	88.9	91.6	83.7
SIPP:				
1981-85	47.1	88.4	94.7	92.9
1976-80	62.1	89.6	95.2	92.7
1971-75	64.0	89.3	93.0	82.1
Percent 13+ Years				
Vital statistics:				
1985	4.0	32.7	60.2	71.8
1980	3.4	30.9	62.1	68.1
1975	2.7	30.7	60.0	55.6
1970	4.7	32.6	52.7	41.6
SIPP:				
1981-85	6.1	32.7	57.7	68.7
1976-80	12.0	30.5	62.5	67.5
1971-75	16.1	37.0	63.4	50.4
Percent 16+ Years				
Vital statistics:				
1985	(NA)	6.9	33.0	49.2
1980	(NA)	6.7	36.0	48.0
1975	(NA)	7.6	37.3	38.2
1970	(NA)	6.7	33.5	26.4
SIPP:				
1981-85	(NA)	8.3	29.3	49.7
1976-80	(NA)	6.2	38.9	45.4
1971-75	(NA)	13.3	40.6	31.5

NA Not applicable for this age group. Source: Vital Statistics data are from table B-1 of this report.

Caution must be used in interpreting educational differences among young women for earlier periods as subsequent schooling has placed them in different educational categories than they were actually in at the time of their first birth.

Appendix B.

Detailed Tables

Table B-1.
Educational Attainment of Women at the Time of Their First Birth: 1970 to 1985

(Vital statistics estimates. In percent)

Educational attainment and year of first birth	All ages	Age at first birth			
		Less than 20 years	20-24 years	25-29 years	30 years and over
12 or more years:					
1985	80.1	40.7	87.9	96.0	96.8
1980	77.3	40.3	88.3	96.2	95.2
1975	71.9	37.8	88.1	94.7	89.9
1970	73.1	43.6	88.9	91.6	83.7
13 or more years:					
1985	38.6	4.0	32.7	60.2	71.6
1980	33.6	3.4	30.9	62.1	68.1
1975	28.2	2.7	30.7	60.0	55.6
1970	26.0	4.7	32.6	52.7	41.6
16 or more years:					
1985	18.1	(NA)	6.9	33.0	49.2
1980	15.4	(NA)	6.7	36.0	48.0
1975	12.7	(NA)	7.6	37.3	38.2
1970	9.9	(NA)	8.7	33.5	26.4

NA Not applicable for this age group.

Source: Annual issues of Vital Statistics of the United States. The number of States reporting on educational attainment was 47 for 1980 and 1985, 42 States for 1975, and 38 States for 1970, in addition to the District of Columbia for all years except for 1970.

Table B-2.
Women Who Worked for Pay Continuously for 6 or More Months Before Their First Birth, and Who Worked During Their First Pregnancy, by Race: 1961-65 to 1981-85

(In percent)

Race and year of first birth	Total	Age at first birth					
		Less than 18 years	18-19 years	20-21 years	22-24 years	25-29 years	30 years and over
Worked 6 or More Months Continuously							
All races:							
1981-85	75.2	20.8	47.8	73.5	85.2	92.7	93.8
1976-80	73.1	31.0	54.7	73.2	83.2	90.0	92.8
1971-75	68.9	32.0	57.1	73.1	84.0	89.0	75.9
1966-70	66.4	31.2	52.5	69.6	79.9	83.7	73.2
1961-65	60.0	27.2	43.6	67.9	74.9	72.8	74.0
White:							
1981-85	80.4	26.9	53.5	77.1	88.0	94.1	95.2
1976-80	77.7	38.0	56.9	76.2	86.0	93.4	93.1
1971-75	72.7	33.3	59.6	75.0	85.6	90.0	78.5
1966-70	69.5	29.8	53.8	70.9	81.6	88.0	72.5
1961-65	63.6	22.2	46.9	69.8	77.4	79.4	74.7
Black:							
1981-85	50.8	11.9	31.0	63.5	67.2	(B)	(B)
1976-80	50.9	18.2	(B)	(B)	(B)	(B)	(B)
1971-75	53.4	30.0	49.0	(B)	(B)	(B)	(B)
1966-70	51.0	32.7	47.8	(B)	(B)	(B)	(B)
1961-65	41.9	37.6	28.7	(B)	(B)	(B)	(B)
Worked During Pregnancy							
All races:							
1981-85	64.5	16.8	38.9	59.3	71.9	82.3	83.4
1976-80	61.4	23.5	40.8	57.4	73.1	81.1	74.0
1971-75	53.5	25.1	38.3	57.4	66.6	73.1	60.7
1966-70	49.4	19.1	40.1	50.8	61.4	66.2	44.3
1961-65	44.4	25.0	29.2	49.4	56.8	54.4	51.9
White:							
1981-85	69.3	21.7	42.5	63.5	74.1	85.2	83.8
1976-80	65.5	29.7	43.7	61.2	75.8	82.8	73.1
1971-75	57.0	26.1	41.7	59.3	67.9	74.3	63.9
1966-70	51.6	15.3	39.1	51.7	63.9	70.5	43.0
1961-65	46.7	20.7	32.1	50.0	58.5	58.1	54.1
Black:							
1981-85	42.9	9.4	29.0	45.7	54.8	(B)	(B)
1976-80	40.5	11.8	(B)	(B)	(B)	(B)	(B)
1971-75	39.8	23.3	28.1	(B)	(B)	(B)	(B)
1966-70	37.9	24.2	46.9	(B)	(B)	(B)	(B)
1961-65	32.2	34.4	13.7	(B)	(B)	(B)	(B)

B Base too small to show derived measure.
Note: Population bases are in table B-3

Table B-3.

Distribution of Women, by Year of First Birth, Age at First Birth, and Employment Status During Pregnancy, by Race: 1961-65 to 1981-85

(Numbers in thousands)

Race and year of first birth	Total	Age at first birth					
		Less than 18 years	18-19 years	20-21 years	22-24 years	25-29 years	30 years and over
All Women							
All races:							
1981-85	8,129	810	1,042	1,301	1,738	2,207	1,031
1976-80	7,192	887	1,083	1,246	1,657	1,744	575
1971-75	6,920	1,032	1,475	1,318	1,495	1,227	373
1966-70	6,956	928	1,253	1,578	1,734	1,098	365
1961-65	6,306	862	1,312	1,319	1,322	925	565
White:							
1981-85	6,660	492	796	1,053	1,504	1,933	881
1976-80	5,972	603	865	1,047	1,430	1,534	493
1971-75	5,537	635	1,142	1,095	1,287	1,091	287
1966-70	5,817	590	1,011	1,408	1,568	925	316
1961-65	5,301	575	1,070	1,175	1,207	779	495
Black:							
1981-85	1,184	297	211	202	206	187	81
1976-80	933	249	193	177	142	124	48
1971-75	1,154	377	305	186	163	73	49
1966-70	932	315	222	145	117	107	27
1961-65	832	260	211	129	86	94	53
Worked During Pregnancy							
All races:							
1981-85	5,239	136	405	772	1,249	1,816	860
1976-80	4,414	209	442	715	1,210	1,414	425
1971-75	3,700	259	566	757	995	897	226
1966-70	3,435	177	502	801	1,065	727	162
1961-65	2.797	215	383	652	751	503	293
White:							
1981-85	4,612	107	338	668	1.114	1,646	738
1976-80	3,914	179	378	640	1,084	1,271	361
1971-75	3,158	166	476	650	874	810	183
1966-70	3,003	90	395	728	1,002	652	136
1961-65	2,476	119	343	588	706	452	268
Black:							
1981-85	508	28	61	93	113	136	77
1976-80	378	29	56	71	83	100	38
1971-75	459	88	86	98	114	48	26
1966-70	354	78	104	66	48	48	13
1961-65	268	89	29	64	41	28	17

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Table B-4.
Logistic Regression for Odds of Working During First Pregnancy: 1961-65 to 1981-85

Characteristic	Main effect	Interaction of selected characteristics with—							
		Child's birth cohort					Educational attainment		
		1961-65	1966-70	1971-75	1976-80	1981-85	Less than high school	High school	College, 1 or more years
Age at first birth:									
Less than 20 years	**-0.733	0.073	0.059	0.024	−0.059	−0.097	0.114	*-0.107	−0.007
	(0.053)	(0.062)	(0.080)	(0.092)	(0.094)	(0.084)	(0.073)	(0.066)	(0.065)
20 and 21 years	**-0.088	0.126	0.039	0.083	*-0.139	−0.109	−0.021	**0.177	**-0.155
	(0.039)	(0.103)	(0.095)	(0.107)	(0.075)	(0.087)	(0.076)	(0.061)	(0.071)
22 to 24 years	**0.330	−0.019	0.020	−0.029	0.077	−0.049	−0.044	−0.012	0.056
	(0.052)	(0.072)	(0.075)	(0.078)	(0.083)	(0.080)	(0.094)	(0.067)	(0.074)
25 years and over	**0.492	*-0.180	−0.118	−0.078	0.122	**0.255	−0.049	−0.058	0.106
	(0.044)	(0.093)	(0.097)	(0.104)	(0.094)	(0.102)	(0.083)	(0.077)	(0.068)
Race:									
White¹	**0.176	−0.080	−0.073	−0.025	0.057	0.121	*-0.105	**0.114	−0.009
	(0.040)	(0.087)	(0.081)	(0.057)	(0.066)	(0.061)	(0.056)	(0.046)	(0.049)
Marital status at first birth:									
Married²	−0.014	−0.044	**-0.132	−0.040	**0.142	0.074	***	***	***
	(0.033)	(0.067)	(0.064)	(0.065)	(0.060)	(0.069)			
Educational attainment:									
Less than high school	**-0.795	0.026	0.093	0.025	0.040	**-0.184	(X)	(X)	(X)
	(0.061)	(0.098)	(0.079)	(0.085)	(0.067)	(0.090)			
High school	**0.211	0.051	−0.052	−0.051	−0.019	0.072	(X)	(X)	(X)
	(0.046)	(0.070)	(0.065)	(0.069)	(0.067)	(0.064)			
College, 1 or more years	**0 584	−0.077	−0.041	0.026	−0.020	0.112	(X)	(X)	(X)
	(0.051)	(0.079)	(0.068)	(0.074)	(0.067)	(0.079)			
Child's birth cohort:									
1961-65	**-0.264								
	(0.086)								
1966-70	−0.055								
	(0.080)								
1971-75	0.087								
	(0.070)								
1976-80	0.104								
	(0.087)								
1981-85	**0 147								
	(0.069)								
Constant	*-0.073								
	(0.045)								
Degrees of freedom	192								
Jackknifed X2	2.85								

* Coefficient significant at the 0.10 level.
** Coefficient significant at the 0.05 level.
***Interaction not in regression.
X Interaction not applicable.
[1] Includes White and all other races except Black.
[2] Includes births after first marriage.
Note: Coefficients represent the log of the odds of working during first pregnancy. Numbers in parenthesis represent the standard errors of the coefficients.

Table B-5.
Women at Work During Their First Pregnancy and After Their First Birth, by Monthly Interval Before and After First Birth and Employment Status During First Pregnancy: 1961-65 to 1981-85

(Numbers in thousands)

Monthly interval	Year of first birth					
	1981-84	1976-80	1971-75	1966-70	1961-65	1981-85
Number of women with first births	6,671	7,192	6,920	6,956	6,306	6,129
Percent	100 0	100.0	100 0	100.0	100.0	100.0
Working During Pregnancy						
Total	63.5	61.4	53.5	49.4	44 4	64.5
Working in month before first birth:						
8 months	63.4	61.1	53.1	49.4	44.1	64.3
7 months	62.7	60.5	51.9	48.5	43.5	63 3
6 months	61.5	59.0	49.6	47.2	42.2	62.1
5 months	58.4	56.7	46.4	42.5	38.7	58.6
4 months	55.6	54.3	42.9	39.9	35.6	56.6
3 months	52.9	50.4	39.6	35.6	30 1	53 7
2 months	49.6	45.2	34.2	26.5	22.9	50 1
1 month	41.2	36.2	23.0	19.4	15.3	41.7
Less than 1 month[1]	29.9	25.1	14.5	12.9	10 1	30.5
Working After Birth						
Total						
Cumulative percent:						
Less than 1 month[1]	3.2	2 5	1.6	1.3	1.9	(1)
1 month	12.1	7.2	6.7	4.6	3.6	(1)
2 months	25.4	16.6	12.1	9.0	7.6	(1)
3 months	32.9	22.4	15.6	12.7	9.9	(1)
4 months	37.4	27.1	17.6	15.2	11.2	(1)
5 months	40.5	29.5	19.4	16.5	12.3	(1)
6 months	43.5	32.2	21.9	16.3	13.7	(1)
7 months	45.2	33.4	22.9	19.2	14.2	(1)
8 months	47.4	34.6	24.3	20.5	14.6	(1)
9 months	48.9	35.3	25.1	21.5	15 3	(1)
10 months	50.3	36.3	25.6	22.1	15 6	(1)
11 months	51.0	37.1	26.6	22.6	15.6	(1)
12 months	52.5	38.6	27.9	23.9	16 6	(1)
18 months	(1)	45.1	33.5	27.4	20 6	(1)
24 months	(1)	48.0	37.0	29.6	22 5	(1)
36 months	(1)	54.6	42.4	34.3	26 6	(1)
48 months	(1)	59.2	48.9	38.2	30 4	(1)
60 months	(1)	64.3	50.0	41.1	33 5	(1)
Worked During Pregnancy						
Number of women	4,237	4,414	3,700	3,435	2,797	(1)
Percent	100.0	100.0	100.0	100.0	100 0	100 0
Cumulative percent at work.						
Less than 1 month[1]	4.7	3.7	2.6	2.4	4 1	(1)
1 month	16.9	10.3	10.3	7.7	6 1	(1)
2 months	36.3	24.2	16.6	14.6	13 5	(1)
3 months	48.0	32.6	24.1	19.6	16 5	(1)
4 months	52.3	38.7	27.0	22.6	17 7	(1)
5 months	56.1	42.0	29.3	24.3	19 3	(1)
6 months	59.[illegible]	45.4	32.1	26.7	21 4	(1)
7 months	61.2	46.9	33.2	27.7	22 3	(1)
8 months	64.2	48.1	34.7	29.1	22 9	(1)
9 months	65.9	48.9	35.4	30.2	23 5	(1)
10 months	67.1	49.6	36.1	30.7	24 0	(1)
11 months	67.6	50.6	37.6	31.3	24 5	(1)
12 months	69.7	52.6	38.6	32.7	25 8	(1)
18 months	(1)	59.3	44.3	37 0	29 4	(1)
24 months	(1)	62.0	47.2	39.1	30.6	(1)
36 months	(1)	68.4	52.0	43 6	35.0	(1)
48 months	(1)	72.6	56.6	46.7	38.7	(1)
60 months	(1)	76.3	59.3	49 5	41.2	(1)

Table B-5.
Women at Work During Their First Pregnancy and After Their First Birth, by Monthly Interval Before and After First Birth and Employment Status During First Pregnancy: 1961-65 to 1981-85—Continued

(Numbers in thousands)

Monthly interval	Year of first birth					
	1981-84	1976-80	1971-75	1966-70	1961-65	1981-85
Working After Birth—Con.						
Did Not Work During Pregnancy						
Number of women	2,434	2,778	3,221	3,522	3,509	(I)
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Cumulative percent at work:						
Less than 1 month[1]	0.6	0.5	1.0	0.2	0.2	(I)
1 month	3.7	2.4	2.5	1.7	2.0	(I)
2 months	6.5	5.1	4.4	3.6	3.4	(I)
3 months	9.9	6.3	5.9	6.0	4.6	(I)
4 months	11.5	8.5	6.8	7.8	6.0	(I)
5 months	13.4	9.6	8.1	9.0	6.7	(I)
6 months	16.2	11.1	10.1	10.2	7.5	(I)
7 months	17.5	11.9	10.9	11.0	7.8	(I)
8 months	18.2	13.0	12.3	12.1	7.9	(I)
9 months	19.4	13.7	13.2	13.0	8.8	(I)
10 months	21.0	14.9	13.5	13.7	8.9	(I)
11 months	21.8	15.6	14.1	14.1	8.9	(I)
12 months	22.5	16.8	15.3	15.3	9.6	(I)
18 months	(I)	22.5	21.2	18.2	13.7	(I)
24 months	(I)	25.8	25.2	20.8	16.0	(I)
36 months	(I)	32.7	31.4	25.2	19.8	(I)
48 months	(I)	37.8	35.7	29.9	23.8	(I)
60 months	(I)	45.2	39.2	33.0	27.4	(I)

I Incomplete data for this interval.

[1] Includes women who responded that they never stopped working during their pregnancy or after their birth.

Note: 1981-84 estimates are used for comparing worker rates before and after birth for the most recent first birth cohort.

Table B-6.
Women Who Worked During their First Pregnancy, by When They Stopped Working Before First Birth: 1961-65 to 1981-85

(Numbers in thousands)

Month before birth that woman stopped working	Year of first birth					
	1981-85	1976-80	1971-75	1966-70	1961-65	1981-84
Total Working						
Total	5,239	4,414	3,700	3,435	2,797	4,237
Month 8 or earlier	89	65	111	59	56	55
Month 7	100	104	154	90	81	83
Month 6	268	171	221	328	223	207
Month 5	178	173	248	181	181	170
Month 4	243	281	215	303	357	192
Month 3	290	369	384	491	453	224
Month 2	682	650	773	629	479	556
Month 1	914	796	591	453	332	756
Less than 1 month	2,475	1,805	1,002	899	635	1,995
Worked Full Time[1]						
Total	4,387	3,821	3,291	3,074	2,502	3,587
Month 8 or earlier	77	48	87	55	41	43
Month 7	78	90	124	72	70	65
Month 6	214	145	178	279	204	173
Month 5	131	130	205	181	173	125
Month 4	179	205	184	263	314	154
Month 3	233	322	347	439	423	185
Month 2	523	549	724	566	413	423
Month 1	759	723	541	415	305	636
Less than 1 month	2,194	1,609	901	825	560	1,784

[1] Worked full time at last job before child's birth.

Table B-7.
Women Who Worked During Last Trimester of First Pregnancy or Worked Within One Month of Child's Birth, by Selected Characteristics: 1961-65 to 1981-85

(In percent)

Characteristic	Year of first birth				
	1981-85	1976-80	1971-75	1966-70	1961-65
Women Working in Last Trimester					
Total	77.7	73.7	64.0	57.7	51.7
Employment status at last job:					
Full time	79.2	75.4	65.6	58.8	51.1
Part time	70.1	62.5	49.0	48.7	57.1
Age at first birth:					
Less than 16 years	(B)	64.2	67.9	(B)	58 9
18 and 19 years	58.7	63.5	55.0	41.7	51 6
20 and 21 years	68.8	73.9	57.7	62.5	50 3
22 to 24 years	78.3	71.8	67.4	59.9	56.0
25 to 29 years	83.1	76.4	67.5	56.6	45.6
30 years and over	83.0	76.3	74.0	(B)	48.8
Race:					
White	77.8	74.6	63.2	57.0	50.5
Black	74.9	67.2	66.5	59.3	61.3
Child born:					
Before first marriage	70.2	74.4	67.7	61.8	57.3
Within first marriage	79.0	73.4	63.5	56.6	50.4
After first marriage	86.4	75.1	(B)	(B)	(B)
Educational attainment:					
Less than high school	63.0	59.5	54.8	59.5	54.6
High school	73.7	69.9	64.0	56.8	52.5
College, 1 to 3 years	83.3	79.6	66.5	60.4	55.7
College, 4 or more years	64.1	80.2	65.2	55.3	43.5
Women Working Within 1 Month of Child's Birth					
Total	4[illegible].2	40.9	27.1	26 2	22.7
Employment status at last job:					
Full time	50.0	42.1	27.4	26.[illegible]	22.4
Part time	33.0	33 0	24.6	20.5	25.4
Age at first birth:					
Less than 18 years	(B)	33.0	42.1	(B)	32.6
18 and 19 years	32.0	38.3	25.9	13.1	20 9
20 and 21 years	41.6	40.8	21.1	27.4	22.2
22 to 24 years	45.6	36.6	25.7	29 1	27 3
25 to 29 years	51 9	47.5	30.6	24.1	14.1
30 years and over	53.9	37.4	25.2	(B)	21.9
Race:					
White	48.5	41.7	25.9	24 6	21.9
Black	34.9	34 3	33.5	36.0	27.6
Child born:					
Before first marriage	40.9	34.7	31.2	30 9	33.9
Within first marriage	48.5	42 3	26.4	24.8	20.3
After first marriage	53.3	39.6	(B)	(B)	(B)
Educational attainment:					
Less than high school	31.5	31.5	29.4	30 9	16.0
High school	42.6	38.4	25.7	25.9	20.1
College, 1 to 3 years	50.2	40.0	28 6	25.9	31.0
College, 4 or more years	58.1	50.2	27.4	24.7	24.4

B Base too small to show derived measure.
Note: Percents based on number of women reported working during first pregnancy within the selected socioeconomic population groups.

Table B-8.
Logistic Regression for Odds of Working in Last Trimester of Pregnancy Among Employed Women: 1961-65 to 1981-85

Characteristic	Main effect	Interaction of selected characteristics with—									
		Child's birth cohort						Age at first birth			
		1961-65	1966-70	1971-75	1976-80	1981-85	Full time work	Less than 20 years	20-21 years	22-24 years	25 years and over
Age at first birth:											
Less than 20 years	-0.070	*0.200	**-0.244	0.042	0.037	-0.035	***	(X)	(X)	(X)	(X)
	(0.082)	(0.109)	(0.113)	(0.128)	(0.141)	(0.134)					
20 and 21 years	-0.117	-0.017	**0.289	**-0.239	0.152	*-0.185	***	(X)	(X)	(X)	(X)
	(0.094)	(0.141)	(0.093)	(0.115)	(0.166)	(0.113)					
22 to 24 years	0.048	0.127	0.025	0.050	**-0.216	0.016	***	(X)	(X)	(X)	(X)
	(0.089)	(0.106)	(0.104)	(0.067)	(0.101)	(0.112)					
25 years and over	0.139	**-0.309	-0.069	0.147	0.027	*0.204	***	(X)	(X)	(X)	(X)
	(0.097)	(0.091)	(0.106)	(0.037)	(0.128)	(0.126)					
Race:											
White[1]	0.005	-0.190	-0.011	-0.044	**0.230	0.015	***	***	***	***	***
	(0.056)	(0.132)	(0.125)	(0.121)	(0.111)	(0.130)					
Marital status at first birth:											
Married[2]	0.003	0.029	-0.064	-0.051	-0.086	**0.171	*-0.111	*-0.133	-0.048	0.055	0.125
	(0.061)	(0.105)	(0.125)	(0.099)	(0.098)	(0.085)	(0.065)	(0.074)	(0.093)	(0.078)	(0.085)
Educational attainment:											
Less than high school	-0.086	*0.247	**0.336	-0.080	-0.257	*-0.246	**-0.222	-0.045	*-0.251	0.005	**0.291
	(0.093)	(0.148)	(0.155)	(0.159)	(0.177)	(0.153)	(0.110)	(0.095)	(0.136)	(0.126)	(0.111)
High school	-0.049	0.043	-0.073	0.142	-0.050	-0.062	0.060	**-0.235	*0.163	0.048	0.024
	(0.061)	(0.123)	(0.096)	(0.102)	(0.108)	(0.096)	(0.072)	(0.091)	(0.101)	(0.078)	(0.083)
College, 1 or more years	*0.135	**-0.290	**-0.264	-0.063	**0.308	**0.308	**0.162	**0.280	0.088	-0.053	**-0.315
	(0.073)	(0.129)	(0.119)	(0.113)	(0.117)	(0.102)	(0.073)	(0.095)	(0.108)	(0.090)	(0.082)
Work status:											
Employed full time	**0.170	**-0.279	0.009	*0.171	0.105	-0.006	(X)	***	***	***	***
	(0.064)	(0.133)	(0.113)	(0.094)	(0.090)	(0.087)					
Child's birth cohort:											
1961-65	-0.140										
	(0.144)										
1966-70	-0.185										
	(0.145)										
1971-75	-0.169										
	(0.157)										
1976-80	0.133										
	(0.127)										
1981-85	**0.361										
	(0.146)										
Constant	**0.466										
	(0.069)										
Degrees of freedom	423										
Jackknifed X^2	9.27										

* Coefficient significant at the 0.10 level.
** Coefficient significant at the 0.05 level.
*** Interaction not in the regression.
X Interaction not applicable.
[1] Includes White and all other races except Black.
[2] Includes births after first marriage.
Note: Coefficients represent the log of the odds of working during the last trimester of pregnancy.
Numbers in parenthesis represent the standard errors of the coefficients.

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Table B-9.
Distribution of Type of Leave Arrangements Used by Women Who Worked During their First Pregnancy
A. First Births, 1976-80

(Numbers in thousands. Percent distribution may exceed 100.0 because of multiple answers)

Characteristic	Number of women	Total	Quit job	Maternity, sick/paid leave	Unpaid leave	Let go from job	Never stopped working
Total	4,414	100.0	41.3	34.0	20.2	4.9	2.0
Employment status at last job:							
Full time	3,821	100.0	38.6	37.3	20.5	4.6	1.6
Part time	593	100.0	59.2	12.7	17.9	6.5	4.3
Stopped working before birth:							
Less than 1 month	1,805	100.0	25.6	44.0	25.8	3.1	4.6
1 month	796	100.0	37.2	43.6	21.9	1.7	-
2 months	650	100.0	47.8	27.9	20.9	4.5	-
3 to 5 months	824	100.0	65.1	16.2	10.5	8.2	-
6 or more months	339	100.0	65.0	13.6	8.2	14.5	-
Age at first birth:							
Less than 18 years	209	100.0	51.7	14.4	28.5	4.2	1.1
18 and 19 years	442	100.0	43.9	24.8	20.2	10.9	1.3
20 and 21 years	715	100.0	42.2	30.4	23.3	6.8	0.4
22 to 24 years	1,210	100.0	45.6	31.8	19.7	3.7	2.3
25 to 29 years	1,414	100.0	39.2	38.0	19.4	2.7	2.7
30 years and over	425	100.0	27.2	52.6	14.5	6.4	2.2
Race:							
White	3,914	100.0	42.3	33.4	19.9	4.7	1.9
Black	378	100.0	33.2	43.5	17.5	7.1	2.3
Child born:[1]							
Before first marriage	722	100.0	34.0	33.0	24.9	8.2	2.9
Within first marriage	3,392	100.0	43.0	34.6	19.1	4.0	1.8
Educational attainment:							
Less than high school	331	100.0	56.0	12.0	22.6	8.4	1.0
High school	2,086	100.0	41.9	32.4	19.9	5.9	2.3
College, 1 to 3 years	1,004	100.0	42.3	37.0	19.6	4.3	0.8
College, 4 or more years	994	100.0	34.4	41.8	20.7	2.2	2.7

- Represents zero.

[1] Data not shown separately for births occurring after first marriage because of too few sample cases.

Table B-9.

Distribution of Type of Leave Arrangements Used by Women Who Worked During their First Pregnancy—Continued

B. First Births, 1971-75

(Numbers in thousands. Percent distribution may exceed 100.0 because of multiple answers)

Characteristic	Number of women	Total	Quit job	Maternity, sick/paid leave	Unpaid leave	Let go from job	Never stopped working
Total	3,700	100.0	51.1	23.4	20.8	4.6	1.7
Employment status at last job:							
Full time	3,291	100.0	48.5	25.7	20.9	4.8	1.6
Part time	409	100.0	72.0	5.5	20.3	2.8	2.6
Stopped working before birth:							
Less than 1 month	1,002	100.0	28.3	33.0	33.1	2.4	6.4
1 month	591	100.0	47.2	32.8	20.5	1.3	-
2 months	773	100.0	56.1	23.2	17.0	4.4	-
3 to 5 months	847	100.0	65.3	12.2	18.4	5.1	-
6 or more months	487	100.0	70.1	12.3	6.0	12.2	-
Age at first birth:							
Less than 18 years	259	100.0	61.3	17.3	18.4	1.0	3.3
18 and 19 years	566	100.0	58.3	16.1	21.5	3.3	0.9
20 and 21 years	757	100.0	52.8	19.3	22.5	7.4	0.8
22 to 24 years	995	100.0	49.5	25.7	18.3	5.6	2.1
25 to 29 years	897	100.0	48.5	28.6	19.4	3.3	1.8
30 years and over	226	100.0	33.1	32.4	32.7	3.0	3.4
Race:							
White	3,158	100.0	54.2	20.6	20.5	4.9	1.7
Black	459	100.0	32.5	44.0	20.3	2.6	1.3
Child born:[1]							
Before first marriage	727	100.0	46.9	24.2	22.0	5.3	2.1
Within first marriage	2,827	100.0	51.9	23.7	20.5	4.2	1.6
Educational attainment:							
Less than high school	348	100.0	53.3	18.0	21.3	5.7	2.7
High school	1,692	100.0	52.2	21.6	21.8	4.1	1.4
College, 1 to 3 years	854	100.0	48.6	25.9	20.5	5.6	2.0
College, 4 or more years	806	100.0	50.5	27.1	18.8	3.9	1.7

- Represent zero.

[1] Data not shown separately for births occurring after first marriage because of too few sample cases

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Table B-9.
Distribution of Type of Leave Arrangements Used by Women Who Worked During their First Pregnancy—Continued
C. First Births, 1966-70

(Numbers in thousands. Percent distribution may exceed 100.0 because of multiple answers)

Characteristic	Number of women	Total	Quit job	Maternity, sick/paid leave	Unpaid leave	Let go from job	Never stopped working
Total	3,435	100.0	58.9	18.3	17.6	4.2	1.4
Employment status at last job:							
Full time	3,074	100.0	57.3	19.8	17.5	4.4	1.5
Part time	361	100.0	72.6	5.6	16.4	3.1	0.3
Stopped working before birth:							
Less than 1 month	899	100.0	44.7	26.6	22.4	1.4	5.4
1 month	453	100.0	52.0	18.0	25.9	4.1	-
2 months	629	100.0	61.3	21.0	14.1	3.6	-
3 to 5 months	975	100.0	65.1	12.7	15.9	6.9	-
6 or more months	478	100.0	78.5	10.5	8.7	5.0	-
Age at first birth:							
Less than 18 years	177	100.0	(B)	(B)	(B)	(B)	(B)
18 and 19 years	502	100.0	57.3	18.4	21.7	4.8	-
20 and 21 years	801	100.0	59.8	21.0	14.2	3.2	2.2
22 to 24 years	1,065	100.0	62.0	18.8	16.0	4.8	1.5
25 to 29 years	727	100.0	51.7	19.8	22.8	5.8	0.7
30 years and over	162	100.0	(B)	(B)	(B)	(B)	(B)
Race:							
White	3,003	100.0	60.5	17.2	17.3	4.5	1.1
Black	354	100.0	50.7	25.3	18.1	2.5	3.5
Child born:[1]							
Before first marriage	581	100.0	56.1	24.8	14.1	3.0	2.2
Within first marriage	2,728	100.0	59.9	18.8	17.6	4.6	1.3
Educational attainment:							
Less than high school	369	100.0	56.7	18.8	20.2	3.0	3.5
High school	1,508	100.0	62.8	17.0	15.7	3.8	1.2
College, 1 to 3 years	865	100.0	54.7	20.8	19.2	5.2	1.5
College, 4 or more years	692	100.0	57.3	18.9	18.4	4.8	0.7

- Represents zero.

B Base too small to show derived measure.

[1] Data not shown separately for births occurring after first marriage because of too few sample cases.

Table B-9.

Distribution of Type of Leave Arrangements Used by Women Who Worked During their First Pregnancy—Continued

D. First Births, 1961-65

(Numbers in thousands. Percent distribution may exceed 100.0 because of multiple answers)

Characteristic	Number of women	Total	Quit job	Maternity' sick/paid leave	Unpaid leave	Let go from job	Never stopped working
Total	2,797	100.0	62.8	18.0	14.1	5.0	2.7
Employment status at last job.							
Full time	2,502	100.0	62.1	17.1	14.8	4.7	1.9
Part time	295	100.0	68.9	6.7	8.5	7.4	9.6
Stopped working before birth:							
Less than 1 month	635	100.0	43.0	25.9	19.2	1.5	12.1
1 month	332	100.0	65.0	17.2	16.5	1.3	-
2 months	479	100.0	64.2	18.3	16.0	3.6	-
3 to 5 months	991	100.0	71.3	9.8	11.1	8.6	-
6 or more months	360	100.0	70.7	14.4	9.0	6.8	-
Age at first birth:							
Less than 18 years	215	100.0	48.7	22.7	19.7	1.9	7.0
18 and 19 years	383	100.0	75.5	8.5	14.7	3.5	-
20 and 21 years	852	100.0	55.3	23.5	12.4	6.9	3.2
22 to 24 years	751	100.0	85.9	13.8	16.3	2.8	1.7
25 to 29 years	503	100.0	64.8	14.7	10.3	8.1	2.1
30 years and over	293	100.0	82.2	13.0	14.3	5.6	5.9
Race:							
White	2,476	100.0	65.7	14.4	13.7	5.4	1.8
Black	268	100.0	39.0	32.6	19.3	-	9.1
Child born[1]:							
Before first marriage	466	100.0	60.1	20.5	11.9	3.9	5.4
Within first marriage	2,246	100.0	63.4	15.2	14.8	5.1	2.1
Educational attainment:							
Less than high school	343	100.0	60.6	18.8	11.2	5.1	6.1
High school	1,417	100.0	62.4	16.4	17.1	4.7	0.6
College, 1 to 3 years	528	100.0	62.8	15.6	11.6	4.8	5.2
College, 4 or more years	510	100.0	65.7	13.5	10.7	6.2	3.8

- Represents zero

[1] Data not shown separately for births occurring after first marriage because of too few sample cases.

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Table B-10.
Logistic Regression for Odds of Quitting Job Before Birth of First Child: Employed Women, 1961-65 to 1981-85

Characteristic	Main effect	Interaction of variables with birth cohort				
		1961-65	1966-70	1971-75	1976-80	1981-85
Age at first birth:						
Less than 20 years	0.111	0.149	*-0.237	0.193	*-0.218	0.113
	(0.070)	(0.125)	(0.130)	(0.158)	(0.124)	(0.155)
20 and 21 years	0.030	**-0.385	0.031	-0.019	0.021	**0.352
	(0.059)	(0.158)	(0.124)	(0.127)	(0.105)	(0.108)
22 to 24 years	0.001	0.059	0.103	-0.135	0.110	-0.138
	(0.055)	(0.144)	(0.109)	(0.107)	(0.096)	(0.132)
25 years and over	**-0.222	0.178	0.103	-0.039	0.087	**-0.327
	(0.069)	(0.130)	(0.103)	(0.103)	(0.099)	(0.120)
Race:						
White[1]	**0.347	**0.255	-0.156	0.194	-0.089	*-0.204
	(0.056)	(0.120)	(0.112)	(0.125)	(0.126)	(0.117)
Educational attainment:						
Less than high school	0.134	-0.170	-0.173	-0.174	0.209	**0.308
	(0.085)	(0.146)	(0.148)	(0.151)	(0.142)	(0.153)
High school	-0.049	0.075	**0.214	0.087	*-0.147	**-0.229
	(0.052)	(0.101)	(0.105)	(0.101)	(0.079)	(0.082)
College, 1 or more years	-0.085	0.095	-0.041	0.087	-0.062	-0.079
	(0.055)	(0.107)	(0.114)	(0.108)	(0.096)	(0.122)
Work status:						
Employed full time	**-0.355	0.063	0.005	-0.100	-0.008	0.040
	(0.057)	(0.110)	(0.112)	(0.096)	(0.080)	(0.086)
When left job:						
Last trimester	**-0.495	*0.138	*0.132	0.008	*-0.154	*-0.123
	(0.034)	(0.078)	(0.075)	(0.078)	(0.080)	(0.071)
Child's birth cohort:						
1961-65	0.119					
	(0.143)					
1966-70	**0.354					
	(0.165)					
1971-75	-0.033					
	(0.163)					
1976-80	-0.048					
	(0.140)					
1981-84	**-0.392					
	(0.145)					
Constant	**0.183					
	(0.062)					
Degrees of freedom	435					
Jackknifed X2	8.16					

* Coefficient significant at the 0.10 level.
** Coefficient significant at the 0.05 level.
[1] Includes White and all other races except Black.
Note: Coefficients represent the log of the odds of quitting the last job held before the first birth.
Numbers in parenthesis represent the standard errors of the coefficients.

Table B-11.
Logistic Regression for Odds of Receiving Employee Maternity Benefits for the First Child: Employed Women, 1961-65 to 1981-85

Characteristic	Main effect	Interaction of variables with birth cohort				
		1961-65	1966-70	1971-75	1976-80	1981-85
Age at first birth:						
Less than 20 years	**-0.366 (0.110)	0.044 (0.201)	0.262 (0.199)	-0.001 (0.150)	0.194 (0.170)	**-0.500 (0.217)
20 and 21 years	0.085 (0.073)	**0.458 (0.158)	0.077 (0.134)	**-0.255 (0.128)	-0.179 (0.131)	-0.101 (0.129)
22 to 24 years	0.002 (0.067)	-0.184 (0.934)	-0.145 (0.151)	0.136 (0.135)	-0.039 (0.106)	*0.232 (0.130)
25 years and over	**0.279 (0.094)	*-0.319 (0.168)	-0.194 (0.167)	0.120 (0.127)	0.024 (0.103)	**0.369 (0.124)
Race:						
White[1]	**-0.420 (0.054)	*-0.214 (0.122)	0.112 (0.128)	**-0.298 (0.130)	0.109 (0.124)	**0.290 (0.095)
Educational attainment:						
Less than high school	**-0.267 (0.110)	**0.403 (0.191)	0.199 (0.224)	0.130 (0.203)	*-0.531 (0.266)	-0.201 (0.183)
High school	0.079 (0.060)	-0.142 (0.122)	-0.149 (0.149)	-0.103 (0.132)	**0.282 (0.140)	0.112 (0.100)
College, 1 or more years	**0.188 (0.078)	*-0.261 (0.145)	-0.050 (0.139)	-0.028 (0.133)	*0.249 (0.150)	0.089 (0.120)
Work status:						
Employed full-time	**0.707 (0.098)	0.003 (0.250)	-0.006 (0.242)	0.181 (0.205)	-0.093 (0.172)	-0.086 (0.126)
When left job:						
Last trimester	**0.535 (0.044)	-0.145 (0.102)	*-0.163 (0.099)	-0.024 (0.101)	0.083 (0.089)	**0.250 (0.071)
Child's birth cohort:						
1961-65	-0.081 (0.250)					
1966-70	-0.243 (0.289)					
1971-75	-0.034 (0.212)					
1976-80	0.083 (0.218)					
1981-84	*0.275 (0.172)					
Constant	*-1.753 (0.119)					
Degrees of freedom	435					
Jackknifed X2	4.13					

* Coefficient significant at the 0.10 level.
** Coefficient significant at the 0.05 level.
[1] Includes White and all other races except Black.
Note: Coefficients represent the log of the odds of receiving maternity benefits for the first birth. Numbers in parenthesis represent the standard errors of the coefficients.

Table 8-12.
Women Who Worked After their First Birth, by Interval After the First Birth: 1961-65 to 1981-84

(Numbers in thousands)

Characteristic	Year of first birth				
	1981-84	1976-80	1971-75	1966-70	1961-65
Number of women with first births	6,671	7,192	6,920	6,956	6,306
Total Returning to Work					
Month returned after birth:					
Less than 1 month	212	177	127	91	121
1 month	594	343	333	231	118
2 months	888	688	376	303	255
3 months	496	405	245	255	129
4 months	302	333	135	174	83
5 months	209	175	126	97	70
6 months	202	191	170	124	86
7 months	114	87	68	59	35
8 months	142	85	99	91	21
9 months	102	56	57	69	48
10 months	91	72	35	41	19
11 months	52	56	72	34	14
12 months	97	119	83	91	58
13 to 18 months	(I)	456	394	247	243
19 to 24 months	(I)	210	237	167	122
25 to 36 months	(I)	474	377	313	254
37 to 48 months	(I)	325	309	269	240
49 to 60 months	(I)	368	214	203	200
Returning to Work Full Time					
Month returned after birth:					
Less than 1 month	166	114	107	75	83
1 month	422	255	281	163	107
2 months	708	583	329	242	211
3 months	308	296	193	209	90
4 months	175	257	104	127	70
5 months	92	129	85	71	54
6 months	100	136	107	95	70
7 months	57	60	42	34	20
8 months	68	76	70	67	13
9 months	71	17	43	54	40
10 months	64	55	21	33	8
11 months	30	36	52	29	6
12 months	57	80	53	73	48
13 to 18 months	(I)	322	256	179	195
19 to 24 months	(I)	124	134	113	65
25 to 36 months	(I)	278	249	192	173
37 to 48 months	(I)	170	201	199	161
49 to 60 months	(I)	220	131	142	138

I Incomplete data for this interval.

Table B-13.
Women Returning to Work Less Than 6 Months and Less than One Year After the Birth of Their First Child, by Selected Characteristics: 1961-65 to 1981-84

Characteristic	Year of first birth				
	1981-84	1976-80	1971-75	1966-70	1961-65
Number of women with first births (thousands)	6,671	7,192	6,920	6,956	6,306
Returning In Less Than 6 Months					
Total (percent)	40.5	29.5	19.4	16.5	12.3
Employment status during pregnancy:					
Employed	56.1	42.0	29.3	24.3	19.3
Full time at last job	57.6	43.2	29.4	25.5	18.3
Part time at last job	47.3	34.1	28.3	14.6	28.5
Not employed	13.4	9.6	8.1	9.0	6.7
Stopped working before birth:[1]					
Less than 1 month	70.9	55.7	45.8	34.7	35.2
1 month	48.9	43.9	30.3	25.0	24.0
2 months	46.7	32.0	24.5	23.1	17.7
3 or more months	35.6	25.0	19.2	18.2	11.3
Maternity benefits[1]					
Received benefits	71.2	56.0	49.0	38.1	25.6
Received no benefits	42.8	34.7	23.3	21.2	18.1
Age at first birth:					
Less than 18 years	15.4	17.3	15.1	18.4	15.8
18 and 19 years	30.7	30.0	17.6	18.4	9.3
20 and 21 years	38.5	26.8	19.8	16.2	14.8
22 to 24 years	44.1	29.9	21.1	17.9	12.5
25 to 29 years	49.5	34.9	21.5	13.4	10.0
30 years and over	48.6	35.5	23.5	9.9	11.4
Race:					
White	41.8	30.4	18.3	15.3	11.8
Black	34.3	25.1	25.1	24.6	15.9
Child born:					
Before first marriage	33.1	28.1	22.9	19.4	14.6
Within first marriage	42.8	29.5	17.6	15.5	11.6
After first marriage	50.4	35.5	31.8	25.1	15.1
Educational attainment					
Less than high school	19.4	19.1	15.8	12.0	9.4
High school	42.7	27.9	20.4	16.6	13.3
College, 1 to 3 years	48.0	33.7	20.5	19.4	13.6
College, 4 or more years	48.3	39.1	19.5	18.4	12.7
Returning In Less Than 1 Year					
Total (percent)	51.0	37.1	26.6	22.6	15.8
Employment status during pregnancy:					
Employed	67.8	50.6	37.6	31.3	24.5
Full time at last job	69.2	51.7	37.7	32.4	23.5
Part time at last job	60.2	43.9	36.3	22.1	33.0
Not employed	21.8	15.6	14.1	14.1	8.9
Stopped working before birth:[1]					
Less than 1 month	79.4	62.2	52.2	39.9	39.9
1 month	62.7	51.1	42.1	32.5	28.8
2 months	63.1	44.4	31.4	32.6	24.8
3 or more months	50.0	35.9	28.2	24.9	16.2
Maternity benefits:[1]					
Received benefits	79.8	63.4	56.7	44.0	28.2
Received no benefits	57.3	44.0	31.7	28.4	23.8

Table B-13.
Women Returning to Work Less than 6 Months and Less than One Year After the Birth of Their First Child, by Selected Characteristics: 1961-65 to 1981-84—Continued

Characteristic	Year of first birth				
	1981-84	1976-80	1971-75	1966-70	1961-65
Returning in Less Than 1 Year—Con.					
Age at first birth:					
Less than 18 years	23.2	25.6	23.5	23.5	19.8
18 and 19 years	41.1	37.3	25.8	29.2	11.7
20 and 21 years	47.1	33.5	27.7	21.6	19.4
22 to 24 years	54.3	38.5	26.3	21.9	16.4
25 to 29 years	61.1	42.9	27.9	19.1	12.8
30 years and over	62.5	40.8	32.5	[illegible].9	14.8
Race:					
White	52.8	38.0	24.9	20.6	15.6
Black	42.4	32.7	36.0	34.7	18.0
Child born:					
Before first marriage	41.6	32.8	30.5	26.6	16.7
Within first marriage	53.8	38.3	24.6	21.4	15.3
After first marriage	65.7	41.1	44.[illegible]	26.6	22.2
Educational attainment:					
Less than high school	26.7	26.0	22.9	17.1	12.0
High school	53.2	35.7	28.1	22.6	16.8
College, 1 to 3 years	59.1	41.9	25.9	26.0	17.1
College, 4 or more years	61.6	46.4	28.0	25.0	18.2

[1] Data limited to women who were employed during first pregnancy. Population bases for numbers of women working during first pregnancy are found in table B-6.

Table B-14.
Logistic Regression for Odds of Working Less than 6 Months After Birth of First Child: All Women, 1961-65 to 1981-84

Characteristic	Main effect	Interaction of variables with birth cohort				
		1961-65	1966-70	1971-75	1976-80	1981-85
Age at first birth:						
Less than 20 years	**0.145	-0.010	*0.248	*-0 201	0.145	-0 183
	(0.051)	(0.127)	(0.154)	(0.107)	(0.098)	(0.132)
20 and 21 years	0.018	*0.166	0.006	-0.038	-0.080	-0.053
	(0.058)	(0.097)	(0.131)	(0.096)	(0.096)	(0.108)
22 to 24 years	-0.045	-0.031	0.063	0.038	-0.127	0.058
	(0.050)	(0.124)	(0.121)	(0.107)	(0.101)	(0.089)
25 years and over	*-0.119	-0.12[illegible]	**-0.317	*0.201	0.063	**0.178
	(0.062)	(0.128)	(0.116)	(0.105)	(0.095)	(0.089)
Race:						
White[1]	**-0.169	-0.027	*-0.169	-0.091	*0.202	0.065
	(0.045)	(0.116)	(0.097)	(0.110)	(0.096)	(0.098)
Marital status at first birth:						
Married[2]	*-0.096	-0.0[illegible]7	0.099	-0.087	-0.082	0.077
	(0.050)	(0.101)	(0.084)	(0.078)	(0 060)	(0.063)
Educational attainment:						
Less than high school	*-0.105	0.041	-0.096	*0.238	-0.013	-0.170
	(0 054)	(0.145)	(0.131)	(0.127)	(0.115)	(0.129)
High school	0.041	0.007	-0.030	0.004	-0 097	0.115
	(0.043)	(0.081)	(0.091)	(0.082)	(0.079)	(0.080)
College, 1 or more years	0.064	-0.048	0.126	**-0.242	0 110	0.054
	(0.044)	(0.120)	(0.112)	(0.091)	(0.071)	(0 097)
Employed during pregnancy?:						
Employed	**0.842	**-0.196	**-0.179	0 022	**0 192	*0 162
	(0.048)	(0.083)	(0.074)	(0.075)	(0 078)	(0.083)
Child's birth cohort:						
1961-65	**-0.475					
	(0.082)					
1966-70	**-0.214					
	(0.102)					
1971-75	-0.018					
	(0.090)					
1976-80	0.123					
	(0 086)					
1981-84	**0.584					
	(0.100)					
Constant	**-1.382					
	(0.048)					
Degrees of freedom	435					
Jackknifed X2	6.43					

* Coefficient significant at the 0.10 level.
** Coefficient significant at the 0.05 level

[1] Includes White and all other races except Black.

[2] Includes births after first marriage.

Note: Coefficients represent the log of the odds of working less than 6 months after the first birth. Numbers in parenthesis represent the standard errors of the coefficients.

Table B-15.
Logistic Regression for Odds of Returning to Work Less than 6 Months After First Birth: Women Employed During Pregnancy, 1961-65 to 1981-85

Characteristic	Main effect	Interaction of variables with birth cohort				
		1961-65	1966-70	1971-75	1976-80	1981-84
Age at first birth.						
Less than 20 years	**0.186	0.234	0.054	-0.219	0.206	-0.275
	(0.079)	(0.168)	(0.186)	(0.160)	(0.134)	(0.178)
20 and 21 years	0.055	-0.113	0.030	0.037	*-0.180	*0.226
	(0.067)	(0.141)	(0.157)	(0.104)	(0.110)	(0.128)
22 to 24 years	-0.013	-0.002	0.157	-0.018	-0.122	-0.015
	(0.053)	(0.181)	(0.122)	(0.112)	(0.126)	(0.116)
25 years and over	**-0.229	-0.119	*-0.241	0.200	0.096	0.063
	(0.072)	(0.158)	(0.135)	(0.125)	(0.099)	(0.112)
Race:						
White[1]	**-0.249	0.043	*-0.267	0.048	0.135	0.041
	(0.077)	(0.183)	(0.140)	(0.132)	(0.134)	(0.127)
Marital status at first birth:						
Married[2]	-0.024	-0.030	**0.257	-0.069	*-0.152	-0.005
	(0.076)	(0.133)	(0.128)	(0.105)	(0.081)	(0.080)
Educational attainment:						
Less than high school	**0.213	0.108	-0.006	0.062	-0.107	-0.057
	(0.078)	(0.205)	(0.172)	(0.186)	(0.150)	(0.179)
High school	*-0.098	-0.039	-0.051	0.103	-0.043	0.021
	(0.052)	(0.109)	(0.105)	(0.114)	(0.096)	(0.099)
College, 1 or more years	**-0.115	-0.079	0.057	-0.164	*0.150	0.036
	(0.055)	(0.140)	(0.134)	(0 118)	(0.085)	(0.123)
Work status when pregnant:						
Employed full-time	0.036	**-0.236	**0.335	*-0.192	0.086	0.007
	(0.067)	(0.116)	(0 160)	(0.107)	(0.085)	(0.089)
When left previous job?						
Last trimester	**0.390	0.106	-0.123	-0.042	0 052	0.007
	(0.053)	(0.108)	(0.078)	(0.083)	(0.081)	(0.077)
Receive maternity leave?						
Yes	**0 385	*-0.250	-0.022	0.142	-0.020	**0.150
	(0.042)	(0.141)	(0.079)	(0.099)	(0.077)	(0.075)
Child's birth cohort 1961-65	**-0 563					
	(0.171)					
1966-70	**-0.554					
	(0.176)					
1971-75	0.101					
	(0.192)					
1976-80	0.218					
	(0.148)					
1981-84	**0.799					
	(0.143)					
Constant	**-0.447					
	(0.078)					
Degrees of freedom	1,865					
Jackknifed X2	19.76					

* Coefficient significant at the 0.10 level

** Coefficient significant at the 0.05 level.

[1] Includes White and all other races except Black.

[2] Includes births after first marriage.

Note: Coefficients represent the log of the odds of returning to work less than 6 months after the first birth. Numbers in parenthesis represent the standard errors of the coefficients.

Table B-16.
Logistic Regression for Odds of Returning to Work 6 to 11 Months After First Birth: Women Employed During Pregnancy, 1961-65 to 1981-84

(Excludes women returning to work 0 to 5 months after first birth)

Characteristic	Main effect	Interaction of variables with birth cohort				
		1961-65	1966-70	1971-75	1976-80	1981-84
Age at first birth:						
Less than 20 years	0.130	-0.334	**0.533	0.131	-0.174	-0.155
	(0.122)	(0.348)	(0.220)	(0.242)	(0.271)	(0.240)
20 and 21 years	0.069	0.331	-0.149	0.109	-0 114	-0.177
	(0.115)	(0.255)	(0.248)	(0.235)	(0.194)	(0 234)
22 to 24 years	*-0.173	0.107	-0.271	-0.348	**0.330	0.182
	(0.106)	(0.239)	(0.203)	(0 240)	(0.161)	(0.171)
25 years and over	-0.026	-0.104	-0.113	0.108	-0.042	0.150
	(0.116)	(0.235)	(0.174)	(0.159)	(0.164)	(0 185)
Race:						
White[1]	-0.201	*0.857	-0.281	-0.120	-0.227	-0.229
	(0.139)	(0.477)	(0.273)	(0.238)	(0.198)	(0 197)
Marital status at first birth:						
Married[2]	*0.204	-0.092	0.022	0.054	0.105	-0.089
	(0.114)	(0.234)	(0.232)	(0.206)	(0.188)	(0 176)
Educational attainment:						
Less than high school	0.128	0.255	-0.413	0.121	0.164	-0.127
	(0.158)	(0.312)	(0.285)	(0.202)	(0.271)	(0.237)
High school	*-0.175	-0.183	0.140	0.071	-0.049	0.021
	(0.091)	(0.203)	(0.189)	(0.133)	(0.169)	(0.170)
College, 1 or more years	0.047	-0.072	0.273	-0 192	-0.115	0.105
	(0.101)	(0.263)	(0.212)	(0.140)	(0.203)	(0.161)
Work status when pregnant:						
Employed full-time	0.045	0.005	0.077	-0.011	-0.079	0 008
	(0.089)	(0.293)	(0.184)	(0.201)	(0.175)	(0.164)
When left previous job?						
Last trimester	*0.119	0.121	0.037	-0.073	-0.089	0.004
	(0.063)	(0.148)	(0.134)	(0.121)	(0.101)	(0.115)
Receive maternity leave?						
Yes	-0.008	-0.365	0.015	0.198	0 107	0.046
	(0.077)	(0.286)	(0 171)	(0.179)	(0.169)	(0 146)
Child's birth cohort:						
1961-65	**-1.582					
	(0.526)					
1966-70	-0.295					
	(0.253)					
1971-75	0.205					
	(0.327)					
1976-80	**0.530					
	(0.227)					
1981-84	**1.142					
	(0.204)					
Constant	**-1.986					
	(0.153)					
Degrees of freedom	1,865					
Jackknifed X2	10.31					

* Coefficient significant at the 0.10 level.

** Coefficient significant at the 0.05 level.

[1] Includes White and all other races except Black.

[2] Includes births after first marriage.

Note: Coefficients represent the log of the odds of returning to work 6 to 11 months after the first birth. Numbers in paranthsis represent the standard errors of the coefficients.

Appendix C.

Overview of the SIPP Program

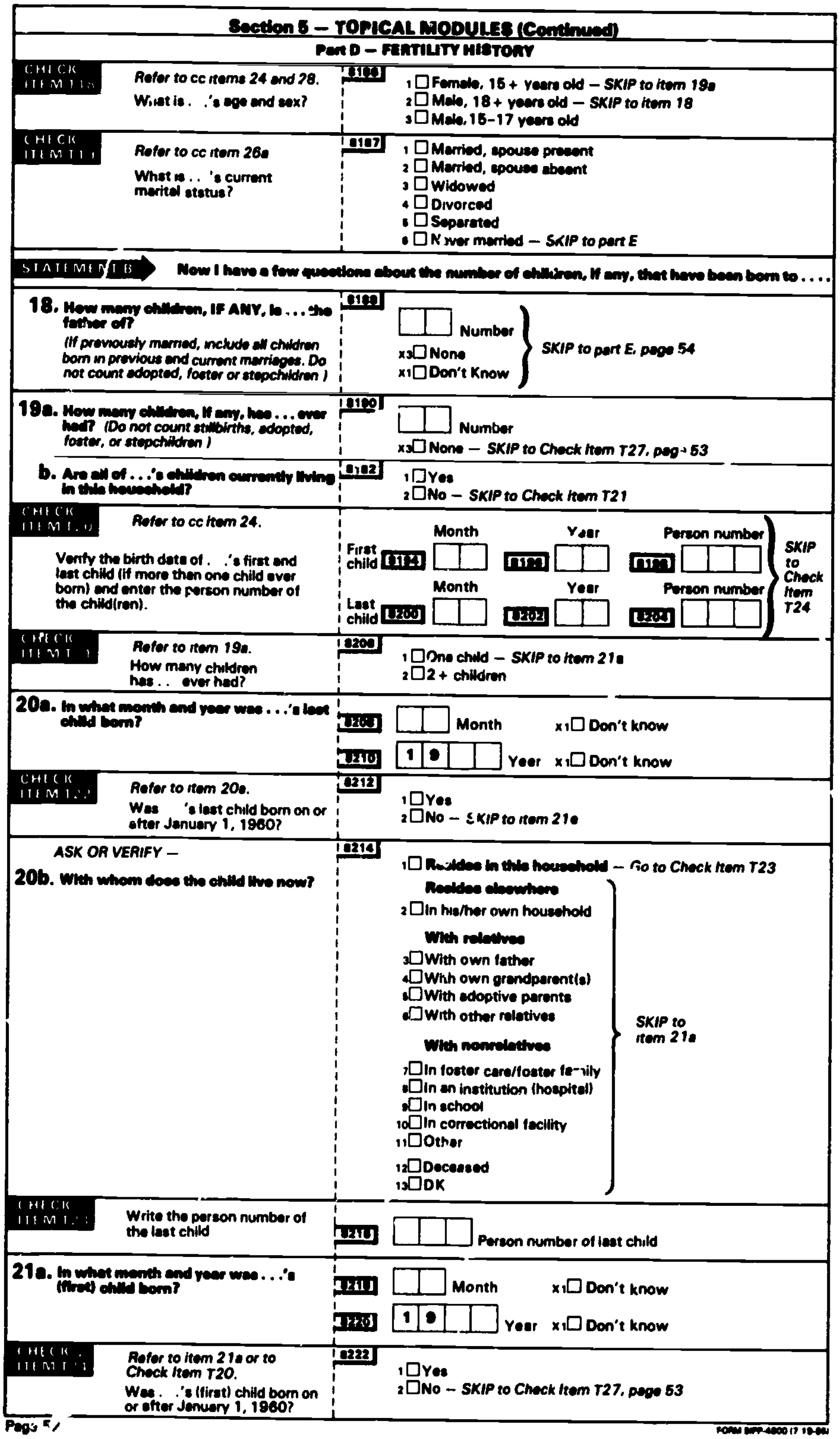
The Survey of Income and Program Participation (SIPP) provides a major expansion in the kind and amount of information available to analyze the economic situation of households and persons in the United States. Each household selected in the initial sample is reinterviewed up to 8 times over the course of 2 and one-half years at intervals of 4 months. Each reinterview constitutes a "wave" in the initial sample or "panel" begun usually each year in February. This overlapping design provides a larger sample from which cross-sectional estimates can be made.

In the eighth reinterview or wave of the 1984 panel and in the fourth wave of the 1985 panel, questions on fertility and maternity leave arrangements were included in the survey in addition to standard or "core" items on labor force activity and income recipience in the prior 4-month period. These additional "topical module" items form the basis of the analysis in this report.

Items on maternity leave were only included in the 1984 and 1985 panels of the SIPP. Plans for including these items on upcoming panels are under consideration.

Appendix D.

Facsimile of SIPP Questionnaire



Section 5 — TOPICAL MODULES (Continued)

Part D — FERTILITY HISTORY

CHECK ITEM T18	*Refer to cc items 24 and 28.* What is . . .'s age and sex?	8186	1 ☐ Female, 15 + years old — *SKIP to item 19a* 2 ☐ Male, 18 + years old — *SKIP to item 18* 3 ☐ Male, 15–17 years old
CHECK ITEM T19	*Refer to cc item 26a* What is . . .'s current marital status?	8187	1 ☐ Married, spouse present 2 ☐ Married, spouse absent 3 ☐ Widowed 4 ☐ Divorced 5 ☐ Separated 6 ☐ Never married — *SKIP to part E*
STATEMENT B	**Now I have a few questions about the number of children, if any, that have been born to . . . .**		
18.	**How many children, IF ANY, is . . . the father of?** *(If previously married, include all children born in previous and current marriages. Do not count adopted, foster or stepchildren.)*	8188	☐☐ Number x3 ☐ None x1 ☐ Don't Know *SKIP to part E, page 54*
19a.	**How many children, if any, has . . . ever had?** *(Do not count stillbirths, adopted, foster, or stepchildren.)*	8190	☐☐ Number x3 ☐ None — *SKIP to Check Item T27, page 53*
b.	**Are all of . . .'s children currently living in this household?**	8192	1 ☐ Yes 2 ☐ No — *SKIP to Check Item T21*
CHECK ITEM T20	*Refer to cc item 24.* Verify the birth date of . . .'s first and last child (if more than one child ever born) and enter the person number of the child(ren).		First child 8194 Month ☐☐ 8196 Year ☐☐ 8198 Person number ☐☐☐ Last child 8200 Month ☐☐ 8202 Year ☐☐ 8204 Person number ☐☐☐ *SKIP to Check Item T24*
CHECK ITEM T21	*Refer to item 19a.* How many children has . . . ever had?	8206	1 ☐ One child — *SKIP to item 21a* 2 ☐ 2 + children
20a.	**In what month and year was . . .'s last child born?**	8208 8210	☐☐ Month x1 ☐ Don't know 1 9 ☐☐ Year x1 ☐ Don't know
CHECK ITEM T22	*Refer to item 20a.* Was . . .'s last child born on or after January 1, 1960?	8212	1 ☐ Yes 2 ☐ No — *SKIP to item 21a*
	ASK OR VERIFY — **20b. With whom does the child live now?**	8214	1 ☐ **Resides in this household** — *Go to Check Item T23* **Resides elsewhere** 2 ☐ In his/her own household **With relatives** 3 ☐ With own father 4 ☐ With own grandparent(s) 5 ☐ With adoptive parents 6 ☐ With other relatives **With nonrelatives** 7 ☐ In foster care/foster family 8 ☐ In an institution (hospital) 9 ☐ In school 10 ☐ In correctional facility 11 ☐ Other 12 ☐ Deceased 13 ☐ DK *SKIP to item 21a*
CHECK ITEM T23	Write the person number of the last child	8216	☐☐☐ Person number of last child
21a.	**In what month and year was . . .'s (first) child born?**	8218 8220	☐☐ Month x1 ☐ Don't know 1 9 ☐☐ Year x1 ☐ Don't know
CHECK ITEM T24	*Refer to item 21a or to Check Item T20.* Was . . .'s (first) child born on or after January 1, 1960?	8222	1 ☐ Yes 2 ☐ No — *SKIP to Check Item T27, page 53*

Page 52

FORM SIPP-4600 (7-19-86)

Section 5 — TOPICAL MODULES (Continued)

Part D — FERTILITY HISTORY (Continued)

ASK OR VERIFY — **21b. With whom does the child live now?**	8224 1 ☐ **Resides in this household** — *Go to Check Item T25* **Resides elsewhere** 2 ☐ In his/her own household **With relatives** 3 ☐ With own father 4 ☐ With own grandparent(s) 5 ☐ With adoptive parents 6 ☐ With other relatives **With nonrelatives** 7 ☐ In foster care/foster family 8 ☐ In an institution (hospital) 9 ☐ In school 10 ☐ In correctional facility 11 ☐ Other 12 ☐ Deceased 13 ☐ DK } *SKIP to item 22e*
CHECK ITEM T25 — Write the person number of the (first) child	8226 ☐☐☐ Person number of (first) child
22a. Before the birth of . . .'s (first) child, did . . . ever work for pay continuously for six months or more either part time or full time?	8228 1 ☐ Yes 2 ☐ No
b. Did . . . work for pay at a job at any time when . . . was pregnant with . . .'s (first) child?	8230 1 ☐ Yes 2 ☐ No — *SKIP to item 22g*
c. Did . . . work 35 hours or more per week at the last job . . . held before the birth of . . .'s (first) child?	8232 1 ☐ Yes 2 ☐ No
d. How long before the birth of . . .'s (first) child did . . . stop working?	8234 ☐☐ Number of months x3 ☐ Less than a month x4 ☐ Never stopped/worked right up to delivery
e. Did . . . quit or was . . . let go from this job, or did . . . take maternity leave or unpaid leave of absence (either before the birth of the child or up to 6 weeks after the child's birth)? *Mark all that apply*	8236 1 ☐ Quit 8238 2 ☐ Let go 8240 3 ☐ Maternity/sick/other paid leave 8242 4 ☐ Unpaid leave of absence 8244 5 ☐ Never stopped working — *SKIP to Check Item T27*
CHECK ITEM T26 — *Refer to item 22e.* Is category 3, "Maternity/sick/other paid leave," marked in item 22e?	8246 1 ☐ Yes 2 ☐ No — *SKIP to item 22g*
22f. Did . . .'s employer pay for all or part of . . .'s leave through maternity benefits or sick pay?	8248 1 ☐ Yes, all 2 ☐ Yes, part 3 ☐ No
ASK OR VERIFY — **g. Did . . . work for pay at any time after the birth of . . .'s (first) child?**	8250 1 ☐ Yes 2 ☐ No — *SKIP to Check Item T27*
h. In what month and year did . . . first begin working after the birth of . . .'s (first) child?	8252 ☐☐ Month x1 ☐ Don't know 8254 1 9 ☐☐ Year x1 ☐ Don't know
i. When . . . FIRST began working after the birth of . . .'s (first) child, did . . . work 35 hours or more per week?	8256 1 ☐ Yes 2 ☐ No
CHECK ITEM T27 — *Refer to cc item 24.* Is . . . 18 to 44 years old **and** a self respondent?	8258 1 ☐ Yes 2 ☐ No — *Skip to part E, page 54*
23. Do you expect to have any (more) children?	8260 1 ☐ Yes 2 ☐ No x1 ☐ DK } *SKIP to part E, page 54*
24. How many (more) children do you expect to have?	8262 ☐☐ Number x1 ☐ DK
25. When do you expect to have your next (first) child?	8264 1 ☐ Within a year 2 ☐ 1 + but less than 2 years 3 ☐ 2 + but less than 3 years 4 ☐ 3 + but less than 5 years 5 ☐ 5 + years x1 ☐ DK

GO to part E, page 54

Source and Accuracy of Data

Source of Data

The estimates in the first paper come from data obtained in June of 1985 in the Current Population Survey (CPS). The Bureau of the Census conducts the survey every month, although this report uses only June data for its estimates. The June survey uses two sets of questions, the basic CPS and the supplement.

The data for the second paper were collected during the eighth wave of the 1984 panel and the fourth wave of the 1985 panel of the Survey of Income and Program Participation (SIPP).

The universe for both surveys is the noninstitutionalized resident population living in the United States. This population includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings. Crew members of merchant vessels, Armed Forces personnel living in military barracks, and institutionalized persons, such as correctional facility inmates and nursing home residents, were not eligible to be in either survey. Also, United States citizens residing abroad were not eligible to be in the surveys. Foreign visitors who work or attend school in this country and their families were eligible; all others were not eligible. With the exceptions noted above, persons who were at least 14 years of age for CPS and 15 years of age for SIPP at the time of the interview were eligible to be interviewed.

Basic CPS. The basic CPS collects primarily labor force data about the civilian noninstitutional population. Interviewers ask questions concerning labor force participation about each member 14 years old and over in every sample living quarter (LQ).

The present CPS sample consists of clusters of four LQ's systematically selected from the 1980 decennial census files with coverage in all 50 States and the District of Columbia. The sample is continually updated to account for new residential construction. It is located in 729 areas comprising 1,973 counties, independent cities, and minor civil divisions. About 59,500 occupied LQ's are eligible for interview every month. Interviewers are unable to obtain interviews at about 2,500 of these LQ's because the occupants are not found at home after repeated calls or are unavailable for some other reason.

Since the introduction of the CPS, the Bureau of the Census has redesigned the CPS sample several times to improve the quality and reliability of the data and to satisfy changing data needs.

June supplement. In addition to the basic CPS questions, interviewers asked supplementary questions in June about marriage and fertility of American women.

CPS estimation procedure. This survey's estimation procedure inflates weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, sex, race and Hispanic/non-Hispanic categories. The independent estimates were based on statistics from decennial censuses of population; statistics on births, deaths, immigration and emigration; and statistics on the size of the Armed Forces. The independent population estimates used in June 1985 were based on updates to controls established by the 1980 decennial census. For more details on the change in independent estimates, see the section entitled "Introduction of 1980 Census Population Controls" in an earlier report (Series P-60, No. 133).

The estimates in this report also employ a revised survey weighting procedure for persons of Hispanic origin. In previous years, weighted sample results were inflated to independent estimates of the noninstitutional population by age, sex, and race. There was no specific control of the survey estimates for the Hispanic population. Since then, the Bureau of the Census developed independent population controls for the Hispanic population by sex and detailed age groups. Revised weighting procedures incorporate these new controls. The independent population estimates include some, but not all, undocumented immigrants.

1984 SIPP panel. The sample for the 1984 SIPP panel is located in 174 areas comprising 450 counties (including one partial county) and independent cities. Within these areas, clusters of two to four LQ's were systematically selected from lists of addresses prepared for the 1970 decennial census to form the bulk of the sample. In addition, the sample is continually updated to account for new residential construction.

The first interview of this panel was conducted during October, November, and December 1983, and January 1984. Approximately one-fourth of the sample was interviewed in each of these months. Each sample person was visited every 4 months thereafter. At each interview the reference period was the 4 months preceding the interview month.

Approximately 26,000 LQ's were originally designated for the sample. At the first contact, interviews were obtained from occupants in about 19,900 of the 26,000 designated LQ's. Most of the remaining 6,100 LQ's were found to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey. However, approximately 1,000 of the 6,100 LQ's were not interviewed because the occupants refused to be interviewed, could not be found at home, were temporarily absent, or were otherwise unavailable. Thus, occupants of about 95 percent of all eligible LQ's participated in the first interview of the survey. For the eighth interview, occupants of about 78 percent of all eligible LQ's participated in the survey.

For subsequent interviews, only original sample persons (those interviewed in the first interview) and persons living with them were eligible to be interviewed. Original sample persons were followed if they moved to a new address, unless the new address was more than 100 miles from a SIPP sample area. Then, telephone interviews were attempted. All first interview noninterviewed households were automatically designated as noninterviews for all subsequent interviews. When original sample persons moved to remote parts of the country, moved without leaving a forwarding address or refused to be interviewed, additional noninterviews resulted.

1985 SIPP panel. The 1985 panel SIPP sample is located in 230 areas, each consisting of a county or a group of contiguous counties. Within these areas, expected clusters of two or four LQ's were systematically selected from lists of addresses prepared for the 1980 decennial census to form the bulk of the sample. The sample is continually updated to account for new residential construction. In addition, sample LQ's were selected from supplemental frames that included LQ's identified as missed in the 1980 census and group quarters.

Approximately 17,800 LQ's were originally designated for the sample. At the first contact, interviews were obtained from the occupants of about 13,400 of the 17,800 designated LQ's. Most of the remaining 4,400 LQ's were found to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey. However, approximately 1,000 of the 4,400 LQ's were not interviewed because the occupants refused to be interviewed, could not be found at home, were temporarily absent, or were otherwise unavailable. Thus, occupants of about 93 percent of all eligible LQ's participated in the first interview of the survey. For the fourth interview, occupants of about 84 percent of all eligible LQ's participated in the survey.

For waves 2–8, only original sample persons (those in wave 1 sample households and interviewed in wave 1 and/or 2) and persons living with them were eligible to be interviewed. With certain restrictions, original sample persons were to be followed even if they moved to a new address. When original sample persons moved without leaving a forwarding address or moved to extremely remote parts of the country and no telephone number was available, additional noninterviews resulted.

Sample LQ's within each sample panel are divided into four subsamples of nearly equal size. These subsamples are called rotation groups 1, 2, 3, or 4 and one rotation group is interviewed each month. Each LQ in the 1985 sample was scheduled to be interviewed at 4-month intervals over a period of roughly 2 1/2 years beginning in February 1985. The 1984 panel began in October of 1983. The reference period for the questions is the 4-month period preceding the interview month. In general, one cycle of four interviews covering the entire sample, using the same questionnaire, is called a wave. The exception is wave 2 which covers three interviews.

SIPP topical modules. As a part of most waves, subjects are covered that do not require repeated measurement during the panel and are of particular interest cross-sectionally for research purposes. A specific set of topical questions are referred to as a topical module. For this report the topical modules analyzed include questions on fertility history and maternity leave history. They were implemented in wave 8 of the 1984 panel and wave 4 of the 1985 panel.

SIPP Estimation Procedure. The estimation procedure used to derive SIPP person weights for each panel involved several sample stages of weight adjustments. Each person received a base weight equal to the inverse of his/her probability of selection. A noninterview adjustment factor was applied to the weight of every occupant of interviewed households to account for households which were eligible for the sample but were not interviewed. (Individual nonresponse within partially interviewed households was treated with imputation. No special adjustment was made for noninterviews in group quarters.) A factor was applied to each interviewed persons' weight to account for the SIPP sample areas not having the same population distribution as the strata from which they were selected.

An additional stage of adjustment to persons' weights was performed to reduce the mean square error of the survey estimates by ratio adjusting SIPP sample estimates to monthly Current Population Survey (CPS) estimates[1] of the civilian (and some military) noninstitutional population of the United States by age, race, Hispanic origin, sex, type of householder (married, single with relatives, single without relatives), and relationship to householder (spouse or other). The CPS estimation process was explained earlier in this report.

Combining panels of SIPP. This is the first report that utilizes data from combined SIPP panels. The concurrency of wave 8 of the 1984 panel and wave 4 of the 1985 panel along with the fact that they both contain the same relevant topical modules on fertility and marital history makes this possible. The data were combined and then analyzed as a single data set. The primary motivation for combining these data is to obtain an increase in sample size in conjunction with a reduction in time in sample bias due to nonresponse.

Accuracy of Estimates

Since the CPS and SIPP estimates come from a sample, they may differ from figures from a complete census using the same questionnaires, instructions, and enumerators. A sample survey estimate has two possible types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error, but the full extent of the nonsampling error is unknown. Consequently, one should be particularly careful when interpreting results based on a relatively small number of cases or on small differences between estimates. The standard errors for CPS and SIPP estimates primarily indicate the magnitude of sampling error. They also partially measure the effect of some nonsampling errors in responses and enumeration, but do not measure systematic biases in the data. (Bias is the average over all possible samples of the differences between the sample estimates and the desired value.)

Nonsampling variability. Nonsampling errors can be attributed to many sources. These sources include the inability to obtain information about all

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[1] These special CPS estimates are slightly different from the published monthly CPS estimates. The differences arise from forcing counts of husbands to agree with counts of wives.

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cases in the sample, definitional difficulties, differences in the interpretation of questions, respondents' inability or unwillingness to provide correct information or to recall information, errors made in data collection such as in recording or coding the data, errors made in processing the data, errors made in estimating values for missing data, and failure to represent all units with the sample (undercoverage).

CPS and SIPP undercoverage results from missed housing units and missed persons within sample households. Compared to the level of the 1980 decennial census, overall CPS and SIPP undercoverage is about 7 percent. Undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. As described previously, ratio estimation to independent age-sex-race-Hispanic population controls partially corrects for the bias due to undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics from those of interviewed persons in the same age-sex-race-Hispanic group. Furthermore, the independent population controls have not been adjusted for undercoverage in the 1980 census.

For additional information on nonsampling error including the possible impact on CPS data when known, refer to Statistical Policy Working Paper 3, *An Error Profile: Employment as Measured by the Current Population Survey,* Office of Federal Statistical Policy and Standards, U.S. Department of Commerce, 1978; and Technical Paper 40, *The Current Population Survey: Design and Methodology,* Bureau of the Census, U.S. Department of Commerce. For additional information on nonsampling error found in the SIPP data, refer to the *Quality Profile for the Survey of Income and Program Participation,* SIPP Working Paper #8708, Bureau of the Census, July 1987.

Sampling variability. Sampling variability is variation that occurs by chance because a sample was surveyed rather than the entire population. Standard errors, as calculated by methods described later in "Standard Errors and Their Use," are primarily measures of sampling variability, although they may include some nonsampling error.

Comparability of data. Data obtained from the CPS, SIPP and other sources are not entirely comparable. This results from differences in interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Use caution when comparing results from different sources.

Note when using small estimates. Summary measures (such as medians and percentage distributions) are shown only when the base is 75,000 or greater for CPS, 200,000 or greater for SIPP. Because of the large standard errors involved, summary measures would probably not reveal useful information when computed on a smaller base. However, estimated numbers are shown even though the relative standard errors of these numbers are larger than those for corresponding percentages. These smaller estimates permit combinations of the categories to suit data users' needs. Care should be taken in the interpretation of small differences. For instance, even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard errors and their use. The sample estimate and its standard error enable one to construct a confidence interval, a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

Some statements in the report may contain estimates followed by a number in parentheses. This number can be added to and subtracted from the estimate to calculate upper and lower bounds of the 90-percent confidence interval. For example, if a statement contains the phrase "grew by 1.7 percent (±1.0)," the 90-percent confidence interval for the estimate, 1.7 percent, is 0.7 percent to 2.7 percent.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis appearing in this report is that the population parameters are different. An example of this would be comparing the median age at first birth of Black women versus the median age at first birth of White women.

Tests may be performed at various levels of significance, where a significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. All statements of comparison in the text have passed a hypothesis test at the 0.10 level of significance or better. This means that the absolute value of the estimated difference between characteristics is greater than or equal to 1.6 times the standard error of the difference.

Standard errors of estimated numbers. The approximate standard error, s_x, of an estimated number shown in this report can be obtained using the formula

$$s_x = \sqrt{ax^2 + bx} \qquad (1)$$

Here x is the size of the estimate and a and b are the parameters in tables A or C associated with the particular type of characteristic. When calculating standard errors for numbers from cross-tabulations involving different characteristics, use the factor or set of parameters for the characteristic which will give the largest standard error.

Table A.
Standard Error Parameters for CPS Estimates

Characteristic	Persons	
	a	b
Fertility:		
Number of women:		
Total or White	-0.000032	1903
Black............	-0.000233	1903
Hispanic origin	-0.000444	1903
Educational attainment:		
Total or White	-0.000013	2312
Income:		
Total or White	-0.000011	2077
Marital status:		
Total or White, some household members	-0.000025	4480

Illustration.

From table B-12 of the second paper (SIPP), the total number of women who had their first child in the 1976–80 period was 7,192,000. The appropriate "a" and "b" parameters to use in calculating SIPP standard error estimates are obtained from table C. They are a = -0.0000522 and b = 4791, respectively. Using formula (1), the approximate standard error is

$$s_x = \sqrt{-0.0000522\,(7,192,000)^2 + 4,791\,(7,192,000)}$$
$$\doteq 178,00$$

The 90-percent confidence interval as shown by the data is from 6,907,000 to 7,477,000. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all samples.

Standard errors of estimated percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the parameter from table A or C indicated by the numerator.

The approximate standard error, $s_{x,p}$, of an estimated percentage can be obtained by use of the formula

$$s_{x,p} = \sqrt{bp\,(100 - p)/x} \qquad (2)$$

Here x is the total number of persons, families, households, or unrelated individuals in the base of the percentage, p is the percentage ($0 \leq p \leq 100$), and b is the parameter in table A or C associated with the characteristic in the numerator of the percentage.

Illustration.

Table B-9, part C of the second paper (SIPP) shows that in the 1966–70 period, of the 3,435,000 women who worked during their first pregnancy, 17.6 percent took an unpaid leave of absence from their job. Using formula (2) and the "b" parameter of 4,791 (from table C), the approximate standard error is

$$s_{x,p}\sqrt{\frac{4,791}{3,435,000}(17.6)(100-17.6)} = 1.4\,\textit{percent}$$

Consequently, the 90-percent confidence interval as shown by these data is from 15.4 to 19.8 percent.

Table B.
Standard Error Parameters for CPS Fertility Ratios

Parameter	Value
a	0.000001
b	814
c	1485

Standard error of a median. The sampling variability of an estimated median depends on the form of the distribution and the size of the base. One can approximate the reliability of an estimated median by determining a confidence interval about it. (See the section on sampling variability for a general discussion of confidence intervals.)

Estimate the 68-percent confidence limits of a median based on sample data using the following procedure.

1. Determine, using formula (2), the standard error of the estimate of 50 percent from the distribution.
2. Add to and subtract from 50 percent the standard error determined in step 1.
3. Using the distribution of the characteristic, determine upper and lower limits of the 68-percent confidence interval by calculating values corresponding to the two points established in step 2.

Use the following formula to calculate the upper and lower limits.

$$X_{pN} = \frac{pN - N_1}{N_2 - N_1}(A_2 - A_1) + A_1 \qquad (3)$$

where

X_{pN} = estimated upper and lower bounds for the confidence interval ($0 \leq p \leq 1$). For purposes of calculating the confidence interval, p takes on the values determined in step 2. Note that X_{pN} estimates the median when p = 0.50.

N = **for distribution of numbers**: the total number of units (persons, households, etc.) for the characteristic in the distribution.

= **for distribution of percentages**: the value 1.0.

p = the values obtained in step 2.

A_1, A_2 = the lower and upper bounds, respectively, of the interval containing X_{pN}.

N_1, N_2 = **for distribution of numbers**: the estimated number of units (persons, households, etc.) with values of the characteristic greater than or equal to A_1 and A_2, respectively.

= **for distribution of percentages**: the estimated percentage of units (persons, households, etc.) having values of the characteristic greater than or equal to A_1 and A_2, respectively.

4. Divide the difference between the two points determined in step 3 by two to obtain the standard error of the median.

Illustration.

Table E of the first paper (CPS) shows that the estimated median age at first birth of White ever-married mothers born from 1940 to 1944 is 21.9 years and the base of the distribution from which this median was determined, N, is 5,376,000 women.

Table C.
SIPP Selected Generalized Variance Parameters for Use with Combined Data from the 1985 Panel

Characteristic	a	b
PERSONS		
Total or White 16+ income and labor force: Female......	-0.0000522	4791
Fertility: Number of women....	-0.0000712	3901
Educational attainment ..	-0.0000401	5314
Marital status: Some household members..	-0.0000391	8042
Black		
All characteristics: Female.	-0.0004329	6445
HOUSEHOLDS		
All others: Total or White	-0.0000678	5920

1. Using formula (2) and the appropriate parameter (b = 1,903) from table A, the standard error of 50 percent with a base of 5,376,000 is

$$\sqrt{\frac{1,903}{5,376,000}(50)(100-50)} = 0.9 \textit{ percent}$$

2. To obtain the 68-percent confidence interval, add to and subtract from 50 percent the standard error found in step 1. This yields percentage limits of 49.1 and 50.9.

3. From the distribution of ages at first birth for White ever-married mothers born from 1940 to 1944, there were 3,231,000 or 60.1 percent who were 21 years old or older and 2,613,000 or 48.6 percent who were 22 years old or older. Using formula (3), the upper limit on the 68-percent confidence interval is

$$\frac{0.491(5,378,000) - 3,231,000}{2,613,000 - 3,231,000}(22-21) + 21 = 22.0$$

Similarly, the lower limit on the 68-percent confidence interval is

$$\frac{0.509(5,376,000) - 3,231,000}{2,613,000 - 3,231,000}(22-21) + 21 = 21.8$$

4. The standard error of the median age at first birth of White mothers born from 1940 to 1944 can be approximated as

$$s_{median} = \frac{22.0 - 21.8}{2} = 0.1 \textit{ years}$$

The 90-percent confidence interval on the median age at first birth of White mothers born from 1940 to 1944 is 21.7 to 22.1, i.e., 21.9 ± 1.6 (0.1).

Standard error of a difference. The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2} \qquad (4)$$

where s_x and s_y are the standard errors of the estimates, x and y. The estimates can be numbers, percentages, ratios, etc. This will represent the actual standard error quite accurately for the difference between estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

Illustration.

Table E of the first paper (CPS) shows that median age at first birth of White ever-married mothers born from 1940 to 1944 is 21.9 years and the median age at first birth of Black mothers born in the same time period is 21.0 years. The apparent difference in the two ages is 0.9 years. Using b = 1,903 from table A and formula (3), the standard error on the median age of 21.9 years is 0.1 years.

Similarly, the standard error on 21.0 years is 0.4 years.

Therefore, using formula (4) the standard error on the difference of 0.9 years is

$$s_{x-y} = \sqrt{(0.1)^2 + (0.4)^2} = 0.4 \textit{ years}$$

This means that the 90-percent confidence interval on the difference between the median age at first birth of White women and Black women born from 1940 to 1944 is from 0.3 to 1.5, i.e., 0.9 ± 1.6(0.4). Since this interval does not contain zero, we can conclude with 90-percent confidence that among women born 1940 to 1944 the median age at first birth for Black women is lower than that of White women.

Standard error of a fertility ratio. The standard error of a fertility ratio is approximately equal to

$$s_x = \sqrt{x^2\left[a + \left[\frac{b}{xy}\right] + \left[\frac{c}{1000y}\right]\right]} \qquad (5)$$

where x is the number of children ever-born per 1,000 women and y is the total number of women in thousands. The values of the standard error parameters a, b, and c are given in table B.

Illustration.

Table A of the first paper (CPS) shows that the average number of children born per woman is 2.89 for women born from 1920 to 1954. This implies 2,890 children were born per 1,000 women. The total number of women born from 1920 to 1954 is 40,581,000. Using formula (5) and the parameters from table B, the standard error on 2,890 children can be approximated as

$$s_x = \sqrt{(2,890)^2\left[0.000001 + \frac{814}{(2,890)(40,581)} + \frac{1485}{(40,581,000)}\right]}$$
$$= 19.3 \textit{ children}$$

This means the 90-percent confidence interval on the number of children born per 1,000 women who were born from 1920 to 1954 is from 2,859 to 2,921, i.e., 2,890 ± 1.6 (19.3).

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