
SYNOPSIS

NEARLY ONE IN every four children in the United States is born to a mother who has not finished high school, and more than one in eight is reared by such a mother during the critical preschool period. Large-scale studies show that the health and welfare of children are linked to the education level of their parents, with parent education often being a stronger predictor of child well-being than family income, single parenthood, or family size. Higher parent education levels make it more likely that children will receive adequate medical care and that their daily environments will be protected and responsive to their needs. Average parent education levels have risen over the last 30 years, but progress has slowed because of high rates of immigration from countries with

lower educational standards and the tendency of more advantaged women to have children later than less advantaged women.

The education system and community organizations must provide young people who are not doing well in school with positive alternatives to low-education, high-risk parenthood. Health care providers should be proactive, teaching parents with few resources how best to promote their children's growth and development. The changing global economy makes it more important than ever that current and future generations of children be reared by parents who have adequate skills and training to be competent members of society and effective and responsible parents.

Parental Schooling

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Nicholas Zill, PhD

Despite heartening advances in some areas of child health over the last three decades, there has been a troubling lack of progress or even retrogression in other areas. Death rates for infants and young children have declined dramatically, but those for teenagers and young adults are almost the same as they were 30 years ago. Youthful deaths due to homicide and suicide have been increasing. Childhood diseases that were common in the 1950s and 1960s—diphtheria, German measles, mumps, polio—have been eradicated or greatly reduced in frequency, but because of inadequate

immunization, there have been resurgences in measles, whooping cough, and other infectious diseases. No progress has been made over the last decade in reducing the number of low-birthweight babies or the proportion born to mothers who did not receive timely prenatal care¹.

What is the greatest obstacle to improving the health status of children in the United States? Some would say it is persistent and increasing economic inequality in American society, which brings with it high rates of child poverty and less than adequate health care for many youngsters². Some would cite family breakdown, noting the million and a half children whose lives are affected by parental separation and divorce each year and the 1.2 million who are born each year to unmarried mothers³⁻⁶. Others would point to the detrimental effects on children of environmental pollution⁷ or of

& Children's Health

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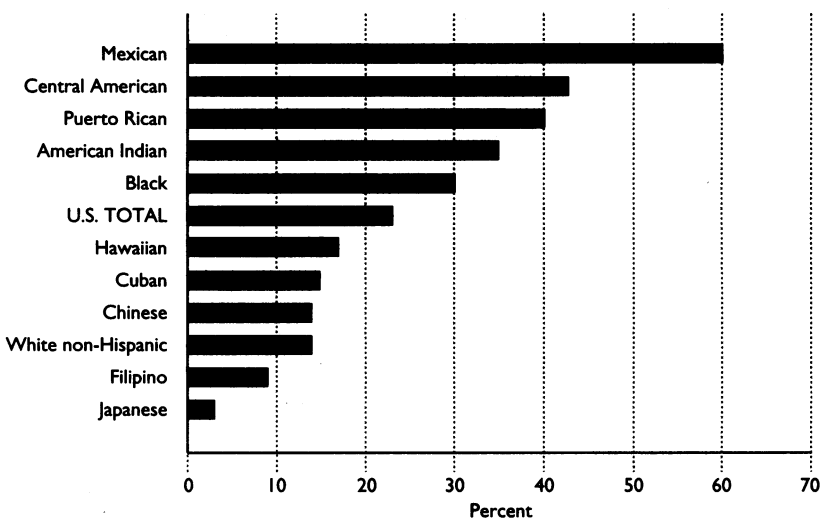


the interconnected epidemics of drug abuse, violence, and AIDS^{8,9}. Still others would mention the need for further advances in basic biomedical knowledge, especially regarding the genetic origins of many childhood disorders.

The Demographics

All of these claims have merit. But there is another childhood risk factor—one that has received far less public attention than any of those mentioned above—that may be a greater threat to children's health and well-being. That factor is the substantial minority of U.S. children who are born to or raised by parents with low levels of formal education. In 1993, 23.3% of all births in the U.S. were to mothers who had less than 12 years of schooling¹⁰. Some of these mothers go on to finish high school or get GEDs by the time their infants are ready to start school. Nonetheless, in 1993, 13% of all 4-year-old preschoolers in the U.S. were being cared for by mothers who had not finished high school or earned equivalency diplomas¹¹. Thus, nearly one in every four children in the U.S. is born to a mother who has not finished high school, and more than one in eight is reared by such a mother during the critical preschool period.

Figure 1. Percentage of births within each ethnic group that are to mothers with less than 12 years of schooling, U.S., 1993.



Source: Ventura, S.J., et al.; Advance report of final natality statistics, 1993. Monthly Vital Statistics Report 44: Tables 10-11 (1995).

Twenty-three percent of all births in the United States in 1993 were to mothers with less than 12 years of schooling. The proportion of children born to these mothers varies greatly across ethnic groups, with the highest rates found among Hispanic groups. Many Hispanic parents are recent immigrants from countries where educational opportunities are more limited than in this country.

Ethnic differences. Birth certificate data show that the proportion of children born to mothers with low levels of education differs greatly across ethnic subgroups of the U.S. population. The highest rates are found among Hispanic



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Parent education is linked to children's economic well-being, their social development and emotional well-being, and their physical health.

American groups (Figure 1), partly because many Hispanic parents are recent immigrants from countries where educational opportunities are more limited than in the United States. Overall, 53% of Hispanic women in the United States who gave birth in 1993 had less than a high school education. The percentage of births in 1993 to mothers with less than a high school education was twice as high among African American women—30%—as among non-Hispanic white women—14%. Rates for the major Asian American groups were generally lower than the national average¹⁰.

Although births to Hispanic women comprised 16% of all births in the U.S. in 1993, they accounted for 38% of the births to women with less than 12 years of education. White non-Hispanic women accounted for 37% of low-education births, and black women, 20%¹⁰.

Not just teen mothers. Women who have less than a high school education when they give birth are younger, on average, than more educated mothers. But not all—or even most—are teenagers. Overall, 36% of the 916,388 births in the United States in 1993 to mothers with less than 12 years of schooling were to women in their teens. Thirty-one percent were to women ages 20 to 24, and 33% were to women ages 25 and older. However, the majority of births to older mothers with low levels of education were second or higher-order births; i.e., they were subsequent births to women who began having children in their teens or early 20s. Two-thirds of *first* births to low-education mothers occurred in the teen years¹².

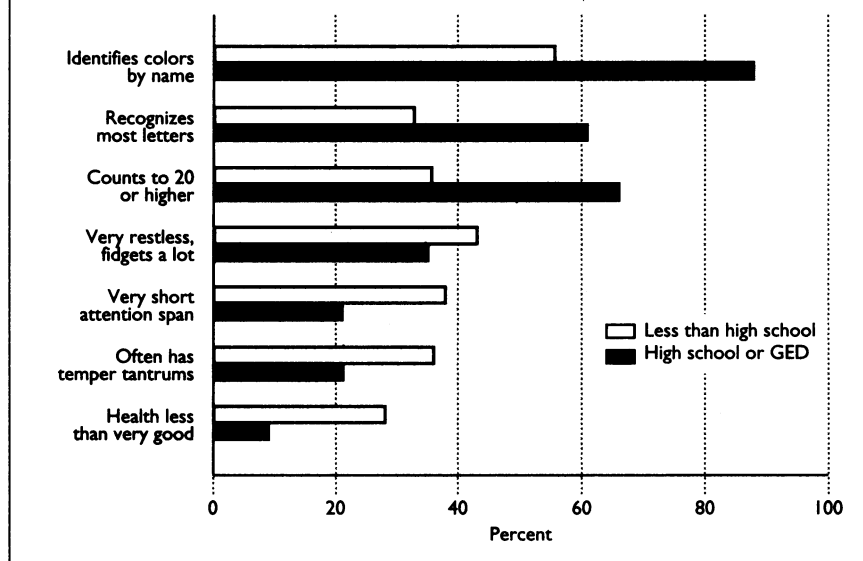
Among African American women, the majority of mothers with less than a high school education—51%—were teenagers. Roughly one-quarter (23%) were women ages 25 and over. Among births to white women with less than 12 years of schooling, one-third were to teenagers and 35% were to women ages 25 and over¹⁰.

The Link Between Parent Education and Child Well-Being

A number of large-scale studies have found evidence that the health and welfare of children are linked to the education level of their parents. Of the various aspects of child development and well-being, parent education is associated most closely with cognitive development and academic achievement. But parent education is also linked to children's economic well-being, their social development and

emotional well-being, and their physical health. For example, a recent study of a nationwide sample of 2,000 4-year-olds who had not yet attended kindergarten found 12% to be in less than very good or excellent health. Among preschoolers whose mothers had a high school diploma or more education, the proportion in less than optimal health was 9%, while among those whose mothers did not have a high school diploma or equivalency certificate, the proportion was three times greater, 28% (Figure 2). Low maternal education continued to be associated with suboptimal preschooler health status when additional risk factors—such as family poverty and single parenthood—and other child

Figure 2. Developmental accomplishments and difficulties of 4-year-old preschoolers, by mother's education, 1993



Source: Zill, N., Collins, M., West, J., and Germino-Hauken, E.; *Approaching kindergarten: A look at preschoolers in the United States*, U.S. Department of Education, National Center for Education Statistics, Washington, DC (1995).

Compared to preschoolers whose parents have more schooling, 4-year-olds whose mothers have not completed high school are three times more likely to be in less than optimal health. They are less likely to display signs of emerging literacy and numeracy and are more likely to exhibit short attention spans and behaviors that can create problems when children reach kindergarten and first grade.

and family characteristics—such as sex, race, Hispanic origin, and family size—were controlled by means of multiple regression analyses¹¹.

The national study of preschoolers also found that 4-year-olds whose mothers had not finished high school were less likely than other 4-year-olds to display signs of emerging literacy and numeracy and more likely to exhibit short attention spans, extreme restlessness, and other behaviors that can create problems when children get to kindergarten or first grade (Figure 2). For example, only 33% of the children whose mothers had not finished high school could recognize most letters of the alphabet, while 61% of the other four-year-olds could do so. Also, 38% of the children whose mothers had not finished high school were reported to have

short attention spans in contrast to 21% of the other 4-year-olds. Again, limited maternal education was associated with lower literacy and higher problem behavior in preschoolers when other risk factors and child and family characteristics were controlled in multiple regression analyses¹¹.

Other studies of school-aged children have found the connection between parent education and child well-being is often stronger than the association between family income and child well-being. For example, the research organization Child Trends prepared a special set of tabulations from the 1976 National Survey of Children (a study of 2301 children ages 7 to 11) for the 1981 report of the Select Panel for the Promotion of Child Health¹³. For seven of nine well-being measures (vocabulary test score, school per-

formance ratings, a practical skills index, child-reported misbehavior, child's feelings of rejection by parents and rejection by peers, and the child's level of fears and worries), parental education was a stronger predictor than family income.

Having low-education parents substantially increases the chances that a young person will experience academic difficulties by the time he or she reaches adolescence. The 1988 National Health Interview Survey on Child Health, for example, found that one-third of young people ages 7 to 17 whose parents had not finished high school had to repeat a grade in school. This rate was two-thirds higher than the grade repetition rate for young people whose parents had finished high school—20%—and twice as high as the rate

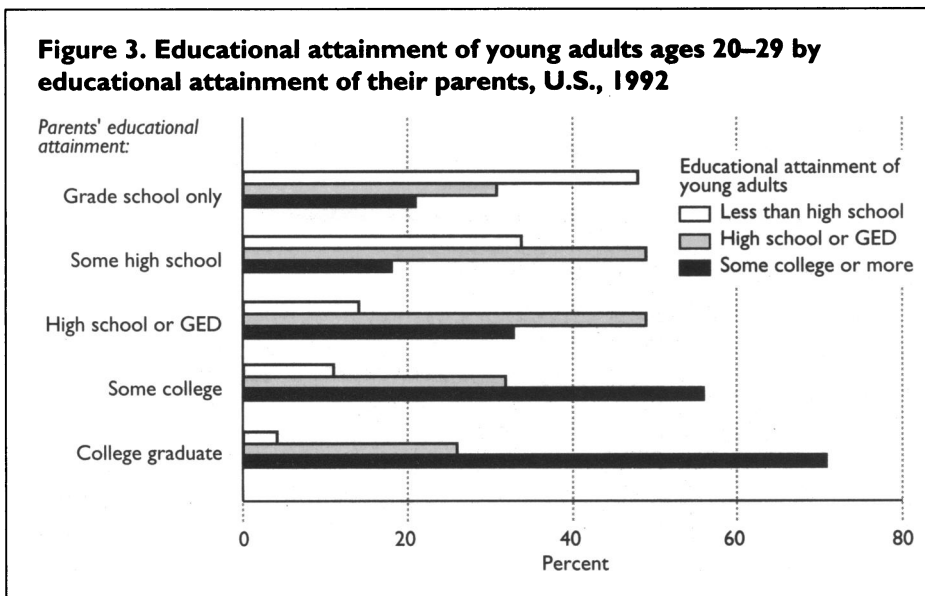
for those whose parents had had some college education—14%. Parent education was a stronger predictor of grade repetition than poverty status, ethnicity, coming from a single-parent family, or family size¹⁴. In the National Adult Literacy Survey conducted by the National Center for Education Statistics in 1992, young adults ages 20–29 whose parents had dropped out of high school were twice as likely—34% versus 14%—to have received less than a high school education themselves, compared to young adults whose parents did get a high school diploma or GED (Figure 3). Young adults whose parents had some postsecondary schooling or a college degree were even less likely to have dropped out of high school—11% and 4%, respectively. Adults whose parents had less than a high school education were two to three times more likely than the offspring of high school graduates to score in the lowest category in the tests of functional literacy that were administered as part of the survey. Such low scores meant that they lacked the skills to function effectively as citizens and consumers in modern society¹⁵.

Parent Education and Children's Health

The link between parent education and children's health status is at least partly explained by findings that higher parent education makes it more likely that children will receive adequate medical care and that their daily environments will be protected and responsive to their needs. Analyses of data from the 1975–76 National Health Interview Survey prepared by Mary Grace Kovar showed that children

of better educated mothers were more likely to receive medical or dental care than children of mothers with little education, regardless of the family's income or whether the child lived with a mother only. A child with a poorly educated mother in a middle-income family was no more likely to have received medical and dental care than a child with a poorly educated mother in a low-income family^{13,16}.

Similar results were found a decade later in the 1988 National Health Interview Survey on Child Health. Thirty-one percent of children of parents with less than a high school education had not seen a dentist in two years, while only 19% of children of high school graduates (including those who had had some college) and 10% of children of college graduates had not seen a dentist in two years (Figure



Source: National Center for Education Statistics: Unpublished data from the 1992 National Adult Literacy Survey, Table 2.56P. Educational Testing Service, Princeton, NJ (1995).

Young adults whose parents were high school dropouts are twice as likely not to finish high school themselves as those whose parents did get a high school diploma or GED. Young adults whose parents had some college education or a college degree are even less likely to become dropouts.

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4). A multivariate analysis found parent education a stronger predictor of a child's receiving dental care than income, welfare or poverty status, parents' marital situation, family size, or race¹⁷.

The same survey found that 19% of children whose parents had less than a high school education lacked a regular source of routine medical care, as opposed to 8% of children whose parents had more education. They were also more than twice as likely not to have a regular provider for sick care (37% versus 16%). Multivariate analyses showed that family income and welfare or poverty status were significant predictors of children having no regular providers of routine care or sick care. But parent education was also a significant

determinant and exerted an independent effect after income and welfare and poverty status were controlled¹⁷.

Health-related aspects of the child's daily environment.

In terms of child health, parent education seems to make the greatest difference with respect to health-related aspects of the child's daily environment. Mothers and fathers with higher levels of education may be more likely to practice good health habits themselves and to take precautions to insure that their children's surroundings are safe and supportive. For example, the 1988 National Survey on Child Health (NHIS-CH) found that 58% of children whose parents had not completed high school lived with a smoker in

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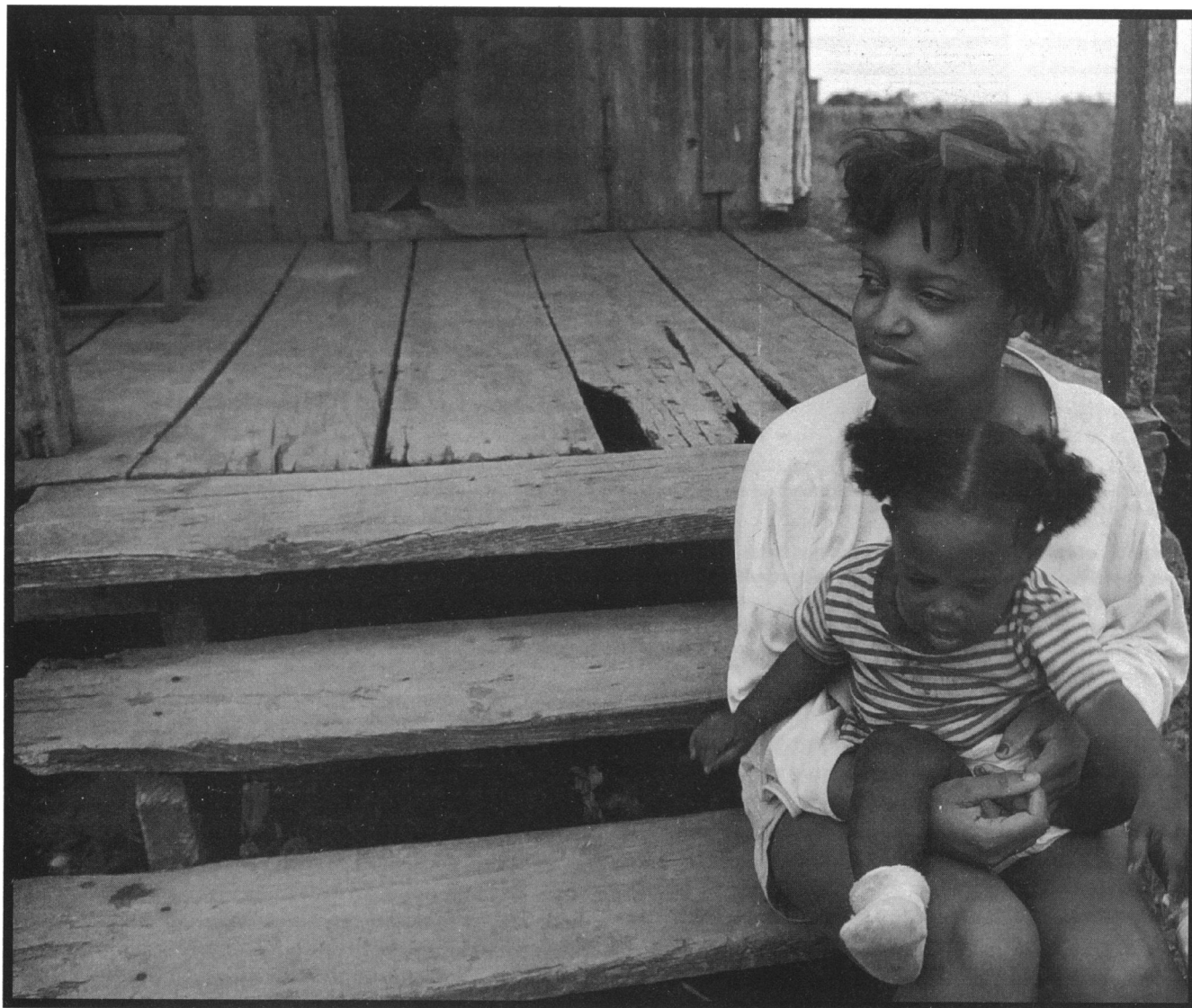


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their household, compared to 49% of those whose parents were high school graduates (including those who had had some college), and 23% of those whose parents were college graduates (Figure 4). Parent education was a more important determinant of parental smoking than region, urban-rural residence, welfare or poverty status, family income, marital status, or ethnicity¹⁷.

other demographic or socioeconomic characteristics of the family¹⁷.

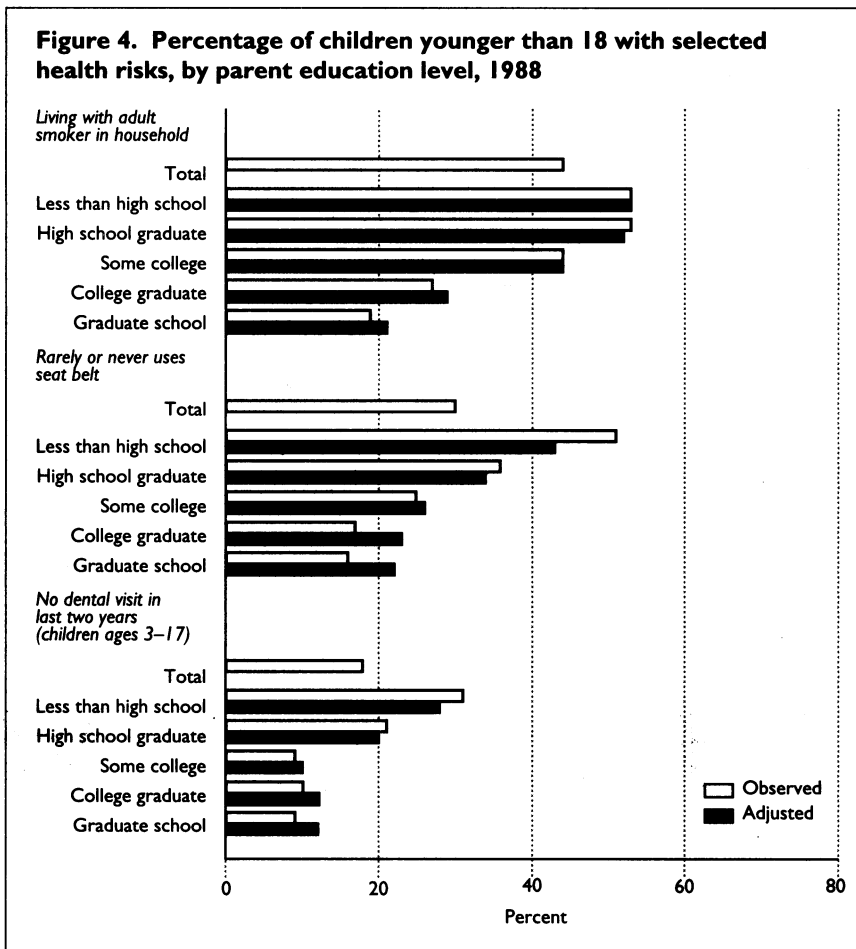
Many of the health problems that affect today's children stem from or are exacerbated by high-risk behaviors on the part of parents. Several kinds of adult behavior that can have detrimental effects on the health and development of children have been found to be more common among high school noncompleters than among parents with more schooling. These include inadequate supervision that leads to unintentional child injuries^{18,19}, harsh punishment²⁰, failure to get children immunized²¹, and parental alcohol or drug abuse^{22,23}. Sexual activity without consistent contraception is also more common among school dropouts²⁴. Such unprotected sexual activity may be hazardous for the offspring because of the spread of sexually transmitted diseases or the birth of siblings who are too closely spaced for the optimal development of each^{24,25}.

Implications for Public Health Programs for Children

Many observers believe that low family income and lack of resources are the key factors behind disparities in child health status across ethnic and income groups. The results of the research summarized above do not support this view. Nor do the research findings support the contention that parent education level is just a surrogate for other measures of social class or socioeconomic status. To be sure, parents who lack a high school education are less likely to be steadily employed than those with higher educational attainments and, when employed, earn substantially lower wages and have fewer benefits. But parent education has been found to have an independent effect on the quality of children's daily environment and on their medical care and health status after income, welfare and poverty status,

race and ethnicity, and marital status are controlled.

These findings indicate that it is not just a lack of financial resources, or ethnic discrimination, that are at work in impeding progress and producing group differences in children's health status. Rather, they suggest that lack of knowledge and unhealthy parental attitudes and behavior patterns, among other factors, are contributing to the elevated rates of childhood illness and injury that are observed among young people from disadvantaged groups and areas.



Source: Coiro, M.J., Zill, N., and Bloom, B.; Health of our nation's children; United States, 1988 (DHHS Pub. No. 95-1519), Hyattsville, MD (December 1994).

Nearly 60% of children whose parents did not finish high school have an adult smoker in their household. Half rarely or never use seatbelts when riding in a car, and nearly a third have not been to the dentist in two years or more. Children of more educated parents are more likely to have healthful daily environments and adequate health care. This is true even when family income and other related factors are controlled (adjusted percentages).

Another finding of the 1988 NHIS-CH was that the use of seatbelts or child restraints varied substantially by parent education level (Figure 4). The proportion of children who rarely or never wore seatbelts was 51% among those whose parents had not completed high school, 32% among those whose parents were high school graduates (including those with some college), and 17% among those whose parents were college graduates. Again, parent education was a more important determinant of seatbelt use than



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Acknowledging this is not “blaming the victim” but recognizing a reality that must be changed if children’s health is to be improved.

Part of the reason why parent education is often a better predictor than family income of medical care use and children’s health status is that public programs such as Medicaid, food stamps, and WIC have succeeded in making medical care and adequate nutrition available to most young people from low-income families. Poverty in the United States for the most part is not like poverty in Bangladesh or Ethiopia; a total lack of medical care and extreme malnutrition are thankfully quite rare in this country, although, unfortunately, not unheard of. If child health and nutrition programs were to be abolished or severely curtailed, the relative importance of economic and educational factors as determinants of ill health in children might well be altered²⁶.

Providing alternative pathways. Girls and boys who become parents while they are still of school age are not a random subset of all young people, or even of young people from disadvantaged backgrounds. Rather, they are predomi-

nantly those with low test scores and grades, who are disengaged from school or in active conflict with parents, teachers, or school authorities^{27,28}. As journalist Hedrick Smith has stated, in most American high schools there are two tracks, the track to college and the track to nowhere²⁹. Most school-age parents are on the track to nowhere. Improving both curricular and extracurricular programs for the so-called “forgotten half” of students, namely those who are not college bound, is not only essential for strengthening the future labor force and making the U.S. more competitive in the global economy. It is also likely to reduce the number of babies born to low-education parents^{30,31}.

Continued schooling for low-education parents. Even if vigorous preventive efforts are mounted, significant, though hopefully reduced, numbers of children will be born in the foreseeable future to teenagers and adults who have not completed high school. These parents should of course have opportunities to obtain more education, either immediately after the birth of their children or later. But women and men with less than a high school education are far less likely to get additional job-related training or other forms of adult

education than those who have completed high school or attended college³².

New approaches to raising the functional literacy levels of adults with limited education are called for, especially approaches that tie instruction to the real-life challenges and demands that these adults are facing every day. It makes little sense simply to offer more of the same to individuals who have not done well in regular school and often hate school. There is a growing body of evidence from welfare-to-work evaluation studies that first getting a welfare mother into a job and then providing basic skills education or job-related training works better than the reverse sequence³³. It also seems logical to blend basic skills education with instruction in childrearing for new parents who have a lot to learn in both areas³⁴. Unfortunately, demonstration programs that have provided comprehensive education and social services to disadvantaged young mothers and their children have thus far produced only modest results^{35,36}.

Education programs for school-age mothers and fathers must be designed to function in ways that do not inadvertently condone or even encourage parenthood. It is not helpful to deterrence efforts for school systems to offer little to those who are doing the right thing (in this case, not having sex or at least not getting pregnant) and then to lavish special attention and services on those who have gone astray. Continuing education for low-education parents should come with some stipulations, one of them being that the people involved are taking specific steps to avoid getting pregnant (or making someone pregnant) again.

Progress Made; Progress Yet to Be Made

Striking changes have occurred in the United States over the last half century as the average years of schooling rose among all young adults. During the last 30 years, educational expectations and opportunities have increased, especially for girls and young women, for both men and women from minority groups, and for those from low-income families. However, the pace of progress has been slower in the last decade than in prior decades³⁷.

The current high rates of legal and illegal immigration from less developed countries with lower educational standards is one of the factors that statistically increases the number of births attributable to mothers with less than a high school diploma.

Another societal change is the increased tendency of women who are performing well academically and have good employment prospects, whether white, black, Hispanic, or Asian, to postpone childbearing until their late twenties or thirties, after they have gotten their business or professional careers well launched. The two-child family is now a norm in nearly all socioeconomic and cultural groups in the United States. However, the intergenerational interval for disadvantaged groups is only 16 to 20 years, while the intergenerational interval for more advantaged groups is 28

to 35 years. Disadvantaged groups will contribute more than their proportionate share to the child population. This disparity in the intergenerational interval exists within virtually all ethnic segments of the population³⁸. Thus postponing parenting continues to be a choice of the economically well off, regardless of ethnicity.

Our rapidly changing economy is affording less and less in the way of gainful employment opportunities to young women and men with low skills and limited educational attainments³⁹. From the standpoint of economic rationality, these changing conditions should be making it less likely that these adults will become parents; it is getting harder and harder for them to support a family. Ironically, though, the changing economy is probably making it more likely that young adults with low skills will become parents because they have so few attractive alternatives to parenthood as a way of gaining some measure of adult status and societal respect.

The rapid and profound changes occurring in the global economy may make it harder to change both the lives of children born to parents with less than a high school degree and the likelihood that at-risk individuals choose parenthood over education. The education system and community organizations must provide young people who are not doing well in school with positive alternatives to low-education, high-risk parenthood. Health care providers should be proactive, teaching parents with few resources how best to promote their children's growth and development by structuring a healthier and more suitable home environment, obtaining immunizations and other preventive care, and using sick care services appropriately. The changing global economy makes it all the more important that current and future generations of children be given the best possible chance to develop in healthy and productive ways. That means, first of all, being reared by mothers and fathers who have adequate skills and training to be competent members of modern society and effective and responsible parents.

Dr. Zill is Vice President and Director of the Child and Family Study Area at Westat, Inc., in Rockville, MD, and a member of the National Committee on Vital and Health Statistics.

Tearsheet requests to Nicholas Zill, PhD, Westat, Inc., 1650 Research Boulevard, Rockville, MD 20850; tel. 301-294-4470; fax 301-294-3992; e-mail <zilln1@westat.com>.

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