Teenage fertility and life chances

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Teenage mothers and their children face poorer prospects in life than do women who delay motherhood until later in life. Moreover, patterns of early childbearing tend to be repeated in subsequent generations. Therefore, an understanding of the factors associated with early fertility is important for the prevention of adverse consequences. This paper uses data from the National Survey of Sexual Attitudes and Lifestyles to explore these associations. Early sexual intercourse is an important predictor of early fertility, as is poor educational attainment, although it is not clear to what extent pregnancy acts to thwart academic ambitions, or to what extent poor educational performance leads to a need to seek personal fulfilment in other than academic goals. Thus, interventions designed to influence age at first intercourse and to improve educational performance both have potential in terms of impacting on teenage pregnancy rates. Family background also exerts a powerful influence on teenage fertility. Young people for whom one or both parents are absent are more likely to become parents early in life. However, the most important factor of family life determining the chances of teenage motherhood appear to be the quality of communication about sexual matters with the home. In terms of outcomes, teenage mothers are more likely to live in social housing, are less likely to be in paid employment and have larger than average sized families. Certain areas of the country, notably the older, run-down industrial areas, have higher rates of teenage motherhood than the newer, more prosperous areas. Because most of these effects are independent of one another, there is potential merit in intervening to prevent unintended conception at several points in a young woman’s life. Primary preventive efforts are needed to reduce the rates at which teenage pregnancy occurs in this country. Yet, if the cycle of deprivation that means the children of young mothers themselves enter parenthood early is to be broken, then efforts must also be made to mitigate the effects of teenage fertility for both mother and child.

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In modern, industrialized societies, young people are expected to postpone serious mating and childbearing until they have completed the relatively lengthy process of socialization and induction into adult life. In only a small and diminishing number of societies does the age of biological sexual maturity coincide with the age deemed socially acceptable for sexual activity and reproduction. The disadvantages of early fertility for society are obvious. When parenthood occurs before the age at which full economic independence has been attained, society has to take on some of the responsibility of supporting the family.

It is this disparity between readiness for sexual activity and the socially approved timing of its expression and consequences that underlies many of the problems relating to the maintenance of the sexual and reproductive health of young people. Early fertility may be problematic not because of inherent difficulties attendant on having children early in life but because of the way in which it is socially regarded and managed. Biologically, pregnancy in the early years of reproductive life is not harmful in itself, and well-managed pregnancies carry no higher risk in this age group but, in practice, they are associated with a higher incidence of negative outcomes. Complications during teenage pregnancy are well-documented and include higher risks of anaemia, toxemia, and hypertension; low birth weight babies, higher risks of perinatal mortality of infants; and a higher incidence of spontaneous abortions in subsequent pregnancies (Carlson et al., 1986).

In general, it is the social rather than the physical or health-related consequences of early parenthood that are problematic. Dominating the literature are assumptions that teenagers are disadvantaged as a result of motherhood. There is evidence that women who have early pregnancies complete their education early, have poorer employment prospects and become dependent on welfare subsidies (Chilman, 1980; Phipps-Yonas, 1980; Simms and Smith, 1986; Furstenberg et al., 1987). It has also been suggested that children born to teenage mothers are disadvantaged; research shows them to be more vulnerable to accidental and non-accidental injuries, to be at greater risk of physical abuse, to have lower scores on developmental tests and to perform less well educationally than children of older mothers (Bury, 1984; Wadsworth et al., 1984; Phoenix, 1991).

†Died July 1997.
Again, these findings have not gone unquestioned. Some point to the fact that many of the negative consequences seem more likely to be results of the poor socio-economic circumstances of women who give birth before the age of 20. Studies controlling for parity (that is, numbers of children born) show that differences between older and younger mothers are greatly reduced (Carlson et al., 1986). Others have found that controlling for various factors correlated with social class considerably weakens the effect of the mother’s age at birth (Russell, 1988).

This analysis of data from the National Survey of Sexual Attitudes and Lifestyles (NSSAL), fieldwork for which was completed in 1991, seeks to contribute to a general understanding of the factors associated with early sexual expression and fecundity. Ideally, these data must be combined with those from other methods of inquiry if a comprehensive and coherent picture is to be built up. A constellation of apparently interrelated factors seems to be associated with teenage motherhood, and it is by no means easy to disentangle these factors. The contribution of this study to the understanding of the problem lies in its capacity to describe associations between reproductive and sexual behaviour in the same study population.

**Methods of analysis**

Data from the NSSAL, based on a random sample of 18,876 men and women aged 16–59, were used to explore the factors associated with teenage fertility. The methodology of the NSSAL survey has been described fully by Johnson et al. (1994) and Wellings et al. (1994). The interview schedule comprised a face-to-face interview exploring aspects of health status, family background, sex education and age of onset of sexual activity. Next, questions exploring more personal aspects of sexual behaviour were asked in a booklet that was completed by respondents. This was followed by continuation of the face-to-face interview which gathered information of demographic interest.

In the face-to-face section of the questionnaire, respondents were asked: Do you have, or have you had any children of your own, that you are the natural MEN: father of; WOMEN: mother of? Analysis of the age of the respondent at first birth yielded a subgroup of people whose first child was born before the age of 20. As will be apparent, data from a cross-sectional survey such as this do not enable the chronological order of events to be established reliably, although logic sometimes dictates this order, as for example in the relationship between age at first intercourse and experience of teenage motherhood.

Bivariate analysis was used to examine associations between teenage motherhood and selected variables and then multivariate analysis, by means of logistic regression models, was used to explore whether these associations were sustained after adjusting for other variables. Logistic regression models have been constructed only for women; the numbers of teenage fathers in the sample did not permit such analysis to be carried out for men, for whom only the findings from bivariate analysis are presented.

Variations in bases can be seen in the different analyses carried out. This variation arose because two versions of the questionnaire were used: a fuller version, completed by a quarter of the sample (a fully representative random subset of the total selected), and a reduced module, completed by the remaining three-quarters.

**Trends in teenage sexual activity and fertility**

Four per cent of men and 13% of women reported having had a child before the age of 20 (Fig. 1). The gender difference is attributable, in part, to patterns of age mixing between men and women, but also to the fact that paternity might not have been known to, or acknowledged by, some men. The prevalence of teenage parenthood increased in the late 1950s and accelerated in the 1960s to reach peak values at about 1970, when 17% of women and 6% of men had a child in their teens (Table 1). Prevalence decreased slightly throughout the 1970s, and there was an upturn in the 1980s. This pattern in prevalence corresponds closely to national figures for the annual incidence of teenage conceptions leading to maternity. The teenage pregnancy rate in England and Wales is the highest in Western Europe.

The last few decades have seen a progressive lowering in the age at which sexual intercourse first takes place and an increase in the proportion of young people who have had sexual intercourse in their teenage years. Teenage sexual activity defined in this way has increased markedly (Table 1). The proportion of women who had intercourse before the age of 20 increased from under 30% of those born in 1931 to nearly 90% of those born at the end of the 1960s.

As might be expected, those who have sexual intercourse early also begin childbearing early. Early intercourse is defined here as intercourse occurring before the age of 16, the age of sexual consent (the age before which it is unlawful for a man to have sexual intercourse with a woman). Women who had sexual intercourse before the age of 16 were three times as likely to become mothers in their teens, and men more than four times as likely to become fathers at this age, as those aged 16 or over at the time of first intercourse. After making adjustments for the effect of current age, educational level and contraceptive use at first intercourse, teenage motherhood was still three times as likely to have occurred in women who had sexual intercourse before the age of 16 than in those who delayed first sexual intercourse until they were 16 or older. Failure to use contraception at first intercourse was also shown to be associated with teenage motherhood.

**Influence of the family on teenage fertility**

Teenage motherhood was analysed by characteristics of the family of origin (that is, the family in which the respondent grew up), by whether teenage parents had lived with both their parents or only one and, in the case of those living with only one, the reason for this. It was also analysed by variables relating to family environment: by the ease with which communication about sexual matters took place in the family and by perceived parental strictness.

With respect to size of family of origin, women with larger numbers of siblings were themselves more likely to have more children. Moreover, women who had a child early in life were more likely to have more children than those who delayed childbearing, irrespective of the size of the family the respondent grew up in.
Bivariate analysis showed that the prevalence of teenage parenthood was higher for both men and women who had lived with only one parent up to the age of 16 than it was for those who had lived with two parents. Those who lived with only one parent because of divorce or separation appeared to be more likely to be teenage parents than those who had suffered the death of a parent. However, the men and women most like to be teenage parents were those in the ‘other’ category, which included those who were adopted, fostered or who had been taken into the care of social services (although this group was small in number).

Other studies have shown men and women who have separated parents to be more likely to be parents themselves early in life. They have also shown that adolescents, and daughters in particular, from single-parent families are more likely to begin sexual intercourse at younger ages than their peers from two-parent families. Those who lived with only one parent seem more likely to begin both sexual activity and reproduction early in their lives (Bury, 1984).

A mathematical model constructed to explore the simultaneous effect of several factors on teenage motherhood is shown (Fig. 2). Odds ratios were calculated and plotted for different variables. For example, for the effect of age of the mother at interview, compared with the oldest women in the sample (aged 50–59), the youngest (aged 20–29) were more than three times as likely to have been mothers in their teens, after controlling for the effect of age at first intercourse, educational level and factors relating to communication about sex and parental strictness (Fig. 2), compared with respondents who lived with both parents up to the age of 16, those whose parents died, divorced or were otherwise absent (‘other’) were more likely to have been mothers in their teens. However, the effect is only statistically significant for the respondents in the ‘other’ category, comprising chiefly those who were in care, and they were nearly five times as likely to have been teenage mothers. The association between disruption in the family of origin (that is, the absence of one or both parents) and the likelihood of teenage motherhood, was sustained after adjusting for current age, age at first intercourse and educational level.

When the association between parental supervision and adolescent sexual behaviour for women was explored, the lowest occurrence of teenage motherhood was found among women whose parents were moderately strict, with higher occurrence among those whose parents were least and most strict (Fig. 2). Respondents were also asked how easy it had been for them to talk about sexual matters in the family in which they grew up. Women for whom communication with parents had been easier were less likely to have had a child before the age of 20, although bivariate analysis showed little effect for men.

The effects on children of such family features as size, structure and environment are not independent of one another. For example, the number of children in the family can be expected to determine significantly both the amount of discipline and the extent of communication. Whether there is one parent or
two will help determine the degree of control within the family, the ease of communication and the pattern of role modelling. When the simultaneous effects of these factors on likelihood of teenage motherhood were explored, the factor with the strongest influence was discussion about sex. After taking into account other possible confounding variables, teenage motherhood was more than twice as common among women who found discussion about sex difficult, or who did not discuss sex with parents, as in those who found it easy. Greater communication about sexual matters within the family was strongly associated with a lower likelihood of teenage motherhood.

A multiple regression model was constructed to examine the simultaneous effects of experience of having had a lone parent, communication about sex within the family and parental discipline on teenage motherhood. The association between teenage motherhood and number of parents the respondent lived with was sustained, but the only statistically significant association was that between teenage motherhood and not having lived with both natural parents for ‘other’ reasons, which include having been taken into the care of social services, or having been fostered or adopted. There was a strong association between having lived with adults other than natural parents and teenage motherhood. The association between parental discipline and teenage motherhood remained weak in multivariate analysis and was not statistically significant (Fig. 2).

When all three variables were included in the model, the only one for which all adjusted odds ratios were statistically significant is ease of discussion with parents. Women who were brought up in families in which talking about sex was difficult or non-existent were more than twice as likely to have become mothers in their teens as those for whom it was easy, after controlling for the effects of current age, age at first intercourse, family structure and parental strictness. It is a somewhat unexpected finding that the strongest effect of family characteristics on teenage motherhood, after taking into account these other factors, is that of ease of family discussion about sexual matters. This is no doubt an important indicator of a more general climate relating to communication within the family.

Educational attainment and teenage fertility

A steep education gradient can be seen in the prevalence of teenage motherhood. Women with no educational qualifications are more likely to have a child before the age of 20 than those with some qualifications, and the likelihood decreases markedly and progressively with level of educational attainment such that teenage motherhood is rare among graduate women. The effect is independent of the effect of age at first intercourse, contraceptive use at the time and educational level. Likelihood of abortion is also linked with educational level, although less strongly, and the effect is reversed (that is, the higher the educational level, the more likely a young woman is to terminate a pregnancy). Of interest in this context is the extent to which poor educational prospects, underachievement and lack of progress in school might themselves lead to early parenthood and the extent to which early parenthood thwarts academic aspirations. The timing of education and childbearing, an important clue in unravelling these relationships, cannot be established from these data, since respondents were asked only to describe their highest educational qualification, and not the year in which it was attained.

Nevertheless, it is clear that the earlier in a woman’s teens the first birth occurs, the lower is her educational attainment. The association is stronger for women than it is for men. The strong association between teenage motherhood and educational level persists in multivariate analysis, and is only slightly attenuated by inclusion in the model of other variables associated with these factors: current age and current marital status. The low educational attainment among women who became mothers at such an early age is an important factor determining life chances, since lack of qualifications will compound the barriers to employment resulting from difficulties of child care and of balancing responsibilities of early motherhood and work.

Early sexual experience and educational attainment each have an effect on teenage pregnancy that is independent of that of the other, and so combine to increase the likelihood of teenage pregnancy. Those for whom educational prospects are poor are more likely to become sexually active, more likely to conceive if they are sexually active and, if they conceive, are more likely to take the pregnancy to term than to terminate it.

Women who have become mothers while teenagers are also more likely to have had an abortion before the age of 24. The increased risk remains and is statistically significant after controlling for other variables that might be linked with both abortion and teenage motherhood: educational level, current age, age at first intercourse and religious affiliation. However,
analysis by educational level reveals different strategies for coping with conception according to scholastic achievement. Although the prevalence of teenage motherhood decreases with increasing educational level (occurrence is rare among those with A level or higher qualifications), the educational gradient is reversed for abortion (Table 2).

**Educational attainment, early sexual activity and teenage motherhood**

Early intercourse, educational level and contraceptive use at first intercourse are all strongly and independently associated with one another. Furthermore, early sexual experience and poor educational attainment are each independently associated with teenage parenthood and so combine to increase the likelihood of teenage pregnancy. Those for whom the hope of achieving educational qualifications seem remote may be more likely to seek achievement and satisfaction in early relationships and, subsequently, in early motherhood, than those for whom educational goals are more attainable. At the same time, pregnancy and childrearing in the teenage years are likely to disrupt academic studies seriously.

These factors appear to conspire to increase the risk of teenage motherhood at every stage of a young woman’s life. Those for whom academic attainment seems remote may see fewer barriers to becoming sexually active. Once sexually active, they may be more willing to risk becoming pregnant and, once pregnant, they may be less inclined to terminate their pregnancy and more likely to decide to have a child.

These effects may be incremental, cumulative and interactive. Yet the fact that all these factors (first intercourse, contraceptive use at first intercourse, information and discussion about sex and educational level) have independent effects holds out some hope for intervention. It is often assumed that the range of factors involved in early motherhood are so inextricably linked that there is little hope of manipulating any of them. These data indicate that efforts to intervene at any of these points may have a beneficial effect in preventing early, unplanned births.

Marked differences can be seen in marital breakdown among those who became parents before the age of 20. After controlling for educational attainment, social class and current age, women who became mothers in their teens were nearly three times as likely to have been divorced at some time in their lives than were those who did not.

Men and women who had a child in their teenage years also went on to have more children than those who did not. Data on lifetime parity is incomplete because of the nature of this cross-sectional survey. In addition, since family size has decreased in recent decades, women in younger age groups would be expected to have fewer children than those in the older groups. Other factors clearly have the potential to confound the relationship between teenage motherhood and parity; parity is associated with, for example, educational level, which is also related to current age and teenage motherhood.
Respondents who were themselves from larger families were more likely to be parents in their teens. This association may be simply the result of repetition of the family pattern in subsequent generations. This possibility was investigated by constructing a logistic regression model with parity as the outcome variable, controlling for current age, age at first intercourse, educational level, teenage motherhood, number of siblings, social class, and age at first intercourse. After controlling for these factors, the association between teenage motherhood and ultimate size of family was, if anything, stronger.

### Teenage motherhood and material circumstances

Women who have poor earning potential have less reason to defer motherhood. Current unemployment (registered unemployed or actively seeking work) was higher among those who were teenage mothers than among those who were not (Joshi, 1990). A multivariate model was constructed with current unemployment as the outcome variable and, when the simultaneous effects of current age, educational level, teenage motherhood and social class (variables shown to be also associated with teenage motherhood) were examined, the relationship between teenage motherhood and unemployment was independent of these and remained statistically significant (Joshi, 1990).

### Social class

Social class was categorized on the basis of current occupation of respondent and partner and so is more distantly related to teenage parenthood for the older men and women in the sample. Nothing is known from these data of the material circumstances of respondents at the time of early sexual activity and birth. Nevertheless, women who had a child in their teens were more likely to be in manual than non-manual jobs at the time of interview.

#### Housing

Home owners and those renting accommodation privately were compared with those in other types of housing to discriminate between subsidized and unsubsidized housing. Differences between teenage parents and others were marked: 42% of men and 46% of women who were parents before the age of 20 lived in subsidized housing, compared with 18% of men and 19% of women who postponed childbearing until after the age of 20.

The factor most strongly associated with subsidized housing was education. Women who had no qualifications were six times more likely to be living in subsidized housing than were those with even basic qualifications, and the association was stronger the higher the level of educational attainment. However, women who had given birth in their teens were twice as likely to live in subsidized accommodation as were those who did not. Teenage motherhood is more strongly associated with subsidized housing than either parity (which was weaker, though still statistically significant), or social class, the effect of which was not statistically significant after controlling for subsidized housing.

### Area of residence

These data show that the prevalence of teenage motherhood is highest in mining and industrial areas and lowest in those areas classified as growing or prosperous. Prevalence is also higher in urban than in rural areas, although here the difference is less marked. However, in interpreting these data, it should be noted that it was the area of residence in which respondents currently lived that was recorded, which was not necessarily the area in which they lived in their teenage years.

Recent investigative work has indicated that there may be an area effect in explaining different rates of teenage pregnancy. Studies have shown deprived areas to be characterized by higher rates of teenage pregnancy. Smith (1993) found that, in deprived areas, pregnancy rates in under 20-year-olds were six times higher than they were in the most affluent areas. Garlick et al. (1993) showed that district health authorities with high underprivileged area scores (UPAs) were more likely to have high rates of teenage conceptions than districts with low scores, and Wilson et al. (1992) discovered that northern regions had more teenage conceptions and fewer abortions.

Area of residence and social class are linked. Some regions of the UK are considerably more affluent than others. When the simultaneous effect of area of residence and social class is explored through multivariate analysis, the influence of social class is weakened, indicating that the effect of each is not independent. When parity and area of residence are both fitted to the model, women currently in manual jobs are no more likely to have become mothers as teenagers than those in non-manual jobs, after controlling for area of residence and number of children (Fig. 3).

Women who have a child in their teens are more likely to leave home early, more likely to live currently in social housing.

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and more likely to be unemployed. Early parenthood is more common in mining and industrial areas and in urban areas than it is in more prosperous, growing or rural areas. When the associations between parity and area of residence and social class and teenage motherhood are examined simultaneously, the effect of social class is no longer significant. However, area of residence remains a significant effect, indicating the important influence of the cultural and economic characteristics of the place where young women live.

Conclusion

As stated at the outset, it is not often possible to distinguish between cause and effect in the associations among teenage motherhood, educational level and material well-being described here. Nevertheless, what these data do indicate is that, whatever the extent to which teenage motherhood is the result of hardship and deprivation, it does, in itself, contribute to such outcomes. For example, after taking into account educational level and social class, women who give birth in their teens are more likely to live in a disadvantaged area of the country, are more likely to live in subsidized housing and are less likely to be in paid employment than are those who do not.

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References

Joshi H (1990) Mothers’ Foregone Earnings Seminar at Thomas Coram Research Unit, February 1995

Fig. 3. Odds ratios for teenage motherhood, adjusted for area of residence and related variables. •••, confidence intervals.