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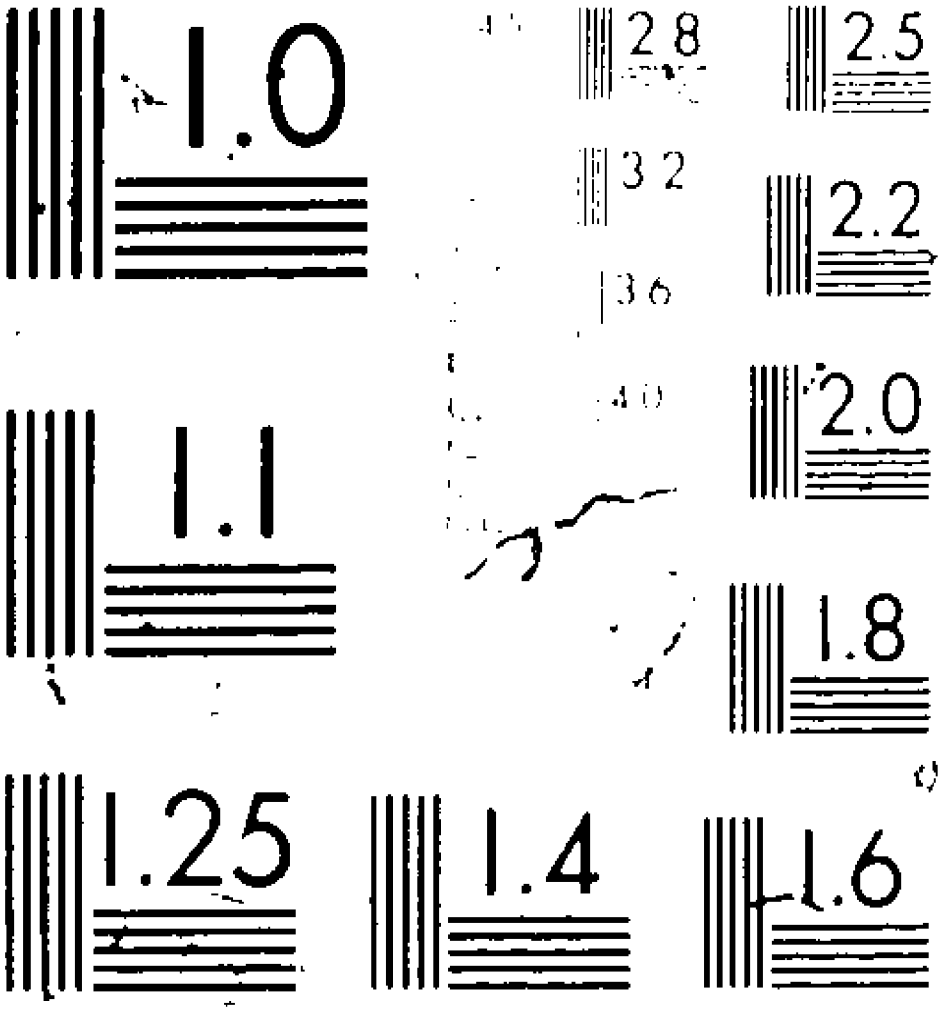

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ABSTRACT

This document summarizes the findings of a research report which focuses on the consequences of early childbearing on the later life of the mother. Education, family size, marriage and marriage stability, labor force participation and earnings, welfare receipt, and poverty are all considered. Each of these outcomes is described separately. In addition, the interrelationships between these outcomes are put into the perspective of causal models. These models explore the indirect as well as the direct effects of a woman's age at first childbirth on her later well-being. The reader is referred to a series of related papers which contain research methodologies, statistical tables, variable definitions, and relevant research literature that focus on the particular outcomes of this research in greater detail. (Author/EB)

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THE CONSEQUENCES OF AGE AT FIRST CHILDBIRTH: FINAL RESEARCH SUMMARY

Report Prepared by

Kristin A. Moore and Sandra L. Hofferth

August, 1978

THE URBAN INSTITUTE
WASHINGTON, D.C.

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TABLE OF CONTENTS

	Page
THE SOCIAL AND ECONOMIC CONSEQUENCES OF TEENAGE CHILDBEARING	
Introduction	1
Data	2
EDUCATION	4
The Impact of an Early First Birth	4
Age at First Marriage	5
Catching Up on Schooling Over Time	5
The Process of Educational Attainment	6
Race	7
Causality	8
FAMILY SIZE	10
MARRIAGE, SEPARATION AND DIVORCE	12
Marriage	12
Marital Dissolution	12
LABOR FORCE PARTICIPATION AND EARNINGS	17
The Direct Effect of an Early Birth	17
The Indirect Effects of an Early Birth	18
Determinants of the Probability of Working (PSID)	18
Determinants of Work Experience (PSID)	19
Determinants of Occupational Status (NLS)	19
Determinants of Hours Worked Last Year (PSID)	19
Determinants of Hourly Wages (NLS and PSID)	20
Determinants of Annual Earnings (NLS and PSID)	21
Conclusions	22
FEMALE HEADED FAMILIES AND WELFARE RECIPIENCY	23
Female Headed Families	23
Welfare Receipt	24
Transition Probabilities	26

TABLE OF CONTENTS (continued)

	Page
HOUSEHOLD INCOME AND POVERTY: CAUSAL MODELS	26
Analytic Method	28
The Effect of Age at First Birth Among Those Who Bear A First Child Before Age 19 - Detailed Results	31
Effect on Own Earnings	31
Effect on Other Household Income	31
The Positive Effect Through Education	32
The Positive Effect Through Family Size	32
The Positive Effect Through Age at First Marriage	32
The Negative Direct Effect	33
Effect on Poverty	33
The Effect of Age at First Birth Among Those Who Bear A First Child at 19 or Later - Detailed Results	34
Effect on Own Earnings	34
Total Effect	34
The Positive Effect Through Education	34
The Positive Effect Through Family Size	35
The Positive Effect Through Labor Force Experience	35
The Negative Effect Through Hours Worked Last Year	35
Effect on Other Household Income	36
Effect on Poverty	36
The Negative Effect Through Education	37
The Negative Effect Through Number of Children	37
The Negative Effect Through Work Experience	37
Positive Effect Through Hours Worked	37
The Effect of Age at First Birth in the Total Sample	37
Effect on Own Earnings	37
Effect on Other Household Income	38
Effect on the Probability of Being Poor	38
DISCUSSION AND CONCLUSIONS	39

THE SOCIAL AND ECONOMIC CONSEQUENCES OF TEENAGE CHILDBEARING

Introduction

During the past decade, the United States has witnessed a dramatic decline in fertility rates. Despite this overall trend, fertility rates have not fallen as rapidly among teenagers as among older women. In fact, fertility rates, while low, are actually rising among females under age 17. The slow decline in fertility rates among teenagers relative to older women combined with large teenage cohorts has resulted in another phenomenon; the proportion of all babies that are born to teenage mothers has risen. In 1950, females under age 20 bore 12 percent of all children and 20 percent of all first children. In 1975, they bore 19 percent of all children and 35 percent of all first children. In addition, the proportion of all births that occur outside of marriage has been rising. In 1975, 14 percent of all babies were born to unmarried women, compared to 4 percent in 1950. Early and out-of-wedlock childbearing tend to be intertwined; 52 percent of all out-of-wedlock births occurred to teenagers in 1975, and 39 percent of teenage births occurred outside of marriage.

Clearly, a significant portion of childbearing in the United States occurs among teenagers, often outside of marriage, and the proportion does not seem to be decreasing very much. Is this a cause for concern?

Previous research has documented associations between early motherhood and lower educational attainment, a higher probability of divorce among parents who marry, higher subsequent fertility, and later poverty. However, these associations have not been tested within statistical models that control for important

social, economic, and motivational factors. Therefore, it is not clear whether the attainment of young women is inhibited by having a first birth at a young age or whether the achievements of early childbearers are limited by personal and social characteristics, other than their age at first birth. Over the past two years, we have been attempting to trace out the social and economic consequences of teenage childbearing using two national surveys -- one sample of approximately 5,000 contemporary young American females and one sample of 5,000 households. Our work indicates that teenage childbearing leads to important negative consequences for the young mother and her family, however, the impact of an early birth is not always direct. Rather, it seems to trigger a chain of events that combine to undermine later social and economic well-being.

This research report focuses on the consequences of early childbearing for the later social and economic status of the mother and her family, specifically, education, family size, marriage and marital instability, labor force participation and earnings, welfare receipt and poverty. Each of these outcomes has been studied separately. In addition, the interrelationships between these outcomes have been studied within causal models. These models explore the indirect as well as the direct effects of a woman's age at first childbirth. The current paper attempts to summarize our research findings. The interested reader who wishes to review research methodologies, statistical tables, variable definitions, and the relevant research literature will find these reported in a series of papers (listed on page 42) that focus on particular outcomes in greater detail.

Data

The data utilized in this paper are drawn from the National Longitudinal Study of the Labor Market Experiences of Young Women (hereafter referred to as

the NLS data), funded by the U.S. Department of Labor, and the Panel Study of Income Dynamics (PSID), funded by the Department of Health, Education and Welfare.

The first wave of the NLS was fielded in 1968 and sampled about 5,000 young women between the ages of 14 and 24. Attempts to reinterview these women were made annually from 1969 through 1973. Sample retention has been very good: by 1972, 90 percent of the original sample remained intact. The NLS data are especially well-suited for a study of the consequences of early childbearing because they follow young women through the teenage and young adult years when family building often takes place. For a large proportion of the sample, data on marriage and childbearing are not retrospective but were gathered as events occurred. Because extensive information was obtained on the education and work experience of respondents, as well as on their social and economic background, detailed comparisons between teenage mothers and young women who postponed their childbearing can be made. It should be emphasized, however, that no information is available on women who had abortions, stillbirths or miscarriages or who gave their child up for adoption or who themselves adopted a child or took in a foster child. Thus, we are focusing on the consequences of becoming a mother at a particular age in the social sense of assuming responsibility for childrearing at that age.

PSID data collection was initiated in 1968 to provide information on short run changes in the economic status of families and individuals. To this end, approximately 5,000 families have been interviewed annually through 1978. Data obtained through 1976 are included in the current analyses. The original sample consisted of a cross-section sample of dwelling units within the continental United States plus a subsample of families interviewed in 1967 by the U.S. Bureau of the Census. Since 1968, the sample has consisted of all

panel members living in families that were interviewed the previous year plus newly-formed families that include any adult panel member who had moved out of the sample household since 1968. The addition of newly-formed families has resulted in an increased sample size despite sample attrition. PSID panel losses were considerable in the first year but have been relatively minor in recent years. The data were weighted in 1972 to adjust both for different sampling fractions and for different rates of nonresponse. Since that time, attrition has not been sufficiently great to warrant further adjustment, and estimates made from the PSID correspond closely with estimates obtained from the Current Population Reports. Nevertheless, as with all survey data, some care is warranted in generalizing from results to the entire U.S. population. Again, age at first childbirth refers to the woman's age when she assumed the responsibilities of childrearing, since no information is available on abortion, miscarriage, stillbirth or adoption.

EDUCATION

The Impact of an Early First Birth

Given the importance of education to later economic and social status, it is surprising that the impact of an early birth on young women's educational attainment has not received much attention from researchers in the past. Results from our analyses clearly indicate that early childbearing is associated with significant educational losses. Among the young women age 24 in the National Longitudinal Survey (NLS) sample, girls who bore a child at 15 or younger completed only 9 years of school on the average. Those who had a first birth at 16 or 17 completed ten and one-half years, on the average.

When the effects of factors such as family background, educational goals, and age at marriage are controlled for statistically, young women who had a first birth at age 15 or younger were found to complete nearly two years less schooling than the young women who were still childless at age 24. The impact

of teenage childbearing occurs net of these other factors. In every analysis, age at first birth was the strongest or one of the strongest influences on schooling.

Age at First Marriage

Early marriage also has a significant negative impact on the years of schooling a young woman is able to complete. It is difficult to sort out the effects of an early birth from early marriage, since they so frequently occur together. However, it is clear that the young woman who both has a child and who marries is the most likely to drop out of school. The young woman who bears a child but does not marry is only half as likely to drop out as the young woman who becomes both a mother and wife. Whether she marries or not, though, the school-age mother is considerably more likely to discontinue her formal education than a teenager who has not borne a child.

Catching Up on Schooling Over Time

We looked at educational attainment among young women in the NLS sample at age 18 and 21, as well as at age 24. Our goal was to examine the possibility that there is an initial loss which is overcome by the young women as the years go by. On the contrary, the young mothers did not seem to catch up with their later-bearing peers. In fact, the gap between the young mothers and the young women who are childless at 18, 21, and 24 increases as the child[illegible] women continue their schooling.

Subsequent analyses on Panel Study of Income Dynamics (PSID) data suggest that some increases in education do occur even though the young mothers do not catch up. For example, among the PSID women aged 22 to 34, those who became mothers at age 15 or less completed 10.4 years of schooling, compared to 8.9 years among the NLS women. Among PSID women who became mothers at 16 or 17, the mean is 11.0, compared to 10.5 among the NLS mothers. While these are not

particularly impressive gains, they do show that some women manage either to return to school, attend adult education, or perhaps pass a high school equivalency examination. At age 24, fewer than 10 percent of the youngest NLS mothers are high school graduates. However, among PSID women aged 22 to 35, 40 percent of the blacks and 24 percent of the whites had managed to secure a high school diploma. This is an important gain, since evidence suggests that women who achieve at least a high school education are only half as likely to live in households receiving Aid to Families with Dependent Children. Nevertheless, in no instance do even half of the women who became mothers at 17 or younger manage to acquire 12 years of education. For most of the young mothers, then, an early birth appears to pose more than a temporary setback to schooling.

The Process of Educational Attainment

Another analysis suggests that the factors that are important to the process of educational attainment differ between young women who bear a child during the high school years and those who delay. Among those who postpone childbearing, motivation of the individual and encouragement or help from others are the most important factors related to years of schooling completed at age 24. However, for teenage mothers, the characteristics of her family are most important. A girl with an advantaged family background -- fewer siblings, higher father's education, and an intact family -- probably has an easier time coping with the responsibilities of a new baby while also finding it possible to attend school. The impact of the parent's educational goal for her and being in a college prep curriculum are far less important to the teenage childbearer than to the childless teenager, presumably because the realities of motherhood make it difficult for her to realize previous goals, whatever they are.

Race

In the NLS analyses, after controlling for age at first birth, family background and motivational factors, the young woman's race has only a tiny and non-significant effect on schooling. Yet we know that teenage childbearing has an impact on educational attainment and that early childbearing is considerably more common among blacks in the United States. Further analyses were therefore conducted for blacks and whites separately, with interesting results.

We had hypothesized that black females would suffer less of an educational disadvantage from adolescent childbearing than their white peers. Since teenage parenthood is much more common among blacks than among whites, social mechanisms for dealing with this occurrence seem likely to be better established in black families and neighborhoods or in school systems with a high proportion of black students. Other evidence suggests that the presence of babies and young children interrupts the lives of black women less than thoseof white women. In line with this reasoning, we do find that early childbearing has far less effect on educational attainment among blacks than among whites. In fact, when variables measuring the woman's age at first marriage plus measures of background and motivation are included in the regression equation, the coefficients for age at first birth remain strong and statistically significant among whites but fall to non-significance among black women. Among young black women in the NLS regression, only those births occurring at the youngest ages are associated with educational decrements, a trend that is replicated in the PSID regression.

The negative impact of an early marriage on schooling found among PSID women is not replicated among the younger NLS respondents, however. This may be due to a weakening of the negative impact of marriage over time, since the impact of an early marriage is also weaker among young NLS white women

than it is among older PSID white women. This seems reasonable, since combining school attendance with marriage seems to have become easier over the years, while little has changed over time to make the emotional and economic demands of motherhood more compatible with school enrollment.

In sum, early childbearing appears to have a strong negative impact on the educational attainment of whites, and a moderate (if not statistically significant) negative impact on the schooling of black women. Early marriage has a negative impact on the schooling of both whites and blacks, although the negative impact of marriage seems to have lessened somewhat in recent years.

Causality

When asked why they had dropped out of high school, over half of the NLS respondents gave marriage or pregnancy as their reason. Since we know that many school-age marriages involve a pregnancy, the effects of both factors were explored in an analysis of the probability of school drop-out.

These transition probability results indicate that marital status at the time of the first birth conditions the impact of that birth on schooling. For example, of the young women in tenth grade or lower, of those who both marry and have a baby during the year at risk, 77 percent leave school. Among those who marry but do not have a live birth that year, 78 percent nevertheless drop out. Of course, many of these brides are pregant, which makes it difficult to disentangle the effects of marriage from the effects of pregnancy. Women who are already married and who do not have a child during the year experience intermediate probabilities of school leaving. That is, they drop out more often than single women but less often than women who both marry and become mothers. Women who become mothers but do not marry are nearly three times as likely to drop out as non-mothers, but they are less

likely to quit school than women who marry. Thus, there is a rough ordering among high school age women in the likelihood of leaving school. Those who are neither wives nor mothers are most likely to remain in school; only 7-9 percent drop out. Those who become mothers but do not marry are nearly three times as likely to drop out. Those who marry but do not bear a child (though some proportion are undoubtedly pregnant) and those who both marry and bear a child have the highest probabilities of dropping out; nearly 4 in 5 of these young women quit school.

Another approach to the question of causality involves development of causal or path models, in which the variables "age at first childbirth" and "years of schooling" are allowed to affect one another. These analyses indicate that among women who have a child when they are age 18 or younger, the causal direction is from childbearing to schooling. This pattern was found in analyses of both the young NLS women and the older PSID women. It substantiates the expectation that the age at which a woman bears her first child has a very strong impact on educational attainment if she has that first birth while still in high school. The number of years of high school that a girl has finished has no reciprocal effect on the age at which she bears that first child. Among older mothers, however, causality was found to flow in both directions in the NLS sample, though the effect of education on childbearing was somewhat stronger than the impact of childbearing on schooling. Among PSID older mothers, no statistically significant associations were found. Thus, the primary effect of a birth on educational attainment occurs among those women who bear their first child during the high school years.

In sum, our results indicate that an early birth affects the amount of schooling a young woman is able to complete, even when family background and motivation are controlled and particularly among whites. Early marriage

also seems to have a strong negative effect on schooling, though the effect may have lessened over time. Our analysis also supports the view that an early birth plays a causal role in school drop-out; while not all or even most drop-outs are due to pregnancy, among those girls who become pregnant, the pregnancy seems to greatly increase the chances that a girl will drop out over what her chances would have been if she had not become pregnant. Finally, we find little evidence that teenage mothers are later able to catch up with their peers who delay childbearing. Rather, an early first birth seems to result in a life-long loss of schooling.

FAMILY SIZE

Women who initiate childbearing early have many fecund years left for additional childbearing. In addition, the low contraceptive effectiveness characteristic of most teenage mothers may contribute to subsequent unplanned births. Moreover, early motherhood may restrict their awareness of alternatives to further childbearing. To the extent that an early birth interferes with her education, the young mother has restricted the range of opportunities available to her to relatively unattractive and poorly paid jobs. This may lead her to center her energies on motherhood. For these reasons, teenage mothers were hypothesized to have higher fertility than women who initiated childbearing at a later age.

Analyses provide strong support for an association between an early first birth and higher subsequent fertility. Among mothers age 24 in the NLS sample, those who were 15 or younger at their first birth have an average of 1.25 more children than women who initiated childbearing at age 21 to 23. With families of two to three children on the average, these young families are exposed to serious financial and emotional strains at a time when many young persons are just establishing careers and families. Furthermore, the head start these

teenage mothers have in family building does not seem to diminish over time. Among mothers aged 35 to 52 in the PSID sample, those women aged 15 or younger at their first birth have an average of 3 children more than women who were at least 24 when they became mothers, even when the effects of numerous social and demographic factors are statistically controlled. Women whose first child was born when they were 16 or 17 have an average of 2.7 more children than women who delayed childbearing to age 24, net of other factors. Overall, among women 35 to 52, those mothers who had their first child at age 17 or younger have an average of more than five children each.

Previous work has addressed age at first marriage as a determinant of subsequent childbearing. Given trends toward premarital sex along with delays in childbearing after marriage, it was hypothesized that age at first childbirth would be a better predictor of fertility than age at first marriage. In fact, the magnitude and statistical significance of age at first birth by far exceeds that of age at first marriage in these analyses. Moreover, in multivariate analyses, a premarital first pregnancy or birth was not found to have a strong or consistent effect on fertility. In general, family size was found to be smaller among white women, better educated women, non-Catholics, and women from more recent birth cohorts. Southern white women were found to have smaller families; however farm background was not found to affect fertility. Black women who worked early in marriage had smaller families than those who were not employed; however employment early in marriage did not affect the fertility of white women once age at first birth and age at marriage were considered. Older women and white women from larger families tended to have larger families themselves. Socioeconomic background and the frequency of church attendance were not found to affect fertility.

Although teenage mothers seem to have considerably larger families than women who delay childbearing into their twenties, some evidence was found to

suggest that the pattern of childspacing does not vary according to age at first childbirth when teenage mothers are compared with other women at the same parity. In general, mothers tend to space births two to three years apart, regardless of their age at first childbirth.

In sum, initiation of parenthood during the teen years seems to be associated with considerably larger families later in life. Given the high cost of rearing children to adulthood, teenage mothers face heavy economic demands over a long period of time. The limited earning ability of parents who have often not themselves completed high school or established themselves in a job makes poverty a likely outcome. Thus, whatever difficulties the child of a teenager faces as it begins life, it appears that those difficulties are likely to be shared, and probably compounded, by the arrival of several siblings.

MARRIAGE, SEPARATION AND DIVORCE

Marriage

Although many teenage pregnancies and births, particularly among black teenagers, occur to young women who are unmarried, the vast majority of mothers have married by their early twenties. Indeed, a high proportion of marriages seem to be precipitated by pregnancy or birth. Not only is a current first birth highly associated with the probability of marriage, but a birth in the previous year is also related to a higher likelihood of entering marriage. Young women who have not married within two years of the birth of their first child, though, seem to experience a slightly lower probability of marriage.

Marital Dissolution

The confirmation of a link between early pregnancy and early marriage confirms our everyday observations. A question of greater debate is whether the marriages formed under such circumstances are particularly unstable. The unique

difficulties posed by the combination of early marriage plus parenthood are unlike those suffered by couples who simply marry young but postpone childbearing. In addition, couples who marry after or in response to a premarital pregnancy may face special difficulties. On the other hand, marriages between young people not yet done with their schooling and personal growth may be inherently unstable, while the presence of children may present many reasons to young parents to remain married. Several research strategies were employed to approach these issues. The essential question is whether an early birth or an early marriage leads to a higher probability of marriage break-up.

The weight of the evidence that we have generated suggests that it is teenage marriage that is associated with a higher probability of marital dissolution. Regardless of the age of the mother at first childbirth and far more important than the timing of the birth relative to the marriage, the youthfulness of the couple, as measured by the wife's age, seems to be a critical determinant of divorce and separation.

In an initial analysis of young women interviewed between 1968 and 1972 in the National Longitudinal Survey of Young Women (NLS), the probability of having ever been separated or divorced by age 24 was found to be strongly affected by the woman's age when she contracted her first marriage. When age at marriage was controlled for statistically, age at first childbirth had no impact on the incidence of divorce or separation. A premarital first birth also had no effect on marital dissolution. A higher probability of having experienced marital break-up was noted among women with lower education, women living on the Pacific Coast, blacks, and young women from more recent birth cohorts.

Another analysis of the same NLS data explored the incidence of divorce over the survey years among young women who were married in the initial year.

Again, age at first marriage was a critical predictor of marital dissolution over the period between 1968 and 1972, while age at first childbirth had no effect on marital stability. Also, black women, women with lower education, and women living on the Pacific Coast were more likely to terminate their marriages, as were women who themselves earned the majority of the family's income. Couples with relatively substantial assets were particularly likely to remain married. Net of these other factors, the husband's income, the presence of children under age three, the AFDC benefit level in the region of residence, marital duration, and the timing of the first birth relative to the marriage all had no impact on the probability of marriage break-up.

Because age at first marriage and age at first childbirth are so highly correlated ($r = .71$), the NLS sample was broken down into sub-samples according to the woman's age at first marriage. Even among these groups of women all married at about the same age, the woman's age at first childbirth was not found to be related to the probability of divorce or separation. The model was found to explain marital dissolution considerably better among couples who wed when they were at least age 21, suggesting that more individualistic and idiosyncratic factors affect couples who marry at younger ages. Among couples married when the wife was 17 or younger, the only factors found to predict the marital stability were the number of years already married, race and parental socioeconomic status. Whites were found to be less likely to experience separation or divorce, while wives from higher status families are more likely to end their marriages if they wed while teenagers. Among couples who married at closer to the usual age at marriage, having financial assets, the presence of a young child and being white all lessen the likelihood of divorce.

Because of the importance of race to the likelihood of divorce and separation in these analyses, separate regressions were conducted for NLS

whites and for blacks. This analysis clearly indicates the importance of age at first marriage in predicting to marital instability among whites. Whites who wed as teenagers experience a significantly higher probability of divorce and separation. However, when age at marriage is controlled, age at first childbirth has no positive impact on instability; if anything, white teenage parents have a lower probability of divorce, net of age at marriage. Among blacks, both early marriage and early parenthood predict to a slightly higher probability of marital instability, but neither effect is statistically significant.

The association between age at first childbirth, age at first marriage and marital dissolution was then examined with a second national longitudinal survey, the Panel Study of Income Dynamics (PSID). Respondents in this survey were of all ages, and it was not possible to ascertain whether respondents had ever been divorced in the past. Consequently, the experience of divorce and separation over the years 1972 to 1976 was examined. Again teenage marriage but not teenage parenthood was associated with marriage break-up. However, many of the couples in this sample were sufficiently old to have experienced both divorce and re-marriage. Therefore, a smaller sub-sample was identified, composed of only those couples married for ten years or less in 1972, and the incidence of marital break-up among these couples was examined.

In this sample, too, couples who wed when the woman was a teenager experienced a considerably higher incidence of divorce and separation over the period from 1972 to 1976. Again, teenage childbirth was negatively associated with the probability of marital break-up, when age at marriage was controlled. Also, the timing of the first birth relative to marriage had no statistically significant association with marriage break-up, nor did the presence of young children, husband's income, husband's education,

or the duration of marriage. Higher female wages and a higher unemployment rate in the local labor market, predict to a higher probability of marital dissolution, while better-educated wives tended to experience fewer break-ups.

In a final analysis, the year-by-year probability of marital dissolution was examined with each data set, and no evidence was found to suggest either that a current first birth or a past first birth serves to significantly increase the probability that a marriage will end.

In sum, none of the analyses conducted on these data sets indicate that teenage childbearing increases the risk of marital dissolution later in life. Moreover, women experiencing a first birth before or in the same year as marriage are not more likely to subsequently experience a marriage break-up. However, this does not mean that teenage childbearing is unrelated to the incidence of divorce and separation. As noted earlier, many marriages are entered during the teenage years under the press of an early pregnancy or birth. Certainly many of these young marriages would never have been formed or would not have been formed at the time if the pregnancy had not occurred. And our analyses strongly indicate that marriages entered during the teenage years are far less likely to succeed. Furthermore, divorce when it occurs may impose greater economic hardship on the family if the young mother has failed to complete her education and acquire work experience and if the young father has curtailed his education in order to support a family., Young parents may also fail to acquire the assets and education that seem to serve as a buffer against marital break-up. In addition, the hardship imposed by a divorce or separation probably tends to be greater when children are involved than when a childless couple splits up.

Our finding that teenage marriages appear to be particularly prone to end, whether the young couple have children or postpone the first birth,

should certainly be evaluated using other research strategies and other data sets, particularly data sets that permit controls for whether the first birth was intended at the time it occurred and which permit analysis of whether a person has ever experienced a divorce or separation. However, the conclusion from these analyses is clear. The marriages of women who first wed during the teenage years are less viable than those of older brides. This relationship is not accounted for by the association between teenage marriage and teenage parenthood, by the relatively poor economic prospects faced by those who wed while very young, or to differences in family background, social, or demographic characteristics associated with early marriage. Early marriage itself appears to be responsible. Given this finding, the current trend toward delayed marriage is a hopeful sign, one which may signal a decline in the frequency of divorce in the future.

LABOR FORCE PARTICIPATION AND EARNINGS

The Direct Effect of an Early Birth

Does an early birth have any direct impact on the later labor force participation and earnings of women? In early tabulations of the data, some evidence of a depressing effect of a first birth on the occupational statuses, wages, and earning of young women was found. However, after controlling for other factors, we conclude that an early first birth does not directly affect whether or not a woman is working years later or how much work experience she has accumulated. Nor does it directly affect the occupational statuses, hours of work, hourly wages or annual earnings of working women. Education, experience and family size are the most important factors affecting occupational status, hours of work, wages, and earnings. Since other research has shown that a first birth does reduce schooling and increase the family sizes of women, some indirect effects of an early birth were anticipated.

The Indirect Effects of an Early Birth

One indirect effect of an early birth results from the large family sizes of early childbearers. Women who have a large number of children accumulate less work experience over their lifetimes than those with smaller families. This occurs because a birth lessens the chance that a non-working woman will start working and increases the likelihood that a working woman will quit. Moreover, those women with large families who do work earn less per hour, even controlling for education and hours. Since early childbearers tend to bear more children, early childbearing indirectly affects work experience through its effect on family size.

A second indirect effect of an early birth arises from the lower educational attainment of early childbearers. Although the number of years of schooling completed does not appear to affect the amount of work experience a woman accumulates, it does affect the occupational status and earnings of workers. Women with less schooling obtain jobs of lower socioeconomic status, make lower hourly wages, and earn less annually. Therefore, an early birth can be said to indirectly reduce the occupational status, hourly wages, and annual earnings of working women, through its effects on schooling.

Determinants of the Probability of Working (PSID)

Education and prior work experience are the most important factors predicting to whether or not a woman will work in any given year. Important other factors are situational. For example, a recent birth reduces labor force participation, both by decreasing entry rates of non-workers and by increasing drop-out rates of workers. The presence of a young child has a stronger effect on the probability that a married woman will enter the labor force than it does on that of an unmarried woman. Having little other family income to depend on, having a physical limitation, and being enrolled in

school also lessen the chance that a woman will work outside the home. Having a husband who approves of his wife working increases the likelihood that a woman will work. Two especially interesting results are the following: net of everything else, 1) married women are more likely than unmarried women to work, and 2) black women are no more likely than white women to be working. Finally, we found neither the level of welfare benefits nor their accessibility to affect a woman's decision to work.

Determinants of Work Experience (PSID)

Being white, having many children, and having been married at some time reduce the total labor force experience of a woman. In addition, older women have accumulated less work experience proportional to their ages than have younger women, evidence of the trend toward increased labor force participation of younger generations of women.

Determinants of Occupational Status (NLS)

Parental socioeconomic status, years of schooling completed, and race are the most important factors associated with the occupational statuses of 24-year-old women who worked last year. As expected, being employed less than full-time or less than the full year was associated with lower occupational prestige for these young women.

Determinants of Hours Worked Last Year (PSID)

For women who worked at all during the year, experience in the labor force is the most important factor in predicting the hours they work: the more work experience, the more hours, whether experience refers to experience in general, to experience at the same occupation, or to experience with the same employer. Situational factors are important in determining the hours a woman works. Being married and having a young child reduce the number of hours worked last year, as do enrollment in school and having a physical

limitation. A wife whose husband favors her working is likely to work more hours. City residents work more hours than do non-city residents and women living in areas of high unemployment work fewer hours than those in areas of low unemployment. Neither a high level of AFDC benefits nor its easy access was found to affect the number of hours working women spent at their jobs during the year.

As expected, white women work fewer hours than black women. We suspected that the relationship between hours and other factors would differ by race. However, when separate models of hours were estimated for blacks and for whites, the only interaction of significance was that of race with marital status. Married white women work fewer hours than do unmarried white women; married black women work more hours than unmarried black women.

Determinants of Hourly Wages (NLS and PSID)

The number of years of schooling completed is the most important predictor of the hourly wages of working women, in both the National Longitudinal Survey and the Panel Study of Income Dynamics. In the PSID, in addition, the number of children and the amount of work experience are associated with the hourly wages of those who worked at all during the year. Older women were found to make more per hour than younger women in that sample. Neither being married nor having a young child affected hourly wages in either sample. Situational factors such as being physically limited and being enrolled in school were found to reduce wages in the PSID. An interesting finding is that women whose husbands favor their working earn more per hour; however, approval may be a result rather than a cause or facilitator of higher wages.

Living in the south reduces wages, while living in a metropolitan area raises wages in both samples, though the results are only significant in the NLS. As one would expect, a poor market for females compared with males lowers the hourly wages of working women.

In the NLS, women who work less than full-time during the full year make less per hour. In the PSID the results are in the opposite direction. Part-time and part-year workers make more per hour. The samples differ, of course. The NLS women are young; young part-time workers may make less per hour than older part-time workers. However, two alternative explanations are possible: 1) women who make more money per hour are able to limit their hours, as found in the analyses of hours worked, or 2) the part-year group in the PSID consists disproportionately of women in occupations such as teaching. Teachers work less than the full year and may even report that they work less than full-time during the school year.

There is no difference between the hourly wages of black and white women, net of other factors. Again, we examined the relationships among all independent variables and wages separately by race. The main difference between blacks and whites again appears to be in the effect of marital status. Married white women make lower wages than unmarried white women; married black women make higher wages than unmarried black women, though the latter difference is not significant. In addition, the number of children a black woman raises does not have the negative effect on wages that it has for white women.

Determinants of Annual Earnings (NLS and PSID)

Hourly wages and hours worked are, of course, the most important predictors of earnings. Women who work less than full-time the full-year earn between $3000 and $6000 less than the full-time/full year workers, according to the data from the PSID. Differences are similar in the NLS. After controlling for wages and whether a woman works part or full-time, the number of years of schooling completed and work experience are important predictors of earnings. Parental socioeconomic status is associated with higher annual earnings; women from higher status backgrounds were found to work more hours annually.

Temporary factors of importance to earnings include the presence of young children; women with young children work fewer hours. Respondents enrolled in school earn less per year; they work less and make less per hour. Respondents whose husbands approve their working earn more per year; they work more hours and make more per hour. Again, however, whether approval of working is a cause or an effect of hours and earnings is not known. In both samples, southern residents earn less than non-southern residents, and metropolitan residents earn more than their non-urban counterparts. There are no important differences in the factors affecting the earnings of full year workers and women who worked at all during the year.

Black women earn more annually than do white women net of other factors; black women work more hours. No difference in wages was found net of other factors. Again, separate models were tested for blacks and whites as before, the only interaction with race that was found was that of marital status. White married women make less than do unmarried white women; the opposite is the case for black women, although the difference is not statistically significant.

Conclusions

A woman who has a first birth while young, but who 1) does not marry, 2) completes her education, and 3) does not go on to have a large family, differs little from her later bearing peers in labor force participation, work experience, occupational status, hourly wages or annual earnings later in life. However, such young women must necessarily be unique. In other work we have documented the close association between an early first birth and high subsequent fertility, between early childbearing and school drop-out, and between early childbearing and marriage. Thus it appears that an early birth does have detrimental effects on women's labor force status, but only indirectly as a consequence of the birth's impact on fertility, education, and labor force experience.

FEMALE HEADED FAMILIES AND WELFARE RECIPIENCY

Female Headed Families

The recent rise in the incidence of female headed families has concerned policy makers because nearly half of all families headed by a woman are in poverty. Although some of these families originate through the death of the husband, most are formed by divorce or separation or, to a lesser extent, by an out-of-wedlock birth. Since teenage births often precipitate early marriages, with their disproportionately high probability of break-up, or occur out-of-wedlock, the association between having a first birth as a teenager and later being a female head was explored among several samples of mothers. In the NLS, all women who had had a child by age 24 and all female heads with children at age 24 were studied. All PSID women with children under age 18 and all female heads with children less than 18 were also studied.

Teenage childbirth does not appear to be associated with subsequent female headship, either in cross tabulations or in multivariate analyses. However, the occurrence of a premarital birth does predict to later being a female head. A teenage marriage also predicts to later female headship, presumably because of the association between early marriage and marital break-up. Since pregnancy precipitates many early marriages and since teenage births occur disproportionately outside of marriage, early childbearing may be viewed as having an indirect effect.

Overall, women are less likely to be female heads if they have a young child, if they are white, attend church frequently, and, nonsignificantly, if they are Catholic. In addition, women with relatively good earnings

and work experience are more likely to be female heads, although it is not clear whether they become female heads in part because they are advantaged in the labor market or whether being a female head has resulted in greater experience and earnings. Labor market conditions were not found to have any effect over and above women's own earnings. Women in cities and on the Pacific Coast are somewhat more likely to be female heads, as are women with a physical limitation of some sort and women without a high school education. Young women in the NLS sample are more likely to be female heads, though there is no effect of age in the PSID sample.

Welfare Receipt

Of greater concern than the incidence of female headed families is the poverty and welfare dependency of this family form. We find a strong association between receipt of welfare assistance and age at first birth overall; however, our analyses indicate that this association disappears when controls for education, family size, labor force participation, age at marriage and race are included.

Mothers whose first child was born outside of marriage are more likely to receive welfare; this association is particularly strong among younger women. Women who have never married are considerably more likely to be welfare recipients. Age at marriage, however, is not related to the probability of public assistance.

A number of factors other than age at first childbirth were found to influence welfare dependency, and several of them suggest indirect routes by which the occurrence of an early birth increases the odds of welfare receipt at a later age. For example, women whose first birth occurs during the teenage years tend to have larger families, and family

size is a strong predictor of welfare recipiency. In addition, an early birth often disrupts the young women's schooling, and lower educational attainment increases the likelihood that a woman will later require public assistance. Women with relatively low earning ability and little work experience are also more likely to receive welfare, as are women who have some sort of physical limitation. Mothers who do not receive child support or alimony are considerably more likely to receive welfare, as are black women, and women who have been female heads for a relatively long time. In addition, women living in cities and on the Pacific Coast are slightly more likely to receive benefits. Finally, those women who live in states with relatively generous benefits in the Aid to Families with Dependent Children program have a little higher probability of being welfare recipients; but the association is not statistically significant among the sample of female heads.

In sum, early childbearing is not directly related to subsequent welfare dependency. However, a teenage birth can increase the probability of welfare receipt indirectly in numerous ways. To the extent that an early pregnancy precipitates teenage marriages which subsequently break up, the birth contributes to the formation of a family with a high probability of welfare dependency. Similarly, a teenage out-of-wedlock birth creates a family form with a high probability of needing public assistance. Moreover, the low educational attainment and relatively large families of teenage mothers increase the likelihood of welfare receipt. For these reasons, teenage mothers tend to be disproportionately represented among the recipients of public assistance.

Transition Probabilities

Another approach was employed to examine the short run association between a birth and welfare receipt. A strong association was found. Among NLS women who are not receiving public assistance, a premarital first birth greatly increases the probability that a woman will go on welfare. Among women who already live in households that receive assistance, a premarital first birth reduces the probability that a young woman will go off welfare to virtually zero. Postmarital first births exert only slight pressures on welfare entry and exit during the year of the birth. The impact of a first birth persists for several years, but in greatly reduced magnitude. Apparently, as the years go by, the direct impact of a birth translates into an indirect impact that is transmitted instead through variables such as education, income, and family size.

HOUSEHOLD INCOME AND POVERTY: CAUSAL MODELS

A decade ago, Arthur Campbell described the impact of an early birth on the life of an adolescent in this way:[1]

> The girl who has an illegitimate child at the age of 16, suddenly has 90 percent of her life's script written for her. She will probably drop out of school; even if someone else in her family helps to take care of the baby, she will probably not be able to find a steady job that pays enough to provide for herself and her child; she may feel impelled to marry someone she might not otherwise have chosen. Her life choices are few, and most of them are bad. Had she been able to delay the first child, her prospects might have been quite different, assuming that she would have had opportunities to continue her education, improve her vocational skills, find a job, marry someone she wanted to marry, and have a child when she and her husband were ready for it.

1. Arthur Campbell, "The Role of Family Planning in the Reduction of Poverty," Journal of Marriage and the Family, Vol. 30, No. 2 (May 1968): 236-45.

In numerous analyses, these assertions have been explored empirically. An early birth has been found to affect educational attainment, marriage, and family size directly. Teenage mothers are more likely to drop out of school and they tend to complete less education. On the other hand, they are more likely to marry. Women who begin family building during the teen years also tend to have larger families. However, similar direct effects of teenage childbearing were not noted in other analyses of social and economic attainment, including marital disruption, welfare dependency, labor force participation and earnings. Nevertheless, an early birth was argued to affect these outcomes indirectly, through its effect on schooling, marriage, and fertility. For example, early marriage seems to lead to marital disruption, and teenage pregnancy certainly increases the probability of teenage marriage. In addition, welfare dependency and labor force participation are both affected by education and family size, which are affected by an early birth. Understanding the effect of an early birth requires attention to not only the direct effects or the total effects, but these indirect effects as well. To explore these indirect effects, causal models were developed. Results from these causal or "path" models indicate that the impact of an early birth is complicated and differs among different population sub-groups. The bottom line, for the impatient reader, is that for each year that a woman delays her first birth, the probability that she will be in poverty at age 27 is lower by 1.6 percentage points; in a sample in which 10 percent of the women are in poverty, this represents a reduction of 16 percent for each year of delay (NLS analyses). The probability of poverty among a sample of women ranging in age from 22 to 52 (PSID analyses) is also lowered by delay of the first birth. For each year the birth is postponed, the probability of subsequent poverty is lower by 1.3 percentage points; in a population in which 13 percent are in poverty, this represents

a reduction of 8 percent for each year of delay. However, the reader should be aware that understanding the process is even more critical than grasping the bottom line, particularly if one hopes to intervene in the process. This process will therefore be described in detail.

Analytic Method

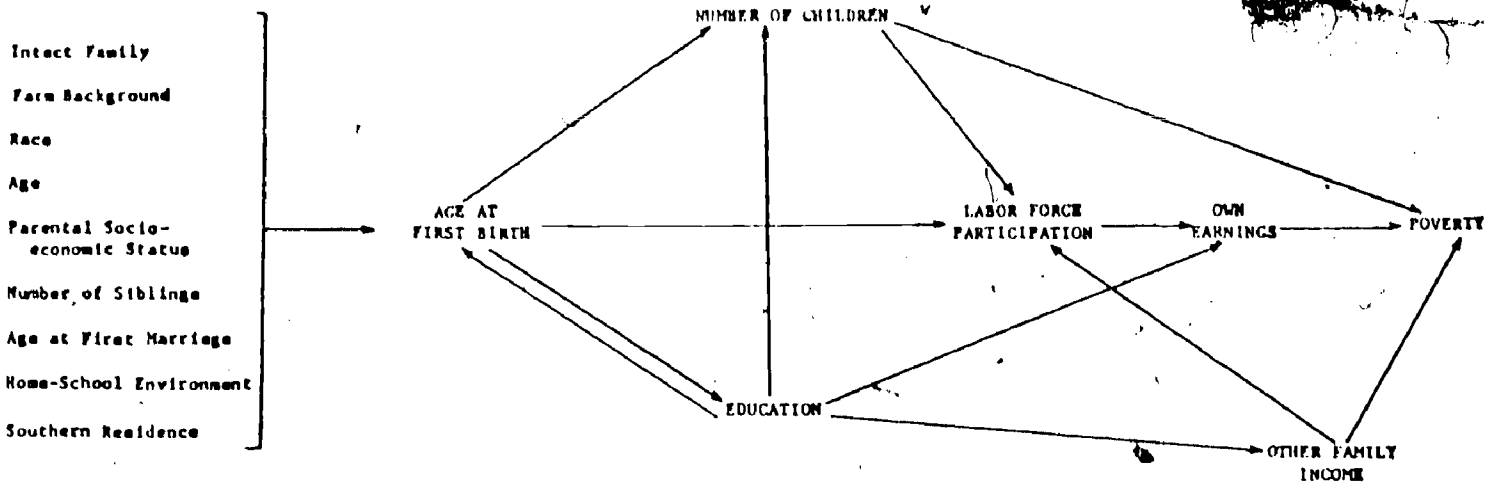
Separate analyses were conducted on the NLS and the PSID. Initially, a subsample of NLS women who turned 27 during the years of the survey and who had borne at least one child were studied. By age 27, we reasoned, their economic positions should be somewhat stabilized. Because most NLS respondents were still under age 27 in 1972, this sample is small. For this reason, and because these women are still fairly young, we conducted similar analyses focusing on PSID women who had had a child by 1976. The average age of these women in that year is 38.

Utilizing an analytic technique known as path analysis we compared the sizes of the direct and indirect effects of the age at which a woman has her first birth on later outcomes. In Figure 1 we can see, for example, that even though there is no "direct" effect (which would be represented by an arrow) leading from age at first birth to household income, age at first birth does have an effect, which we call "indirect," on household income. This is because the age at which a woman bears her first child has an effect (represented by an arrow) on total family family size and on educational attainment, both of which affect the work experience she accumulates and the hours she works. Her labor force participation, in turn, affects her own earnings and her family's income. Thus the effect of age at first birth on household income is said to pass "indirectly" through education, family size, and labor force participation.

In Figure 1, in addition to the arrow from age at first birth to educational attainment, we have also drawn an arrow from educational

Figure 1

Schematic Diagram of the Effect of Age at First Birth on Socioeconomic Wellbeing



attainment to age at first birth. This represents our belief that not only does the age at which a woman bears her first child affect the number of years of schooling she will complete, but that her schooling affects the age at which she bears her first child. Thus, there are two distinctive patterns: (a) a first birth to a teenager precipitates dropping out of school; (b) dropping out of school for reasons other than pregnancy is nevertheless followed by pregnancy. (Of course, in some cases, it is impossible to sort out the causal order, since drop-out and the initiation of parenthood are truly simultaneous events.) In general, teenage mothers are considered to follow the first pattern, while older mothers tend to terminate their schooling prior to becoming pregnant.

Since we expected the effects of the age at which a woman bears her first child to be strongest among those who gave birth while still in high school,

we divided each data set into two subsets: those who had a first birth at 18 or earlier and those who had a first birth at 19 or older. We then examined the effects of age at first birth on the earnings of these women, on the earnings of their husbands or other contributors to household income, and on the poverty status of their households at age 27 (NLS) or in 1976 (PSID). In order to make sure that the effects of an early birth were not confounded with early marriage, we controlled statistically for the effect of an early marriage in these analyses.

We hypothesized that, in general, women marry and then at some later point become pregnant and bear a child. That is, marriage precedes childbearing in the majority of cases, and is, from a statistical point of view, the factor precipitating pregnancy. For example, in the PSID fewer than 7 percent of all women were found to have given birth premaritally. However, for those young women who bore a first child while teenagers, the causal sequence may be reversed. In the PSID, 13 percent of first births occurring before the mother's 19th birthday were premarital. Analyses of annual transitions indicate, among women unmarried at the start of a year, if a birth occurred in that year, the probability of a marriage was also dramatically increased. Thus a marriage, rather than being a cause of a birth, is often an outcome for the earliest childbearers. In PSID analyses, we included age at first marriage as an additional outcome of a first birth for those women whose first birth occurred at 18 or earlier for those who had their first birth at 19 or later. In the total sample, age at first marriage was assumed to precede a birth and, was therefore, a control variable in the analysis of age at first birth and other dependent variables. In the analyses of the NLS, age at first marriage was included as a control variable in all subsamples.

The Effect of Age at First Birth Among Those Who Bear A First Child Before Age 19 - Detailed Results[1]

Effect on Own Earnings[2]

For a woman who bears her first child at 18 or earlier, waiting one more year before a first birth is associated with increased earnings at age 27 of $73 for each such year (NLS). This is due entirely to the additional 4/5 of a year of education that she can be expected to complete as a result. Findings are similar, but even stronger, in the PSID. A woman who delays that first birth for one year can expect to reap increased earnings in 1976 of $243 for each such year. In this data set (PSID), 4/5 of the effect on own earnings is a result of the additional full year of schooling such a woman will be able to complete; one-fifth of the effect is due to a reduction of 20 percent in the number of children she will eventually have. Greater education and reduced family size have been shown to be associated with increased labor force experience and earnings among women.

Effect on Other Household Income

There are substantial but different effects of an early first birth on other household income in the NLS and PSID samples. Among NLS young women who bear a first child while under 19, the effect of a first birth on other household income is stronger and more important than that on the woman's own income. Associated with an additional year of delay of a first birth is an increase in the income of her husband or other household provider at age 27 of $1220. In contrast, among women in the PSID who have

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1. All effects are in 1976 dollars.

2. Women with no earnings are included in these samples. The effects would probably be much larger if such women were excluded; however, by so doing a substantial and important group of women would be lost. Own earnings is only one of the factors contributing to the economic well-being of women.

their first child while under 19, we found, surprisingly, that a delay of one year in bearing that first child is associated with a decline of $87 in other family income in 1976. There are both positive and negative effects of a first birth on other family income; however, the negative effect outweighs the positive ones. These indirect effects are detailed below for the two data sets.

The Positive Effect Through Education.--The effect on household income of delaying a first birth on year is $1220 in the NLS. This effect is due entirely to the 4/5 additional year of education that the young woman can be expected to complete. This increased schooling presumably increases her availability and attractiveness as a spouse to men of higher earnings potential. Similarly, in the PSID, a year delay in having a first birth is associated with an increase in other family income in 1976 of $487, an increase that is also related to the increased educational attainment of such women. This effect, though smaller than that in the NLS, is still substantial.

The Positive Effect Through Family Size.--In addition, in the PSID, a first birth delayed one year is associated with an increase in other family income of $109. This is because later childbearers have fewer children, and smaller family size is associated with increased family income in this sample. There is no effect of age at first birth solely through family size in the NLS.

The Positive Effect Through Age at First Marriage.--In the PSID there is a small positive effect on other household income in 1976 of delaying a first birth for one year - a $116 increase for each such year. This is due to the earlier marriages of those with early births. Early marriage has been shown to be associated with greater marital instability and, as a result, a greater chance of being a female family head in 1976.

The Negative Direct Effect.--PSID analyses also indicate that there is a substantial direct negative effect of a later first birth on other family income, which negates and reverses the positive effects. Although we are not sure why delaying a first birth would be associated with lower other household income, the result is consistent with early analyses which indicated that among the earliest childbearers, those who have the earliest birth, for example, when under age 15, are least disadvantaged. Perhaps they do not marry immediately, as the 16 and 17 year olds may be more prone to do. As a result they may remain with their families and receive greater economic and emotional support than the older teenage mothers. Perhaps they enter somewhat later into more stable marriages and as a result are better off by the time they enter their thirties. Such a nonlinear association between age at first birth and other household income is not captured in a path model, since the age at first birth variable is included in linear form. The possibility that early childbearers live in larger households with more earners was explored; however, no evidence was found suggesting that a difference in household size accounts for this finding.

Effect on Poverty

Because of its direct effects on the woman's family size (PSID), earnings (NLS and PSID), and the income of other household members (NLS), we can expect an early birth to substantially increase the probability of the woman's household being in poverty.

Among NLS women, for each year a woman delays a first birth the probability of her household being in poverty at 27 is reduced by 2.5 percentage points. Since the average proportion of this sample in poverty is 12 percent, this implies a reduction of 20 percent for each year a birth is delayed, a

substantial reduction. This effect is due entirely to the additional schooling a young woman will be able to complete if her first birth occurs at 16, for example, instead of at 15, since education decreases family size while increasing the earnings of the woman and of other household members.

Results from the PSID sample of women in 1976 are similar to those of the NLS. For each year a woman delays a first birth the probability of her household being in poverty in 1976 (PSID) is reduced by 3.3 percentage points. However, since a substantial proportion of this group is poor (39 percent), this represents a reduction of only 8 percent for each year a birth is delayed. This overall effect on poverty has two components, one positive and one negative. 70 percent of this effect is a result of the increased education completed and reduced family sizes associated with delaying a first birth one year. The remainder of this effect, a small positive one, increases the proportion in poverty due to the lower other family incomes of later childbearers in the PSID.

The Effect of Age at First Birth Among Those Who Bear a First Child at 19 or Later - Detailed Results

Effect on Own Earnings

Total Effect.--In both the PSID and the NLS the total effect of waiting one year before having a first child is very small, $16 in the NLS and -$3 in the PSID for each year a birth is delayed. This is because the different indirect effects affect later income in opposite directions. The separate positive and negative effects which, when summed, form the total effect are the following.

The Positive Effect Through Education.--Compared to a woman of the same age who has a first child, the woman who postpones that child can at age 27 expect to earn $72 more for each year she postpones the birth (NLS). This

is because she will obtain a small amount of additional education (about one-fifth of a year), which will increase her own earnings. Since we did not find a direct effect of age at first birth on education in the comparable PSID sample, there is no comparable indirect effect through education in that data set.

The Positive Effect Through Family Size.--Because she will have fewer children, she can also expect to work more hours, which is associated with increased earnings at age 27 of $464 for each year she postpones her first birth (NLS). Results are similar in sign, but smaller in the PSID sample. There is a difference in earnings of $58 between women who differ in age at first birth by one year, a difference favoring the older childbearers.

The Positive Effect Through Labor Force Experience.--In the PSID, we were able to include a measure of work experience, the proportion of years worked since age 18. Among those young women who had their first birth at 19 or older, delaying that birth for one year is associated with increased annual earnings in 1976 of $53, because of the increased work experience they gain. Work experience has been found to be associated with higher wages.

The Negative Effect Through Hours Worked Last Year.--However, because she will have worked fewer hours during the last year, at age 27 the woman who postpones a first birth will earn less by $420 than the woman who did not postpone that birth. Results have the same sign but are smaller in the PSID. There is a difference in earnings of $114 between women who differ in age at first birth by one year, a difference again favoring the younger childbearers. These results may reflect greater financial need among early childbearers. They do not seem to indicate the presence of a young child, since we controlled for the presence of a child under 3 in the NLS and under 6 in the PSID and the results were not affected.

Effect on other household [illegible]

In the NLS, being one year older at first birth has neither direct nor indirect effects on other household income (whether husband's, other relative's, or non-relative's) at age 27. In the PSID sample, delaying a first birth is associated with decreased other family income in 1976. In this sample a larger family size is associated with larger family income, rather than the reverse. Thus, delaying a first birth, which is associated with reduced family size, is associated with lower other family income. This result is easily explained. Additional analyses indicate a strong association between number of children and number of adults in the household in this subsample. These adults, presumably older children, contribute to family income, since when a control for number of adults is added to the model, the positive direct association between family size and other family income disappears. Therefore, had we controlled for number of adults in the analysis, the negative indirect effect of age at first birth on other family income through family size would also disappear.

Effect on Poverty

In the NLS the effect of being one year older at first birth is associated with reduction in the probability of a woman being in poverty at age 27 of 1.4 percentage points, about 16 percent. Results in the PSID are similar, but reduced in magnitude. A difference in one year of age at first birth is associated with a reduced probability of being in poverty of about half of one percentage point. However, the overall probability of poverty among women who do not have a first birth until they are 19 or older is low - 6 percent. A reduction of half a percentage point is a reduction of 8 percent, approximately half the reduction found among the comparable age group in the NLS. However, in both samples there are offsetting positive and negative effects.

in the probability of being poor at 27 is due to the increased education associated with delaying a first birth in the NLS. There is no indirect effect of a first birth on poverty through education in the PSID.

The Negative Effect Through Number of Children.--Half of the indirect effect of age at first birth on the probability of a woman being poor at 27 (NLS) is due to the effect of age at first birth on family size. Being one year older at first birth reduces the proportion in poverty by 1.3 percentage points for every year a first birth is delayed because family size is reduced by about 10 percent. In the PSID, being one year older at first birth reduces the proportion in poverty by half a percentage point, because family size is reduced by about 8 percent.

The Negative Effect Through Work Experience.--In the NLS there is no measure of total work experience. In the PSID there is a small reduction in the probability of being in poverty in 1976 resulting from the increased work experience gained by women who delay their births one year.

Positive Effect Through Hours Worked.--There is a small offsetting effect of being older, however. Because early childbearers appear to work more hours, there is a small increase in the probability of being in poverty at 27 (NLS) and in 1976 (PSID), associated with a later first birth.

The Effect of Age at First Birth in the Total Sample

While we will not detail the results for the sample as a whole, since they are similar to those for the older childbearers (age 19 and older), we will summarize the important points.

Effect on Own Earnings

In both the NLS and PSID samples, the effect of an early birth on the woman's own earnings is small. This may be due more to the intermittent nature of women's labor force participation and to our consequent inability

to measure earnings power rather than to a lack of effect. Therefore, consideration of other sources of family income, and total family income, are perhaps more important to our analyses of the effect of early childbearing on a woman's economic well-being.

Effect on Other Household Income

In the NLS, we documented a substantial association between delaying a birth and increased household income at 27. However, in the PSID we were unable to find any direct or indirect associations between other family income and the age of a woman at her first birth. This lack of an association is unexpected. On the other hand, what is gratifying and may be more important is that we found very similar associations with whether or not the household income of the family in which the woman lives is above or below the poverty level.

Effect on the Probability of Being Poor

Among the young women in the NLS, a difference in age at first birth of one year is associated with a differential probability of living in a household at age 27 which is poor of 1.6 percentage points, favoring the later childbearers. That is, compared to an average probability of being in poverty of .10, a woman who delays a first birth one year is 16 percent less likely to be living in poverty at 27 than her age peer who does not delay that birth. Among women in the PSID, a difference in age at first birth of one year is associated with a differential probability of living in a household in 1976 which is poor of 1.3 percentage points, favoring the later childbearers. Compared to an average probability of being in poverty of .13, a woman who delays a first birth one year is 10 percent less likely to be living in poverty in 1976 than her age peer who does delay that birth.

DISCUSSION AND CONCLUSIONS

Although we have used a computer to describe people's lives, one should not lose sight of the fact that the data come from interviews with real people, people who are living with the consequences of age at first childbirth. Would the lives of the early childbearers be better now if they had postponed their first birth? We are persuaded by the data that they would be better off. All in all, early childbearers seem to have experienced more difficulties and endured more unhappiness and as a group have ended up less well off than people who delayed childbearing. Moreover, although we have not looked at the consequences from a child's point of view, we think that their children would have had easier lives if their parents had been older at the initiation of parenthood and marriage. Because their parents tried or were forced to enter adult roles before many of them were economically or emotionally ready, these children have experienced more poverty, welfare dependency, and marital disruption.

Would things have been different for these families if the mother had been, say, 22 instead of 16 when her first child was born? This question is, of course, impossible to answer for certain. We have tried to standardize for numerous background factors other than age at first birth in all of our analyses, so we feel that the woman's age <u>per se</u> does make a difference, over and above these other factors. Undoubtedly, there are influences that we have not been able to control for; however our results are fairly robust across two national data sets, and in some cases one might even argue that if anything we have over-controlled. For example, many teenage marriages are precipitated by pregnancy, yet we have controlled for age at marriage in assessing the impact

of a birth on education, family size, earnings, and welfare dependency. Overall, we feel our conclusions represent real world consequences reasonably accurately. In the following conclusions, we summarize some of our more interesting results and make several recommendations.

- The loss of education associated with a birth during the high school years has important and long-lasting consequences. Women with less education have larger families, experience more frequent marital instability, work less, are employed at lower paying jobs, are more likely to experience poverty, and have a higher probability of requiring public assistance than their better-educated peers. This suggests the importance of programs that enable teenage mothers to continue with their schooling.

- Initiating childbearing during the teenage years is associated with significantly larger families later in life, net of important controls. This reduces the mother's labor force participation and earnings, requires that family resources be stretched across more persons, and increases the probability of welfare recipiency. This suggests the importance of helping young mothers to avoid subsequent unwanted births.

- Teenage marriage is associated with a higher incidence of separation and divorce; net of age at marriage, age at first birth does not seem to further elevate the probability of marital disruption. This suggests the need for couples experiencing a premarital pregnancy to weigh carefully the decision about marriage and adoption.

- An early birth seems to set off a complicated process with long-term consequences. The most efficient and least costly way to eradicate these consequences, in terms of personal as well as dollar costs, is undoubtedly to prevent the pregnancy in the first place. Once a pregnancy occurs, the alternatives are all more or less costly.

  Nevertheless, it is possible to intervene in the process at several points to reduce the negative consequences. Our research indicates that schooling, subsequent childbearing, and acquiring labor market skills are critical points of intervention.

- Special programs in the schools are needed to assist and encourage teenage mothers to remain in school. Infant day care is a critical requirement for these young mothers. Special counselling may be necessary to help mothers cope with the multiple demands on their time and energy. Technical or vocational training might prove useful for young women confronted with the need to support a child.

- Although teenage mothers may lack formal education and job credentials, government employment and training programs can provide them with job skills. Attention might be focused on low income females as well as males in such programs. The incomes of these women are important to family economic well-being and neglect of women in these programs condemns many to intermittent low-paying jobs and/or to welfare dependency.

- An increase in the availability of counseling, sex education and contraceptive services is needed to prevent early births and subsequent unintended births. An additional benefit might be reduction in family size, which would, in turn, reduce the incidence of poverty.

- A significant proportion of teenage mothers quit school before becoming pregnant. These young women have different needs than those who quit because of a pregnancy, although both may enter motherhood unprepared. Preventing high school drop-out is a separate issue; but it is relevant here to the extent that special, innovative programs that prevent school drop-out may have the additional effect of motivating some teenagers to delay parenthood.

The critical issues seem to be ones of choice, equal opportunity, and the welfare of children. Do women enter motherhood at an early age out of choice? Do all women have an equal opportunity to avoid early parenthood, to acquire the skills for self-support, and to lead a satisfying life, whether or not they are parents? And are they prepared economically, educationally and emotionally to assume the burdens of parenthood? The consequences of early childbearing appear to be sufficiently negative that we doubt it is a status normally entered by informed choice, characterized by equal opportunity, or beneficial to children. Clearly, it is in the mutual interest of government, individuals, and families to help teenagers prevent unwanted pregnancies and to mitigate the consequences of early childbearing when preventive measures fail.

Urban Institute Working Papers

Title	Working Paper Number
The Consequences of Age at First Childbirth: Educational Attainment	1146-01
The Consequences of Age at First Childbirth: Family Size	1146-02
The Consequences of Age at First Childbirth: Marriage, Separation, and Divorce	1146-03
The Consequences of Age at First Childbirth: Labor Force Participation and Earnings	1146-04
The Consequences of Age at First Childbirth: Female Headed Families and Welfare Recipiency	1146-05
The Consequences of Age at First Childbirth: Causal Models	1146-06
The Consequences of Age at First Childbirth: Final Research Summary	1146-07