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ABSTRACT

This study of the educational attainments of students living in poverty was conducted in response to a resolution of the Virginia State Senate. Census counts of persons living below the poverty level, counts of students enrolled in free lunch programs, test scores, and two previous analyses of the achievement of Virginia students were used in the analysis. In Virginia, one of seven children aged 5 years or younger lives below the federal poverty level. Between 1979 and 1989, the number of poor two-parent families increased by 19 percent. Nearly two-thirds of poor families with children are headed by parents who work during the year, and only 1 in 10 poor children fits the stereotype of a poor child (an urban child who is black and lives with a single mother who does not work). The following educational responses to student risk have been cited by research as being effective in promoting learning: (1) developmental preschool programs; (2) supplemental reading programs; (3) reducing class size; and (4) schoolwide projects in prevention and support. The size and scope of problems facing poor children in Virginia requires a larger societal response than current efforts. The Virginia State Department of Education is working on a comprehensive plan to serve at-risk students. Seven tables and two figures illustrate the analysis. Three appendixes contain the Senate resolution and provide further information about poverty in Virginia. (SLD)

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ED 362 590

REPORT OF THE
DEPARTMENT OF EDUCATION ON

Educational Attainments of Students Living in Poverty

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 13

COMMONWEALTH OF VIRGINIA
RICHMOND
1993

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EXECUTIVE SUMMARY

This study of the educational attainments of students living in poverty was conducted in response to Senate Joint Resolution Number 38, sponsored by Senator Yvonne B. Miller during the 1992 Session of the General Assembly.

Twenty-five years of national research and at least four analyses of Virginia school division data have found a strong and persistent relationship between student poverty and educational outcomes. School divisions with high concentrations of impoverished students are more likely to report lower test scores, greater percentages overage students, and higher rates of absenteeism and dropout than are divisions with low rates of student poverty. Although the ability of poverty measures to predict student outcomes at the division and school level is strong, research also indicates that this predictive power diminishes when individual children become the unit of analysis; this is evidenced by the many children from backgrounds of poverty who succeed in school and go on to become self-sufficient, productive adults. In response to these findings, the federal government and some states have adopted strategies that direct additional educational resources based on aggregate (e.g. school division or school) poverty, but allow any child, regardless of socioeconomic status, who is at risk of failure or dropping out to be served by those resources.

During the 1980s, the percentage of persons in the United States living below the federal poverty level increased for almost every age group (only for persons 65 or older did the poverty rate actually decline). Although poverty rates in Virginia declined during the same period, recent large enrollment increases in the state's public assistance programs indicate that poverty is now growing across the Commonwealth.

In both the nation and the Commonwealth, children under the age of five are more likely to be poor than persons in any other age group. In Virginia, one out of seven children five years of age or younger live below the federal poverty level (a maximum annual income of $8,420 for a family of two). Many stereotypes and misconceptions about child poverty are refuted by a recent Children's Defense Fund report; specifically:

- the number of poor two-parent families increased by 19 percent between 1979 and 1989;
- nearly two-thirds of poor families with children are headed by parents who work during the year; and,
- only one in ten poor children fit into the common stereotype of a "poor child" -- one who is black and lives in a city with a single mother who does not work and receives welfare.

Among Virginia's cities and counties, child poverty rates ranged from 3.7 percent to 37.1 percent in 1990, a difference of 33.4 percentage points. Although the Commonwealth's core cities (e.g. Norfolk City) are doubly impacted by child poverty -- once by high numbers of poor children and again by high percentages of them -- many of Virginia's rural and suburban localities are affected as well. Sparsely populated rural localities (e.g. Accomack County) are most likely to be impacted by high percentages of impoverished children while suburban localities (e.g. Fairfax County) are most likely to be impacted by large numbers of these children. In fact, 14 localities account for half of the state's poor children, seven (50 percent) of which are growing suburban counties and non-core cities with strong economies. These findings refute the belief that poor children are a concern only for urban centers.

The individual, societal and economic costs of childhood poverty and unfavorable educational outcomes are enormous. The citizens of the Commonwealth spend hundreds of millions of dollars annually on welfare programs and prison facilities, primarily to support or maintain the thousands of students who drop out of Virginia's schools each year. In addition to these are the cost of lost wages and tax revenues, and the incalculable cost of lost individual potential.

Despite these pessimistic statistics, strong evidence exists that investing in children, especially the very young, is good economic and social policy, even in times of limited fiscal resources and growing demand for public services. The following educational responses to student risk are cited consistently by research as especially effective in promoting successful first-time learning; all of these employ strategies that prevent educational failure through early intervention.

- Developmental preschool programs help disadvantaged three- and four-year-old children attain the basic cognitive, social and emotional skills they need on the day they first enter school. These programs have been shown to increase school success and future employability, and to decrease delinquency and dependence on public assistance. A $1 investment in a quality preschool education can provide $3 in savings by reducing special education, public assistance and crime costs.

- Supplemental reading programs in the early grades help high-risk students develop the basic academic skills they need to succeed in school by resolving early literacy problems before these become severe.

- Reducing class size in the early grades is a strategy that helps schools deliver enriched educational programs and enables teachers to employ developmentally appropriate practices and provide individualized instruction. Class sizes of 15 or fewer students for every one teacher can be especially beneficial for students who are economically disadvantaged.

- Schoolwide projects target a variety of prevention and support programs toward entire schools where most or all of the students are educationally at-risk and in need of supplemental services. One such project, Success for All, significantly increased reading achievement and attendance, and reduced special education placements for learning disabilities.

Although many schools currently implement effective programs to improve the educational outcomes of children living in poverty, the size, scope and nature of the problems facing these children requires a larger societal response. Such a response must include collaborative efforts on the part of families, communities, businesses and governments, as well as schools. One such effort, the State of Georgia's Family Connection program, is bringing families, schools, communities and government agencies together to ensure that at-risk children and their families receive support services in a comprehensive and timely manner. The Virginia Department of Education is currently working with other state agencies to develop a comprehensive plan to serve at-risk students; a final report will be issued in Spring 1993.

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INTRODUCTION

Senate Joint Resolution Number 38, sponsored by Senator Yvonne B. Miller during the 1992 Session of the General Assembly, requests the Department of Education to examine the educational attainments of students living in poverty and the programs and costs associated with improving these students' educational outcomes. This document was prepared in response to SJR 38, the full text of which is provided in Appendix A.

Background

The problem of child poverty and the issues associated with it have received increased attention in recent years, both at the state and national level. Although well-established organizations like the Children's Defense Fund have addressed child poverty issues for almost two decades, new organizations, such as the National Center for Children in Poverty, have been founded with goals oriented solely around reducing poverty among children. Government organizations and bodies are also addressing these issues:

- the United States Congress directs billions of dollars each year to assist poor children and their families;
- state and federal government agencies have issued numerous reports and studies on the subject of poverty among children; and,
- the National Governors' Association has recently released the report Every Child Ready for School, that outlines strategies to reduce child poverty and its long-term effects.

In response to increasing poverty rates, Virginia's 1992 General Assembly created the Commission to Stimulate Personal Initiative to Overcome Poverty. The Commission is charged with examining the social and economic implications of increased personal poverty and with developing incentives and policy and program reforms designed to promote self-sufficiency among the chronically impoverished. The Commission will issue an interim report and recommendations in 1993, and a final report in 1994.

Measuring Poverty

Because individual and family poverty have traditionally been defined in terms of annual income, three of the most widely used measures of poverty, especially in the context of children and families, are:

- the federal poverty level
- eligibility for free school meals; and,
- eligibility for reduced-price school meals.

The household size and income criteria employed by these measures are shown in Table 1.

TABLE 1

Maximum Allowable Annual Household Income Under Different Measures of Poverty
(from July 1, 1990 to June 30, 1991)

Household Size	Federal Poverty Level	Eligibility for Free Lunch	Eligibility for Reduced-Price Lunch
1	$ 6,280	$ 8,164	$11,618
2	$ 8,420	$10,946	$15,577
3	$10,560	$13,728	$19,536
4	$12,700	$16,510	$23,495
5	$14,840	$19,292	$27,454
6	$16,980	$22,074	$31,413
For Each Additional Family Member Add:	$ 2,140	$ 2,782	$ 3,959

Source: Food and Nutrition Service, U.S. Department of Agriculture.

It should be noted that the maximum allowable levels of income shown in Table 1 are those before such items as income and social security taxes are deducted. Therefore, the net (take-home) income of persons living below the poverty level or who qualify for free or reduced-price meals could be less than the amounts shown.

Of these three measures, the federal poverty level is the most exclusive -- fewer individuals and families qualify as "poor" under its criteria than under the criteria of the free or reduced-priced lunch measures. However, even under the criteria of the least exclusive measure (eligibility for reduced-price meals), an individual or family making less than the maximum allowable household income clearly has limited financial resources. For example, a family of two (e.g. a single parent and a child) with pre-tax annual earnings of $15,577 or less is eligible for reduced-price school meals; a family of four earning no more than $23,495 before taxes is eligible.

Each measure has unique criteria and is applied to a different group of persons. Therefore, each measure has distinct benefits and drawbacks, and is best-suited for certain purposes -- there is no "best" measure of poverty. For example, because the 1990 Census counted all persons living in poverty, its data are the most complete; however, census counts are taken infrequently (once every 10 years), and, even at the time of release (usually two years after counts are taken), data are not current.

The annual count of students approved for free meals in the National School Lunch Program also has benefits and disadvantages. Counts of free lunch students are arguably the most valid available measure of poverty among the school-age population because these are taken annually from students in public schools and verified by the state through a process of on-site review; however, participation in the program is voluntary. This means that students who are eligible for the free lunch program but opt not to apply go uncounted (this is particularly prevalent at the high school level). Also, some school divisions choose not to participate in the National School Lunch Program beyond the elementary and middle grades; therefore, free lunch counts in these divisions must be adjusted for non-participating schools.

For the purposes of this report, both the census counts of persons living below the poverty level and counts of students enrolled in the free lunch program will be used in analyses and discussion. Because free lunch enrollments provide a current measure of poverty among the school-age population, this income data will be used to analyze student poverty among school divisions. Because the 1990 Census includes counts of all persons living below the federal poverty level, this income data will be used in analyzing national and statewide poverty trends.

Chapter 1: Poverty and Educational Outcomes

The relationship between poverty and educational outcomes has been recognized for over 25 years. Since the mid-1960s, numerous studies examining this relationship at the state and national level have been conducted, and all have found a strong link between student poverty and unfavorable student outcomes. This chapter will provide:

- a brief summary of national research findings;
- a review of recent Virginia-specific research findings; and
- a current analysis of student poverty and educational outcomes in the Commonwealth.

National Research

National research has consistently found poverty to be one of the strongest indicators of student educational risk -- the likelihood that the student will not learn or succeed in school. Other strong risk indicators that have been identified by educational research include:

- minority racial/ethnic group identity;
- a non-English speaking background (limited English proficiency);
- having a poorly educated mother; and,
- living in a single-parent family.

However, these other indicators are all closely associated with poverty, and when they appear in combination, poverty is usually present. For example, the child who lives with a poorly educated, single mother often lives in poverty as well. Thus, more recent research has found that the relationship between these variables -- minority identity in particular -- and educational outcomes virtually disappears when income (i.e. poverty) is held constant.

In addition to poverty itself, concentrations of poverty can greatly increase educational risk. A U.S. Department of Education study of academic instruction for disadvantaged students that focused on schools serving high concentrations of poor children found that low achievement is most likely to occur among poor children who attend school with predominantly poor classmates. The study concluded that children in these schools face a double disadvantage: their own poverty and that of their classmates. Similarly, the 1986 National Assessment of Chapter 1 found that non-poor students attending school with large proportions (25 percent or greater) of poor students are more likely to fall behind than are poor students who attend school with small proportions (6 percent or less) of poor students.

Although poverty is a strong predictor of academic achievement at the division level, research also indicates that poverty's ability to predict student outcomes weakens significantly when individual children are used as the unit of analysis. Indeed, many children from backgrounds of poverty do well in school. Nevertheless, the federal government and at least seven states, including Virginia, now use some criterion of student poverty (usually free lunch enrollments) to provide school divisions with additional funding for programs and services targeted toward educationally at-risk students.

What gives poverty such a powerful influence on educational outcomes? The general concensus among educational/social researchers and commentators is the close association between limited financial resources and a myriad of child and family "stress" factors. These factors include:

- inadequate or non-existent pre- and perinatal care;
- low birthweight;
- recurrent and untreated health problems;
- exposure to toxic levels of lead;
- malnutrition;
- a home environment lacking stimuli necessary to develop cognitive, language and social skills;
- child abuse and neglect;
- teenage pregnancy;
- instability/insecurity of family or home; and
- psychological and physical stress.

The presence of one or more of these stressors in a child's life increases the likelihood that he or she will be exposed to inappropriate developmental and inadequate educational experiences, and it is widely recognized that poor children are more likely to encounter these kinds of stressors than are other children. In fact, occurrences of infant mortality, malnutrition, child abuse, teen pregnancy, juvenile delinquency and school dropout are up to seven times greater for children living in poor families.

Virginia-Specific Research

Over the past four years, the relationship between student poverty and educational outcomes in Virginia has been demonstrated through several analyses. These include:

- Virginia State Assessment Program (VSAP) analysis of 1988-89 test scores;
- analysis of student characteristics and outcomes conducted for the 1990 Governor's Commission on Educational Opportunity for All Virginians; and,
- Virginia Department of Education 1991 study of Factors Affecting School Division Performance.

Details on each of these efforts are provided below, followed by this team's analysis of the relationship between poverty and students' educational outcomes using the most current available data. A brief summary of all analyses is presented in Table 2.

Virginia State Assessment Program: One of the first analyses to document the relationship between student poverty and unfavorable student outcomes in the Commonwealth appeared in the Virginia State Assessment Program (VSAP) Summary Report for the 1988-89 school year.

The VSAP is a series of nationally-normed tests administered annually to fourth-, eighth- and eleventh-grade students by the Virginia Department of Education. In the 1988-89 VSAP Summary Report, the Department of Education included an analysis that examined divisions' standardized test scores and demonstrated how student poverty related to those scores.

TABLE 2

Summary of Recent Analyses Examining the Relationship between Student Poverty and Educational Outcomes in Virginia

SOURCE OF ANALYSIS	DATE OF ANALYSIS	METHODOLOGY	KEY FINDINGS
Virginia State Assessment Program (VSAP) Report	Summer 1989	School divisions placed into a rank-order list based on 1988-89 VSAP composite test scores; list then divided into four groups -- highest-scoring divisions in Group 1, lowest-scoring divisions in Group 4. Median test scores and free lunch enrollments then calculated for each group of school divisions.	❑ Poorer-performing groups of school divisions have significantly higher percentages of free lunch students than better-performing groups. ❑ This relationship is consistent at all three grade levels (4, 8 and 11) for which VSAP tests are given.
1990 Governor's Commission on Educational Opportunity for All Virginians	Fall 1990	Correlated the following 1989-90 division-level data: • Percent students enrolled in free lunch program • VSAP 1989-90 test scores • Literacy Passport Test pass rates • Dropout rates • Average daily absenteeism • Overage students • Teen pregnancies • High school graduates continuing their education	❑ Strong, negative correlations exist between all divisional achievement test scores and the percent of students enrolled in the free school lunch program. ❑ School divisions with high percentages of impoverished students also tend to report: • more overage students; • greater absenteeism; • higher dropout rates; and, • fewer graduates continuing their education.
Department of Education Study: Factors Affecting School Division Performance	Fall 1991	Correlated the following eight categories of 1989-90 division-level variables: • Community socioeconomic status • Student characteristics • Class size • Teacher characteristics • Division fiscal resources • Community fiscal resources • Student achievement • Student attainment	❑ Student characteristics and socioeconomic status of local residents correlate strongly with student achievement, and moderately with other student outcomes at all school levels (elementary, middle and secondary). ❑ Class size and teacher characteristics show little correlation with student outcomes at all school levels. ❑ Community and school division fiscal resources both correlate moderately with student achievement; however, they show little or no relationship with other outcomes such as attendance and dropout.
Department of Education Study: Educational Attainments of Students Living in Poverty	Summer 1992	Correlated fourteen 1990-91 division-level variables in the following six categories: • Student poverty • Student academic outcomes • Student non-academic outcomes • Financial resources used for education • Local wealth • Education level of community	❑ Divisions with high student poverty rates tend to report lower achievement test scores than divisions with low student poverty rates. ❑ Communities with better-educated adults tend to have higher average incomes and fewer poor children than communities where the adult education level is limited. ❑ Divisions with high rates of student poverty tend to retain students with greater frequency and to have higher dropout rates. ❑ Factors other than spending, such as student and community characteristics, appear to influence student outcomes more strongly than does spending alone.

School divisions were first rank-ordered into a list based on their VSAP composite test scores. This list was then divided into four semi-equal groups[1], with the highest-scoring divisions comprising the first group, and the lowest-scoring divisions comprising the fourth group. Finally median test scores and free lunch enrollments were calculated for each group of school divisions. Table 3 presents the results of this analysis, as well as the results of an analysis of Spring 1990 VSAP scores conducted by this study team using identical methodology.

TABLE 3

Virginia State Assessment Program (VSAP) Results for School Divisions Grouped By Composite Scores

Median Test Scores and Free Lunch Enrollments for Divisio: s within Each Group

Spring 1989

	Group	Number of Divisions in Group	VSAP Composite Score by National Percentile Rank	Percent Free Lunch Students
Grade 4	1	35	66	9.8%
	2	35	57	16.9%
	3	32	50	23.3%
	4	31	43	33.7%
Grade 8	1	34	63	9.8%
	2	31	52	18.1%
	3	35	48	21.1%
	4	32	42	34.5%
Grade 11	1	31	65	9.8%
	2	31	55	17.7%
	3	34	49	21.1%
	4	35	42	29.8%

Source: Virginia Department of Education, VSAP Summary Report, 1989.

Spring 1990

	Group	Number of Divisions in Group	VSAP Composite Score by National Percentile Rank	Percent Free Lunch Students
Grade 4	1	35	62	10.5%
	2	34	56	20.5%
	3	35	39	25.3%
	4	29	28	37.4%
Grade 8	1	33	67	11.6%
	2	34	49	17.4%
	3	33	36	24.8%
	4	32	23	34.8%
Grade 11	1	34	76	12.0%
	2	29	56	17.0%
	3	35	46	24.4%
	4	33	34	31.0%

Source: Virginia Department of Education analysis, 1992.

[1] Although every effort was made to include the same number of school divisions in each group, some variance does occu because 1) the total number of school divisions is not always divisible by four, and 2) many school divisions have ider composite scores. Thus, a precise point of division between exact quartiles was not always possible.

The results of this analysis indicate that:

- poorer-performing groups of school divisions have higher percentages of free lunch students than better-performing groups;
- this relationship is consistent at all three grade levels (4, 8 and 11); and,
- the relationship between poverty and student achievement is consistent from year to year.

1990 Governor's Commission on Educational Opportunity for All Virginians: One of Governor L. Douglas Wilder's first acts upon assuming office was to create the Commission on Educational Opportunity for All Virginians. This Commission was charged with advising the Governor and the General Assembly on how the Commonwealth could address and overcome differences among Virginia's public schools to become one of the nation's top ten states in the overall quality of education it offers.

As part of its work, the Commission looked for factors that related to student performance during the 1989-90 school year. Analysis conducted for the Commission found that much of the variation in student outcomes can be explained by divisional differences in the incidence of student poverty, as measured by the percent of students participating in the free school lunch program. This analysis revealed that strong, negative correlations exist between all divisional achievement test scores and the percent of students enrolled in the free school lunch program; as the percent of students receiving free lunch in a division increases, achievement test scores in that division tend to decrease.

Commission analysis also revealed that divisions with high percentages of impoverished students tend to report the following outcomes on other measures of educational attainment:

- higher percentages of overage students (an indicator that students have been retained in grade at least twice);
- higher absenteeism rates;
- higher dropout rates; and,
- lower percentages of graduates continuing their education.

The Commission's analysis also found that a locality's composite index -- the measure of local wealth currently used to direct state education funding -- is not a good indicator of the wealth of individuals living in that locality. In fact, only 10 percent of the variation in the incidence of student poverty among divisions can be explained by divisions' composite indices. Thus, while the composite index does recognize a locality's ability to pay for educational services, it does little to recognize the level of local student poverty.

In response to these findings, the Commission recommended that state funding for education be revised to acknowledge the additional costs of educating students who are educationally disadvantaged due to family circumstances related to poverty. In 1991, the State Board of Education acted on this recommendation by developing an initiative to target additional funds to divisions based on percentages of students enrolled in the free lunch program. The proposed distribution method of these funds was also designed to address the intensity of poverty level by sending larger per-pupil add-ons to divisions with high concentrations of student poverty.

The 1992 Session of Virginia's General Assembly appropriated $46.4 million in the 1992-94 biennium for this initiative, thereby acknowledging officially the well-documented relationship between poverty and student outcomes. Further, this legislation recognizes that educationally at-risk students require programs and services above and beyond those prescribed by the Standards of Quality to increase their chances for educational success, and provides funds for school divisions to establish or supplement these programs and services. Virginia has now joined a growing list of states that provide additional funding to school divisions based on some measure of student poverty.

Department of Education Division Factors Study: Most recently, a team within the Department of Education conducted an analysis of factors affecting school division performance in the Commonwealth. The study team gathered an array of data at the school division level for the 1989-90 school year representing both student outcome variables -- such as test scores, attendance and dropout rates -- and variables believed to affect those outcomes -- such as spending per pupil, local wealth and student characteristics.

A total of 41 variables, including those most frequently employed by similar national research, were collected and placed into eight broad categories. Pairs of these categories were then correlated, and the resulting statistical relationships analyzed. The analysis yielded three significant findings.

- First, both the socioeconomic status of local residents (example: median adjusted gross income) and student characteristics (example: percent free lunch students) correlate strongly with student achievement and moderately with other student outcomes such as attendance and dropout at all school levels (elementary, middle and secondary).

- Second, community fiscal resources (example: revenue capacity per capita) and school division fiscal resources (example: local per pupil expenditures) both correlate moderately with student test scores; however, they show little relationship with other student outcomes such as attendance and dropout.

- Third, school division educational resources such as class size and teacher characteristics show little correlation with student outcomes at all school levels.

The first of these findings is in accord with the conclusions of national and other Virginia-specific research, and serves to underscore the persistence of the relationship between poverty and unfavorable student outcomes. The study team determined that the second and third findings suggest that fiscal and educational resources do play a role in some student outcomes.

Analysis of 1990-91 Student Characteristics and Outcomes: To determine if the relationship between poverty and student outcomes revealed by previous analyses continues to persist into more recent school years, this study team conducted an analysis similar to those previously cited, using the most current available data. Using division-level data from the 1990-91 school year, the team correlated the 11 variables in these six categories:

- Student poverty, as measured by:
  - percent students enrolled in the free lunch program; and
  - percent children living below the federal poverty level.

- Local wealth, as measured by:
  - local composite index; and
  - median adjusted gross income (AGI).

- Education level of community, as measured by the percent of residents 18 years of age or older with a high school diploma.

- Financial resources used for education, as measured by total per pupil expenditures.

- Student academic outcomes, as measured by:
  - standardized test scores (grades 4, 8 and 11); and
  - Literacy Passport Test first-time pass rate.

- Other student outcomes, as measured by:
  - overage students in grades 4 and 8;
  - student attendance; and
  - dropout rates.

A list of variable definitions and a table of correlation coefficients are provided in Appendix B.

The results of this analysis reveal some new information as well as support earlier findings.

- ❑ Student poverty remained strongly correlated with academic outcomes in the 1990-91 school year, indicating that divisions with high student poverty rates tend to report lower test scores than divisions with low student poverty rates. Student poverty measures also correlated strongly with community education level, as did median AGI. This indicates that communities with better-educated adults tend to have higher incomes and fewer impoverished children than communities where adults have more limited formal education.

- ❑ Student poverty is moderately correlated with both overage students and student dropout rates. This suggests that school divisions with high rates of student poverty tend to retain students with greater frequency and to have higher dropout rates.

- ❑ Median AGI is moderately correlated with all achievement test scores, indicating that localities with higher personal incomes tend to have higher test scores than divisions with lower incomes.

- ❑ Correlations between total per pupil expenditure and student outcomes are weak at best, suggesting that factors other than spending, such as student and community characteristics, influence student outcomes more strongly than does spending alone.

Conclusion

Twenty-five years of national research and at least four analyses of Virginia school division data have found a strong and persistent relationship between student poverty and educational outcomes. School divisions with high concentrations of impoverished students are more likely to report lower test scores, greater percentages of overage students, and higher rates of absenteeism and dropout.

Although the ability of poverty measures to predict student outcomes at the division level is strong, research also indicates that this predictive power greatly diminishes when individual children become the unit of analysis. This is evidenced by the many children from backgrounds of poverty who succeed in school and go on to become self-sufficient, productive adults. Therefore, great care must be taken not to label or make generalizations about any child, or to hold poor children to a lower set of educational expectations. To do so will only harm the child and reduce his or her opportunity for educational success.

What, then, is the value of this important piece of knowledge? At present, the answer is to use what we know about the educational effects of poverty to develop strategies that direct additional educational resources based on aggregate (e.g. school division or school) poverty, but allow any child, regardless of socioeconomic status, who is at risk of failure or dropping out to be served by those resources. Many states, as well as the federal government, have adopted some form of this strategy to target at-risk aid.

The following chapter will examine recent trends in poverty over the past decade, both nationally and in the Commonwealth.

Chapter 2: Poverty Trends

The preceding chapter summarized state and national research demonstrating that poverty is the single strongest available predictor of student academic achievement. Although the impact of poverty on student outcomes is widely recognized, the demographics of poverty may not be commonly understood. Therefore, this chapter will provide information about:

- poverty among different age groups;
- shifts in poverty demographics over the past ten years; and
- the economic costs of poverty and unfavorable educational outcomes.

Poverty in the United States

As shown in Table 4, the percentage of person living below the poverty level increased for almost every age group between the censuses of 1980 and 1990; the only group for which the poverty rate actually declined was persons 65 or older. The increase in the rate of poverty among children, however, was more than twice that of other age groups.

TABLE 4
Poverty Rates in the United States

Age Groups	Percent Below Poverty Level		Change
	1980 Census	1990 Census	
Children under 5 years	18.1%	20.1%	+2.0%
Children 5 to 17 years	15.3%	17.0%	+1.7%
All children	16.0%	17.9%	+1.9%
Persons 18 to 64 years	10.3%	11.2%	+0.9%
Persons 65 years or older	14.8%	12.8%	-2.0%
All U.S. residents	12.4%	13.1%	+0.7%

Source: Virginia Department of Education analysis of 1990 U.S. Census data.

Which age groups are most likely to be poor? According to the 1990 Census, 20.1 percent -- one of every five -- of America's children under the age of five were living in households with incomes below the poverty level (a maximum annual income of $8,420 for a family of two). During the same year, 17.0 percent of children between the ages of 5 and 18 lived in poverty. Persons 65 years or older were the next age group most likely to be poor at 12.8 percent, followed by persons ages 18 to 64 with a poverty rate of 11.2 percent.

Because the nation as a whole experienced an economic downturn beginning in 1990, the poverty statistics shown in Table 4 have since increased (during times of economic recession, large numbers of persons and families typically slip into poverty because of job losses, reduced work hours and declining wages). The U.S. Census Bureau reports that in 1991, 2.1 million more Americans were living below the poverty level than in the previous year, and that median household income declined by more than $1,000 between 1990 and 1991. The poverty rate for all U.S. residents grew to 14.2 percent in 1991, while the poverty rate for children grew to 21.8 percent.

According to a report issued by the Children's Defense Fund (CDF) in July 1992, the number of poor American children grew from 10.1 million to 11.2 million between 1980 and 1990, an increase of 11 percent over ten years. This trend of rising child poverty occurred over the same period that the average American's per capita income increased 18 percent and the nation as a whole grew more wealthy.

The Children's Defense Fund attributes the increase in child poverty to three factors:

- wages declined compared to inflation, particularly among young workers and those without college degrees;
- government budget cuts reduced the effectiveness of income-support programs at lifting needy families out of poverty; and,
- the proportion of children who live with single mothers increased.

CDF President Marian W. Edelman believes that Americans tend to think that the nation's poor children are overwhelmingly urban and minority, and that child poverty is unique to only a small segment of society. According to Edelman, this stereotype has led policy-makers to overlook the needs of millions of poor rural and white children.

The following CDF findings refute many stereotypes and misconceptions about child poverty.

- ❑ The average poor family with children has just 2.2 children, and that number continues to decline.
- ❑ The number of poor two-parent families increased by 19 percent between 1979 and 1989.
- ❑ Nearly two-thirds of poor families with children are headed by parents who work during the year.
- ❑ Only one in ten poor children fit into the common stereotype of a "poor child" -- one who is black and lives in a city with a single mother who does not work and receives welfare.

Poverty in Virginia

The number of persons living below the poverty level in the Commonwealth increased only slightly between the censuses of 1980 and 1990 (from 611,310 to 611,611 persons) and, as shown in Table 5, the proportion of all Virginia residents living in poverty actually declined 1.6 percent over the same period.

According to 1990 U.S. Census figures, the poverty rate in Virginia is highest among children under the age of five (14.5 percent), followed closely by persons 65 or older (14.1 percent). The poverty rate among all children in Virginia was 13.3 percent in 1990, but a recent Congressional Research Service report found that the number of poor school-age children in the Commonwealth (those between the ages of 4 and 18) actually decreased by nearly 28,000 individuals between 1980 and 1990 (from 157,111 to 129,123 children), a ten-year decline of 17.8 percent.

TABLE 5
Poverty Rates in Virginia

Age Groups	Percent Below Poverty Level		Change
	1980	1990	
Children under 5 years	16.5%	14.5%	-2.0%
Children 5 to 17 years	14.4%	12.4%	-2.0%
All children	14.9%	13.3%	-1.6%
Persons 18 to 64 years	9.7%	8.6%	-1.1%
Persons 65 years or older	17.3%	14.1%	-3.2%
All Virginia residents	11.8%	10.2%	-1.6%

Source: Virginia Department of Education analysis of 1990 U.S. Census data.

However, because Virginia experienced an economic downturn in the two years that have elapsed since the 1990 Census was taken, these statistics may no longer reflect accurately the economic status of the Commonwealth's citizenry. This is evidenced, in part, by large enrollment increases in Virginia's public assistance programs over the past two years.

- The number of Virginia households receiving federal food stamp assistance grew from 141,918 in January 1990 to 202,969 in January 1992, an increase of 43 percent over two years. The total dollar value of these benefits grew from $20.8 million to $33.2 million over the same period -- an increase of 60 percent.

- The number of Virginia residents served by the Aid to Families with Dependent Children (AFDC) program grew from 151,350 in January 1990 to 187,290 in January 1992, a two-year increase of 24 percent. The total dollar value of these benefits grew from $14.5 million to $18.5 million over the same period -- an increase of 27 percent.

- The number of students enrolled in the free school lunch program increased 20 percent statewide over the past two years, from 178,581 students (18 percent of fall membership) in 1989 to 214,660 students (21 percent of fall membership) in 1991.

Although these statistics may be influenced by other factors, they do indicate that poverty in the Commonwealth is now increasing after a ten-year decline.

Poverty Among Virginia's Localities

Among Virginia's cities and counties, the proportion of persons living below the federal poverty level in 1990 ranged from 2.8 percent to 32.2 percent, a difference of 29.4 percentage points. The poverty rate for children ranged from 3.7 percent to 37.1 percent in 1990, a difference of 33.4 percentage points (a table of the numbers and percentages of children living in poverty by locality is provided in Appendix C).

Those cities and counties with the highest concentrations of poor children (25 percent or more) are shown in Figure 1. These 24 localities represent the Commonwealth's core cities, its far southwestern region, Eastern Shore and some Southside localities. As discussed in the first chapter of this report, children living in communities and attending schools with high rates of poverty face increased educational risk.

The cities and counties with the greatest numbers of poor children (3,500 or more) are shown in Figure 2. These 14 localities are predominantly located in the area known as Virginia's "golden crescent" -- the portion of the state extending from Northern Virginia, through the metropolitan Richmond area to the Tidewater region, so named because of its strong economic growth pattern. Although this finding may not seem surprising because much of the state's population resides in this area, it does underscore the fact that even economically healthy localities are affected by poverty, for each of these localities is responsible for providing educational and support services to thousands of impoverished children and their families. It should also be mentioned that these 14 cities and counties collectively account for 50 percent of the state's total number of poor children; this means that ten percent of the Commonwealth's localities are home to half its children living in poverty.

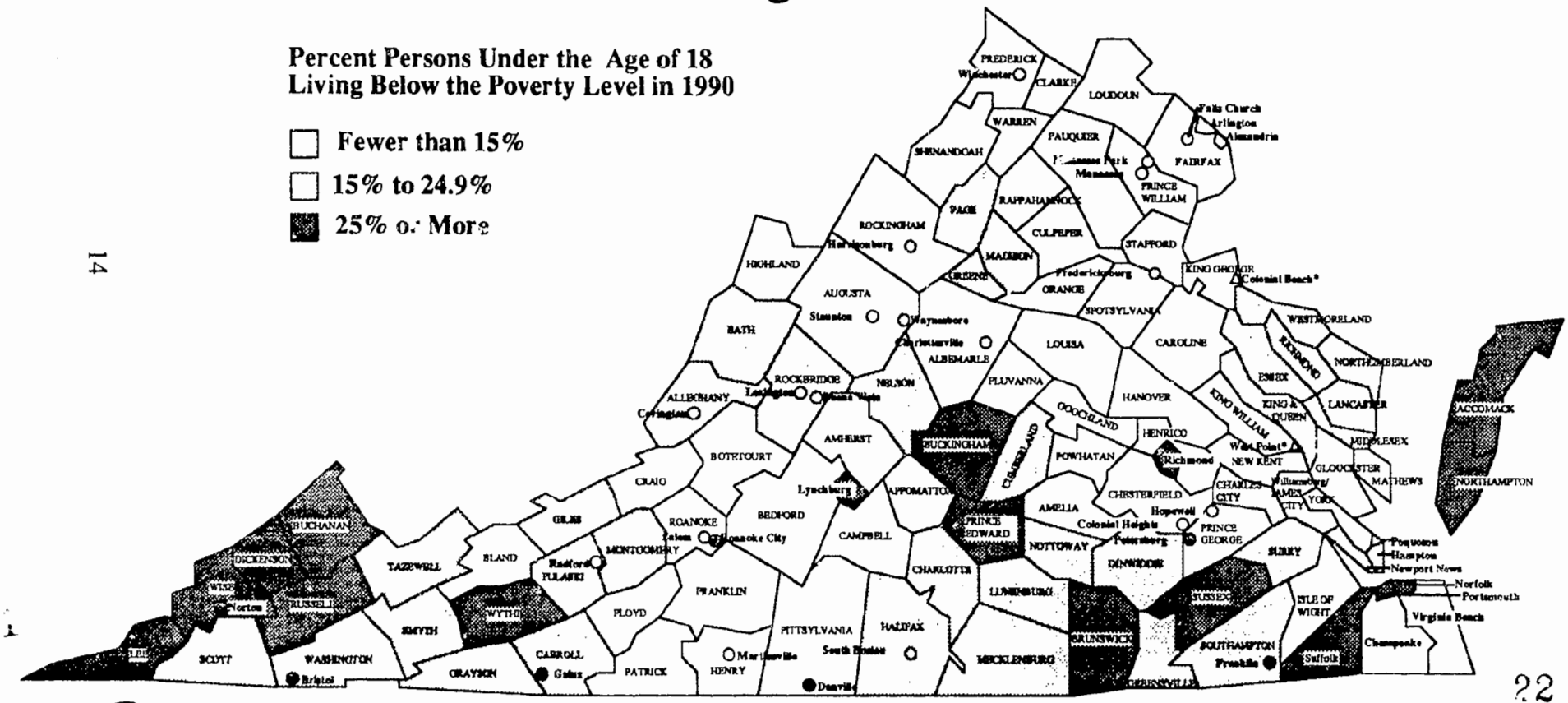
Furthermore, even though some of these 14 localities can boast low poverty rates overall, locality-wide statistics can "mask" community poverty rates that greatly exceed the local average. For example, during the 1990-91 school year, some localities with single-digit free lunch enrollments at the division level operated individual schools where student free lunch enrollments exceeded 60 percent. This indicates that "pockets" of concentrated poverty can and do exist within some of Virginia's wealthiest school divisions.

FIGURE 1

Commonwealth of Virginia

Percent Persons Under the Age of 18 Living Below the Poverty Level in 1990

- Fewer than 15%
- 15% to 24.9%
- 25% or More



* Data [illegible] 1990 U.S. Census was not available for the towns of Colonial Beach and West Point.

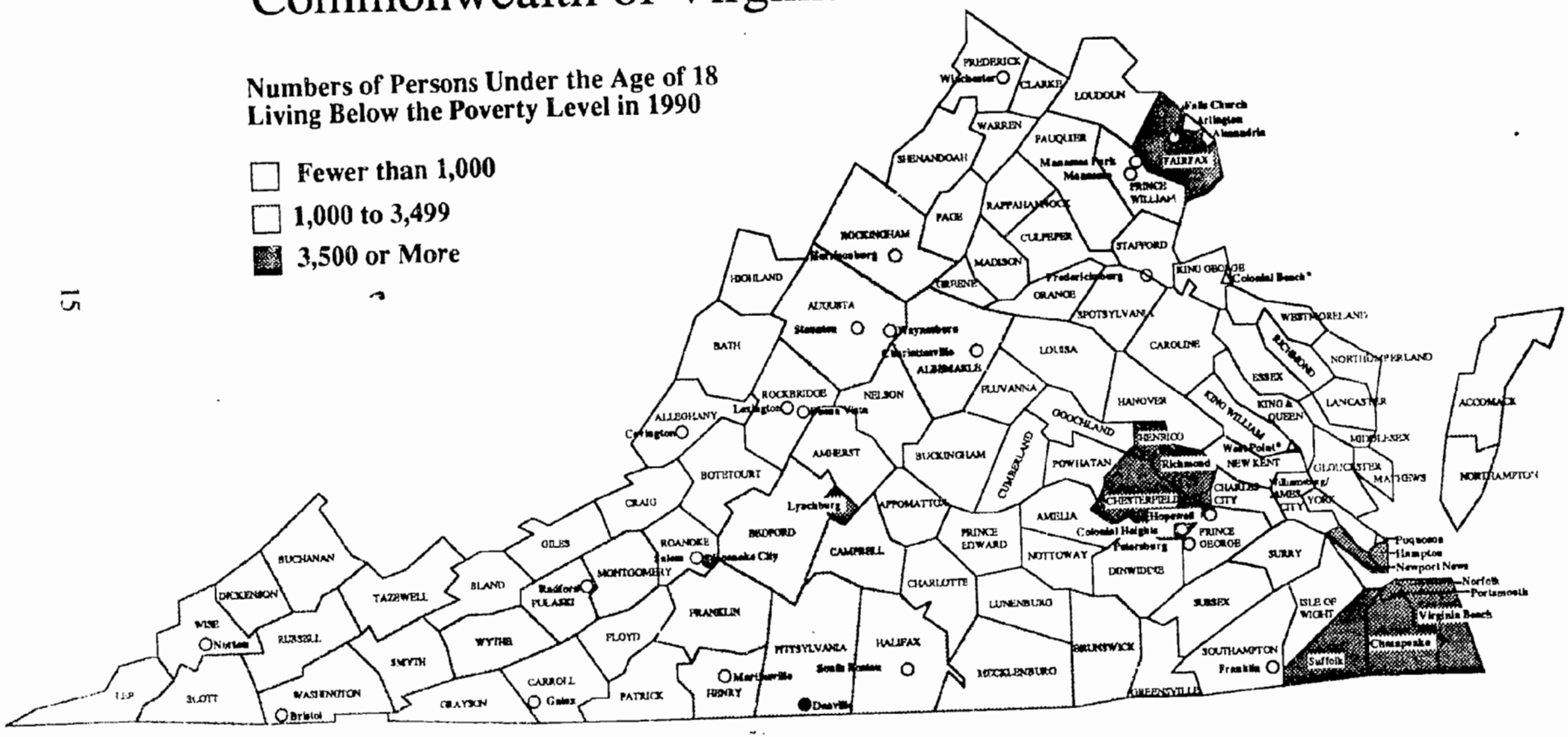
Source: Virginia Department of Education analysis.

FIGURE 2

Commonwealth of Virginia

Numbers of Persons Under the Age of 18 Living Below the Poverty Level in 1990

- Fewer than 1,000
- 1,000 to 3,499
- 3,500 or More



* Data from the 1990 U.S. Census was not available for the towns of Colonial Beach and West Point.

Source: Virginia Department of Education analysis.

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When the 24 high-percentage and 14 high-number localities are examined together and grouped by common characteristics using a set of five descriptive clusters[2], three distinct patterns emerge.

- Thirteen of the 17 localities impacted only by high percentages of poor children are sparsely populated counties and small cities in rural areas with relatively weak economic outlooks (Cluster 3).
- All of the seven localities impacted only by high numbers of poor children are growing urban and suburban counties and non-core cities with good economic pictures (Cluster 4).
- Five of the seven localities impacted by both high numbers and high percentages of poor children are core cities with poor economic outlooks (Cluster 5).

Table 6 illustrates these findings.

TABLE 6
Cluster Analysis of Local Child Poverty

Cluster Descriptions

Cluster 1: Counties and small cities with relatively good economic outlooks.

Cluster 2: Small urban localities with good economic outlooks.

Cluster 3: Sparsely populated counties and small cities in rural areas with relatively weak economic outlooks.

Cluster 4: Growing urban and suburban counties and non-core cities with good economic outlooks.

Cluster 5: Densely populated core cities with poor economic outlooks.

Localities with High Numbers of Poor Children

Cluster 4 (7)
Chesterfield
Fairfax County/City
Henrico
Chesapeake
Hampton
Newport News
Virginia Beach

Localities with High Percentages of Poor Children

Cluster 3 (13)
Accomack
Brunswick
Buchanan
Buckingham
Dickenson
Lee
Northampton
Prince Edward
Russell
Sussex
Wise
Bristol
Franklin City

Cluster 1 (3)
Wythe
Galax
Norton

Cluster 5 (1)
Petersburg

Localities with High Numbers and High Percentages of Poor Children

Cluster 5 (5)
Danville
Norfolk
Portsmouth
Richmond City
Roanoke City

Cluster 1 (1)
Lynchburg

Cluster 3 (1)
Suffolk

Source: Virginia Department of Education analysis, 1992.

[2] These clusters were developed and used by staff of the House Appropriations and the Senate Finance Committees in support of the Commission on Efficiency in the Use of Public Education Funds.

Only four localities characterized as counties and small cities with relatively good economic outlooks (Cluster 1) appear in Table 6 as having high numbers or proportions of poor children. No small urban localities with good economic outlooks (Cluster 2) appear in Table 6.

These findings, which illustrate the depth and breadth of child poverty in Virginia, refute the belief that poor children are a concern only for urban centers. Although the Commonwealth's core cities are doubly impacted by child poverty -- once by high numbers of poor children and again by high percentages of them -- many of Virginia's rural and suburban localities are affected as well. Sparsely populated rural localities are impacted by high percentages of impoverished children while many suburban localities are impacted by large numbers of these children.

The Costs of Poverty and Unfavorable Educational Outcomes

The individual, societal and economic costs of childhood poverty and unfavorable educational outcomes are enormous, both in the short- and long-term. Recent national reports and studies examining these costs cite the following statistics:

- each year, taxpayers spend $16.6 billion nationally to support children of teenage parents;
- every annual group of dropouts earns approximately $237 billion less during their lifetimes than an equivalent class of high school graduates, resulting in a $70 billion loss in government tax revenues (a recent Princeton University study found that every year of foregone education at any stage -- from grade school through graduate school -- decreases a persons lifetime earnings by 16 percent); and,
- approximately 82 percent of all Americans in prison are high school dropouts; the average annual cost to maintain each prisoner is $20,000.

Corresponding statistics for the Commonwealth are also high:

- the 1989 report 53 a Day: Teenage Pregnancy in the Commonwealth issued by Virginia's Teen Pregnancy Prevention Task Force estimated the annual statewide cost of Aid to Dependent Children, Medicaid and Food Stamps to be $198.3 million;
- during the 1990-91 school year, 14,424 students in grades 7-12 dropped out of school; and,
- the annual cost of maintaining a prisoner is over $17,000, and Virginia's expanding prison population now stands at 16,900.

These figures do not include the cost of lost wages, nor do they include the incalculable cost of lost individual potential.

In addition to these costs of educational failure, is the economic cost of a commonly employed, yet questionably effective, educational response to academic failure -- grade retention. The practice of grade retention -- making a student repeat a grade -- is very expensive, and often has lasting negative effects on students. The 1986 Governor's Commission on Excellence in Education found that:

> *"(i)f Virginia could reduce, by one-half, the number of students who are not promoted to the next grade, and if only one-half of the $3,000 it costs to teach each student in the same grade could be saved, Virginia taxpayers would save more than $50 million each year."*

Because studies of elementary school retention indicate that poor children are retained with greater frequency than children from middle- to upper-income families, the implications of school division grade retention policy on the educational outcomes of poor children are significant. It is expensive in the short-term, ineffective in the long-term, and as policy is neither educationally nor economically sound.

Despite these pessimistic statistics, the recent National Governors' Association (NGA) report Every Child Ready for School provides strong evidence that investing in children, especially the very young, is good economic and social policy, even in times of limited fiscal resources and growing demand for public services. The NGA report cites the following prevention programs that are both beneficial and efficient.

- Developmental preschool programs have been shown to increase school success and future employability, and to decrease delinquency and dependence on public assistance. A $1 investment in a quality preschool education can provide $3 in savings by reducing special education, public assistance and crime costs. Greater detail on these programs is provided in the next chapter of this report.

- Medical programs for mothers and infants -- such as childhood immunization, Medicaid, and the Special Supplemental Food Program for Women, Infants and Children (WIC) -- can reduce infant mortality, low birthweight, birth defects and the incidence of disease. Furthermore, each dollar invested in these programs can provide $2 to $10 in savings by reducing or eliminating the need for future health care.

- Early detection and treatment of elevated levels of lead in the body can reduce the effects of lead poisoning, which include birth defects, hyperactivity, slowed growth and learning disabilities. Annual savings from a reduction of the effects of lead on America's children are estimated at $500 million.

Conclusion

This chapter has provided an overview of child poverty, both at the national and state level, as well as information on the economic and societal costs of poverty. The most salient findings are summarized below; many are surprising.

- In both the nation and the Commonwealth, children under the age of five are more likely to be poor than persons in any other age group.

- The stereotypic "poor child" -- one who is black and lives in a city with a single welfare mother -- represents only ten percent of the nation's children living in poverty.

- Since 1990, poverty among Virginia's children appears to be increasing, possibly as a result of the recent recession.

- Child poverty impacts many of Virginia's rural and suburban localities as well as her core cities. In fact, of the 14 localities that account for half of the state's poor children, seven (50 percent) are growing suburban counties and non-core cities with strong economies.

- The economic and societal costs of childhood poverty and unfavorable educational outcomes are enormous; however, effective prevention programs targeted toward young children can greatly reduce these costs and improve educational outcomes.

The final chapter of this report will examine specific educational responses that can help at-risk children succeed in school, thus preparing them to become self-sufficient, productive adults.

Chapter 3: Improving the Educational Outcomes of Poor Children

Many effective programs and services currently exist to serve and support educationally at-risk students. Among these are the following educational responses, cited consistently by research as especially effective in improving these students' academic outcomes.

- Developmental preschool programs help provide disadvantaged children with the basic cognitive, social and emotional skills they need on the day they first enter school.

- Supplemental reading programs in the early grades can resolve early literacy problems in high-risk children before they become severe, thus enabling these children to receive the maximum benefit from school.

- Reduced class size in the early grades helps to enable enriched educational programs and to facilitate developmentally appropriate practice and individualized instruction.

- Schoolwide projects target a variety of prevention and support programs toward entire schools where most or all of the students are educationally at-risk and in need of supplemental services.

This is by no means a comprehensive list of effective programs; however, all of these programs have been evaluated, shown to promote successful first-time learning and are replicable. Furthermore, all share the common tenet of preventing educational failure through intervention in the early grades, when educationally at-risk children are most resilient and show the greatest gains when aid is provided. This chapter will focus on these effective educational responses to student risk, and will also examine the need for a comprehensive approach in dealing with child and family risk.

Developmental Preschool

As discussed earlier in this report, children living in poverty are likely to perform less successfully than other children upon entering school because they have not had the same opportunity to develop the cognitive, social and emotional skills that are necessary to succeed.

In addressing this issue, the 1990 Governor's Commission on Educational Opportunity for All Virginians reported:

> *"(f)or the children of families in poverty, leveling the academic playing field requires intervening before kindergarten to enhance cognitive skills and knowledge necessary for early and continued academic success."*

To help accomplish this "leveling of the playing field," both the Commission on Educational Opportunity for All Virginians and the 1986 Governor's Commission on Excellence in Education recommended that developmental preschool programs be made available on a voluntary basis to four-year-old children, especially those at risk.

Numerous studies have demonstrated that high-quality, developmental preschool programs have positive, long-term effects on the children participating in them, especially children from economically disadvantaged families. A program of high quality is one that has a curriculum appropriate to a four-year-old's cognitive and emotional development, trained and certified staff, low child-adult ratios, and a strong parental involvement component. These programs have been proven to :

- improve intellectual performance;
- reduce the need for placement into costly special education programs; and,
- lower rates of grade retention, high school dropout, delinquent behavior and teen pregnancy.

One of the most frequently cited studies examining the effects of quality preschool is the thorough, longitudinal and methodologically sound evaluation of the Perry Preschool project in Ypsilanti, Michigan. The study found that over time, the outcomes of the economically disadvantaged children who participated in the program were consistently better than those of a control group comprised of children with similar backgrounds who did not attend preschool. For example, by the age of 14, the preschool group's average test score was an entire grade level higher than that of the control group. This and other differences in outcomes between the preschool group and the control group are shown in Table 7.

TABLE 7

Selected Outcomes of the Perry Preschool Project

Student Outcomes	Experimental Group	Control Group	Difference
Early Childhood			
Post-program IQ	96	83	+13
Late Childhood			
School years in special education	16%	28%	-12%
Ever classified as mentally retarded	15%	35%	-20%
Adolescence/Early Adulthood			
Age 15 mean achievement test score	122.2	94.5	+27.7
High school graduation	67%	49%	+18%
Postsecondary education	38%	21%	+17%
Arrested or detained	31%	51%	-20%
Employed at age 19	50%	32%	+18%
Receiving welfare at age 19	18%	32%	-14%
Some personal savings	62%	48%	+14%
Median earnings at age 19	$2,772	$1,070	+$1,702
Birth rate (per 100 women)	68	117	-49

Source: W. Steven Barnett, "Developing Preschool Education Policy: An Educational Perspective," Educational Policy Analysis 4, no. 3 (1990): 245-265.

The benefits of quality preschool are not limited only to the Perry project. Programs in Maryland, Georgia, New York and Connecticut have all demonstrated similar, statistically significant results.

The annual per child cost of a developmental preschool can vary widely depending on the nature of the specific program.

- ❑ Current annual costs of a Perry-type program are estimated by the Congressional Research Service to range between $4,660 to $6,200 per child.

- ❑ In the Commonwealth, the statewide average cost per child for Head Start, a federally-funded preschool program that has been in operation for over 20 years, was $2,860 during the 1990-91 school year.

- ❑ Information provided by a sample of Virginia school divisions during the 1990-91 school year indicates that costs of preschool programs being operated in the Commonwealth tend to range between $2,200 and $5,300, and that these programs were provided primarily with federal and local funds.

Although the cost of providing quality preschool programs is high, the long-term benefits can be even greater. As mentioned in Chapter 2, a $1 investment in a quality preschool education can provide up to $3 in savings, even when discounted for inflation, by reducing future demand for special education, public assistance and criminal justice services.

Reading Programs in the Early Grades

To help ensure the educational success of at-risk students, schools are now placing greater emphasis on the development of basic reading skills in the primary grades. Indeed, common sense dictates that this is essential; yet many children, especially those from backgrounds of poverty, have difficulty mastering these skills, do not perform well academically as a result, and are subsequently retained in grade or tracked as slow learners.

One program that has been very successful in developing the reading skills of educationally at-risk children is Reading Recovery. Reading Recovery is a short-term, early intervention program that targets assistance to young children who are having difficultly in beginning reading; the goal of the program is to enable these children to read independently after 16 to 20 weeks. In addition to regular classroom reading instruction, the student works one-on-one with a specially trained teacher for 30 minutes each day. During these daily lessons, the student engages in reading and writing, and, with the help of the teacher, masters progressively difficult texts while attaining more advanced reading and writing skills. Once the student has become an independent reader, he or she no longer receives this intervention and another child who requires supplemental reading instruction enters into the program.

Reading Recovery is by no means the only program of this type, and other instructional models have been successful in developing basic skills in young children -- not only in reading, but in mathematics as well. Such successful programs share many of the following elements:

- instruction of children in small groups;
- tutoring by teachers, aides, parent volunteers or older children, ideally on a one-to-one basis;
- a systematic plan of instruction; and,
- frequent assessments of student progress.

Due to the individualized nature of instruction, the additional costs of effective reading programs are high. For example:

- The 1990 Congressional Report Shortchanging Children: The Impact of Fiscal Inequality on the Education of Students At Risk estimates the costs of the Reading Recovery program to be $2,000 per child in addition to regular costs;

- National experts estimate that an additional expenditure of approximately $800 per child for a reading program in the primary grades would produce effective results for at-risk children; and

- During the 1990-91 school year, the costs of supplemental reading programs operated by Virginia school divisions ranged between $875 and $2,000 per child, and were funded primarily with local and federal monies.

Many of Virginia's school divisions currently provide high-risk students with supplemental programs designed to strengthen basic reading and math skills. Some divisions that use federal Chapter 1 funds to provide these programs have been recognized nationally by the U.S. Department of Education as part of that agency's effort to identify and disseminate programs that successfully serve disadvantaged children. Exemplary programs have been implemented in urban, suburban and rural school divisions, which include the Cities of Danville and Roanoke, and the Counties of Buchanan, Russell and Wise.

Reduced Class Size in the Early Grades

The relationship between class size and student learning has been studied extensively over the past 30 years. Although these research efforts have varied widely in many aspects (e.g. size and scope of study, and operative definition of what constitutes a "small class"), findings do indicate that smaller classes:

- have the greatest impact on student learning when employed in the early grades (i.e. kindergarten through grade 3);

- have a positive effect on student learning when there are 15 or fewer students for every one teacher; and

- are especially beneficial for students who are economically disadvantaged.

Furthermore, despite the inconsistent research findings in this area, reduced class size appears consistently as a key component of effective prevention and intervention programs, such as developmentally appropriate preschool.

What, therefore, can we safely conclude about the relationship between reduced class size and student learning? A strong body of evidence indicates that instructional practices employed by teachers have a greater impact on learning than does the number of children in a classroom. Thus, the benefits of reducing class size appear to result from the kinds of educational practices that smaller classes enable. These practices include creating a classroom environment based on student-teacher interaction rather than managerial efficiency; providing a curriculum that encompasses a broad range of activities; and, increasing individualized instruction. Simply reducing the number of students in a classroom does not ensure that effective and appropriate educational practices will follow automatically; however, doing so does facilitate the implementation of these practices.

One conclusion receiving universal agreement is that reducing pupil-teacher ratios is costly, and that across-the-board class size reduction is probably not an efficient way to improve student achievement. In 1991, the Virginia Board of Education considered an initiative to lower pupil-teacher ratios in grades K-3 from the current state standard of 25:1 (24:1 in grade 1) to 23:1 over a two-year period. The estimated annual state cost of funding school divisions at this lower ratio would be approximately $9.8 million. Additionally, the lowering of pupil-teacher ratios could exacerbate a problem many school divisions already face: that of space limitations. Most divisions simply do not have the extra rooms to devote to the larger number of classes that would result from such an initiative. Therefore, reducing class size is a strategy that is probably best used selectively. For example, first grade class size could be reduced in high-risk schools as part of an effort to detect and resolve learning problems as early as possible.

At the request of the state Senate, a team within the Department of Education is currently conducting a study of staffing and achievement in Virginia's kindergarten through third grade classes. This team is reviewing and conducting research on the relationship between class size and student achievement, and examining current actual class size and staffing ratios. The team will make recommendations regarding appropriate class sizes and staffing mixes that increase student learning. A final report will be issued in April 1993.

Schoolwide Projects

As discussed in the first chapter of this report, research indicates that, due to the combined effects of poverty, schools serving high concentrations of poor children face an especially difficult task in educating these students. In light of these findings, some school divisions have begun to adopt strategies that target additional resources to schools serving high percentages of impoverished children. These resources are used to strengthen regular education programs and to provide schoolwide interventions that benefit all the children in these schools.

The following are common components of successful schoolwide projects, some of which have already been detailed in this report:

- developmental early childhood programs;
- variety in instructional techniques;
- reduced class size;
- supplemental services that have flexible selection procedures (i.e. students receive the support services they need for as long as they need them without going through a lengthy selection process);
- staff development activities centered around effective educational practices and teaching strategies;
- counsellors or program coordinators; and
- parental involvement.

One example of an effective schoolwide program that has been implemented in the cities of Baltimore, Philadelphia and Memphis is Success for All. Success for All targets students in grades pre-K to three, and was founded on the premise that every student will reach the third grade on time and with the basic skills necessary to succeed academically. In the words of its creators:

> *"The idea behind Success for All is to use everything we know about effective instruction for students at risk to direct all aspects of school and classroom organization toward the goal of preventing academic deficits from appearing in the first place; recognizing and intensively intervening with any deficits that do appear; and providing students with a rich and full curriculum to enable them to build on their firm foundation in basic skills."*

Success for All integrates developmentally appropriate preschool programs, reading programs, classroom tutors, a family support team and a strong staff development component. Additionally, individual assessments of student need and progress are frequently performed to ensure that adequate learning is taking place, to target additional assistance if necessary, and to discover if learning deficits have been eliminated, thus allowing individual interventions that are no longer necessary to be discontinued.

A four-year evaluation of Success for All indicates that the program has had substantial, positive effects on the educational outcomes of students at risk. These include:

- increased reading achievement;
- increased attendance; and,
- reduced special eduction placements for learning disabilities.

Furthermore, these positive effects increase with each year students spend in the program and with each successive year that new students are brought into the program.

As with other effective prevention/intervention programs, the cost of implementing a program like Success for All is high. For an elementary school with 500 students, the schoolwide cost above the regular program can range from $220,000 ($450 per pupil) to $430,000 ($870 per pupil), depending on the school's level of poverty -- greater numbers of tutors and social workers are required as the poverty rate and, thus, student need increases. Schools with 75 percent or more students in poverty are eligible to use federal Chapter 1 funds to offset some of the costs of schoolwide projects. In Virginia, nine schools currently use Chapter 1 monies for this purpose; however, these schools represent only six percent of the 147 schools statewide that are eligible to participate in these schoolwide projects.

Some Virginia school divisions have adopted local policies that target additional resources to individual schools with high percentages of at-risk students. For example, Norfolk City Schools spent $2.8 million in local funds during the 1990-91 school year to provide additional teachers for 12 "target" elementary schools. During the same year, Fairfax County spent $5.3 million in local funds to provide additional teachers, classroom aides and support personnel to 45 "special needs" schools.

The Need for a Comprehensive Approach

As discussed in the first chapter, living in poverty is closely associated with numerous "stress" factors, such as cognitive unreadiness for school, delayed language development, health problems, malnutrition and abuse/neglect. Programs and strategies that have been successful in improving the educational outcomes of poor children are those that prevent or eliminate these stressors. Although no single program can address all the stress factors a child may face, even if only one such factor is removed, the child's chance for educational success improves. Therefore, through a coordinated array of programs and services, each designed to reduce or eliminate a specific type of stress, it is possible to systematically improve the child's chance for success.

Schools are currently implementing innovative programs and practices to improve the educational outcomes of economically disadvantaged students; however, given the size, scope and nature of the problems facing children living in poverty, it is unlikely that schools will be able to resolve this issue by themselves. Educational responses need to be part of a larger societal effort to provide comprehensive prevention, intervention and support services. Such an effort must include collaboration on the part of families, communities, businesses and governments, as well as schools.

An example of such an effort is the State of Georgia's Family Connection initiative, which is building partnerships between the Departments of Education, Human Resources and Medical Assistance, 15 communities and the families in those communities. The goal of Family Connection is to maximize the potential for children and youth to achieve school success and become productive citizens by strengthening family, community and school linkages and restructuring organizational relationships and delivery mechanisms. Key to this initiative are family service coordinators who, with assistance from the community, ensure that families and children receive the support needed for success in school, including:

- day care and after school care;
- financial support;
- tutoring;
- job and parenting skills;
- physical and mental health services, including counseling; and,
- substance abuse services.

In Virginia, a team within the Department of Education is currently working with other state agencies to develop a comprehensive plan to serve at-risk students. This plan will identify existing at-risk programs, sources and uses of funds, and will provide recommendations on improving the delivery of coordinated services to at-risk students. The team is expected to issue its final report in Spring 1993.

Conclusion

This report has examined the relationship between student poverty and unfavorable academic outcomes, provided an overview of the changing demographics of child poverty, and presented information on educational responses that can improve the outcomes of poor children. The following key findings have strong implications, not only for education, but for providers of health, mental health, social and correctional services, as well as for society as a whole.

- ❑ Poor children are less likely than others to succeed in school due to the many stress factors associated with limited financial resources.
- ❑ Poverty, especially poverty among children, is increasing and has now reached levels not seen in over 25 years.
- ❑ Schools can provide prevention and early intervention programs that help disadvantaged children succeed academically; however, a societal response will be necessary to reduce or remove all of the obstacles that face these children and their families.

If the needs of the growing number of poor children go unattended, the result will be a deterioration in the quality of the nation's workforce, greater demand for public assistance programs and prison space, and a terrible loss of human potential. The urgency of this situation has been summarized both eloquently and succinctly by Children's Defense Fund President Marian Wright Edelman:

> *"(C)hild poverty is not just a problem for a few states or an isolated underclass; it is an American problem, leaving cold, hungry, sick, undereducated and hopeless children all across our nation. These children are White, Brown and Black; rural, urban and suburban; they come from two-parent and single-parent homes, and they represent America's future."*

APPENDICES

1992 SESSION

LD4065717

SENATE JOINT RESOLUTION NO. 38

AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by the Senate Committee on Rules on February 10, 1992)

(Patron Prior to Substitute—Senator Miller, Y.B.)

Requesting the Department of Education to examine the educational attainments of students living in poverty in the Commonwealth and the programs and costs associated with improving these students' educational outcomes.

WHEREAS, although the Commonwealth as a whole may boast impressive economic growth and educational achievement levels, this prosperity appears to be primarily concentrated in certain regions; and

WHEREAS, the higher dropout rates and lower educational attainment levels plaguing many communities throughout the Commonwealth further reduce the likelihood of these areas achieving economic stability and independence; and

WHEREAS, numerous studies have linked not only local wealth but certain socioeconomic factors, such as individual family poverty and educational levels, to student absenteeism and dropout rates; and

WHEREAS, in accordance with its mission to provide "essential educational services," the Department of Education already annually gathers and reports state and local statistical data in the public schools; and

WHEREAS, the collection of specific data regarding dropout rates and educational attainment levels of certain populations may assist the Commonwealth in improving educational levels statewide; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Department of Education be hereby requested to examine the educational attainments of students living in poverty in the Commonwealth and the programs and costs associated with improving these students' educational outcomes. The Department is requested to collect and analyze data by school division and shall coordinate with other agencies in gathering statistical data and other information.

All agencies of the Commonwealth shall provide assistance as requested by the Department.

The Department shall submit its findings and recommendations to the Governor and the 1993 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Official Use By Clerks

Agreed to By The Senate		Agreed to By The House of Delegates	
without amendment	☐	without amendment	☐
with amendment	☐	with amendment	☐
substitute	☐	substitute	☐
substitute w/amdt	☐	substitute w/amdt	☐

Date: _____ Date: _____

Clerk of the Senate | Clerk of the House of Delegates

APPENDIX B

Correlations Between 1990-91 School Division Data Elements

VARIABLES	Free lunch enrollments	Persons under 18 living in poverty	Median adjusted gross income	Local composite index	Total educational spending per pupil	Persons over 17 with high school diploma	Literacy Passport Test first-time pass rate	VSAP Test Grade 4 composite score	VSAP Test Grade 8 composite score	VSAP Test Grade 11 composite score	Student drop out rate	Student attendance	Overage students in grade 4	Overage students in grade 8
Free lunch enrollments	1.000													
Persons under 18 living in poverty	0.853	1.000												
Median adjusted gross income	-0.723	-0.757	1.000											
Local composite index	-0.316	-0.389	0.444	1.000										
Total educational spending per pupil	-0.022	-0.103	0.242	0.699	1.000									
Persons over 17 with high school diploma	-0.579	-0.627	0.692	0.558	0.415	1.000								
Literacy Passport Test first-time pass rate	-0.653	-0.584	0.495	0.336	0.153	0.503	1.000							
VSAP Test: Grade 4 composite score	-0.622	-0.514	0.487	0.321	0.196	0.544	0.542	1.000						
VSAP Test: Grade 8 composite score	-0.599	-0.530	0.584	0.472	0.243	0.676	0.546	0.465	1.000					
VSAP Test: Grade 11 composite score	-0.598	-0.484	0.504	0.444	0.297	0.680	0.590	0.584	0.606	1.000				
Student drop out rate	0.421	0.339	-0.206	-0.145	0.023	-0.204	-0.393	-0.315	-0.352	-0.364	1.000			
Student attendance	-0.335	-0.331	0.192	0.099	-0.081	0.304	0.496	0.254	0.268	0.288	-0.206	1.000		
Overage students in Grade 4	0.534	0.405	-0.350	-0.008	0.085	-0.268	-0.288	-0.349	-0.315	-0.298	0.454	-0.146	1.000	
Overage students in Grade 8	0.434	0.376	-0.352	-0.069	-0.125	-0.385	-0.411	-0.316	-0.397	-0.355	0.367	-0.185	0.551	1.000

Source: Virginia Department of Education analysis.

Full Definitions of Variables

Free lunch enrollments: Percent of Fall student membership approved for free school lunch on October 31, 1990. Source: Virginia Department of Education.

Persons under 18 living in Poverty: Percent persons under the age of 18 living below the federal poverty level. Source: 1990 Census, U.S. Department of Commerce.

Median adjusted gross income: Income value at which half locality incomes are above, and half below. Source: Virginia Department of Taxation.

Local composite index. Measure of local wealth that incorporates true value of real property, level of personal income and taxable retail sales. Source: Virginia Department of Education.

Total educational spending per pupil: Total funding from state, local, federal and sales tax sources divided by average daily membership. Source: Virginia Department of Education.

Student drop out rate. Percent of students in grades 7-12 who dropped out of school. Source: Virginia Department of Education.

Literacy Passport Test first-time pass rate: Percent of grade 6 students who passed all three Literacy Passport tests upon first administration. Source: Virginia Department of Education.

VSAP Test -- Grade 4 composite score: Composite score by national percentile rank on the Iowa Tests of Basic Skills (ITBS). Source: Virginia Department of Education.

VSAP Test -- Grade 8 composite score: Composite score by national percentile rank on the Iowa Tests of Basic Skills (ITBS). Source: Virginia Department of Education.

VSAP Test -- Grade 11 composite score: Composite score by national percentile rank on the Tests of Achievement and Proficiency (TAP). Source: Virginia Department of Education.

Persons over 17 with high school diploma: Percent local residents 18 years of age or older who have obtained a high school diploma or general equivalency diploma (GED). Source: 1990 Census, U.S. Department of Commerce.

Student attendance: Percent of students in grades K-12 who were absent from school 10 days or less. Source: Virginia Department of Education.

Overage students in Grade 4: Percent of grade 4 students 11 years of age or older. Source: Virginia Department of Education.

Overage students in Grade 8: Percent of grade 8 students 15 years of age or older. Source: Virginia Department of Education.

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APPENDIX C

Children in Virginia Living Below the Federal Poverty Level in 1990

As Reported by the U.S. Census Bureau

Locality	Total Persons Under 18	Total Persons Under 18 Below the Poverty Level	Percent Persons Under 18 Below the Poverty Level
Accomack	7,361	2,005	27.2%
Albemarle	14,967	1,417	9.5%
Alleghany Highlands	4,097	685	16.7%
Amelia	2,271	285	12.5%
Amherst	6,481	606	9.4%
Appomattox	3,070	427	13.9%
Arlington	25,285	2,226	8.8%
Augusta	13,210	1,097	8.3%
Bath	961	164	17.1%
Bedford	12,147	1,115	9.2%
Bland	1,410	82	5.8%
Botetourt	5,731	430	7.5%
Brunswick	3,723	1,204	32.3%
Buchanan	8,348	2,168	26.0%
Buckingham	2,956	780	26.4%
Campbell	11,596	1,433	12.4%
Caroline	5,010	720	14.4%
Carroll	5,741	936	16.3%
Charles City	1,510	327	21.7%
Charlotte	2,843	591	20.8%
Chesterfield	60,216	3,520	5.8%
Clarke	2,663	281	10.6%
Craig	996	95	9.5%
Culpeper	7,303	663	9.1%
Cumberland	2,096	386	18.4%
Dickenson	4,715	1,570	33.3%
Dinwiddie	4,922	784	15.9%
Essex	2,009	316	15.7%
Fairfax County/City	200,937	8,220	4.1%
Fauquier	12,878	599	4.7%
Floyd	2,734	371	13.6%
Fluvanna	3,082	439	14.2%
Franklin County	8,925	1,193	13.4%
Frederick	11,906	996	8.4%
Giles	3,528	596	16.9%
Gloucester	8,097	771	9.5%
Goochland	2,909	244	8.4%
Grayson	3,498	555	15.9%
Greene	2,750	473	17.2%
Greensville/Emporia	3,690	815	22.1%
Halifax	7,030	1,304	18.5%
Hanover	15,518	702	4.5%
Henrico	49,396	3,570	7.2%
Henry	13,156	1,732	13.2%
Highland	571	82	14.4%

Locality	Total Persons Under 18	Total Persons Under 18 Below the Poverty Level	Percent Persons Under 18 Below the Poverty Level
Isle of Wight	6,505	954	14.7%
King George	3,726	275	7.4%
King & Queen	1,529	289	18.9%
King William	2,905	279	9.6%
Lancaster	2,185	368	16.8%
Lee	6,360	2,181	34.3%
Loudoun	22,966	860	3.7%
Louisa	5,053	729	14.4%
Lunenburg	2,875	691	24.0%
Madison	2,913	436	15.0%
Mathews	1,668	186	11.2%
Mecklenburg	6,795	1,525	22.4%
Middlesex	1,724	267	15.5%
Montgomery	13,026	2,062	15.8%
Nelson	3,093	484	15.6%
New Kent	2,551	143	5.6%
Northampton	3,249	1,207	37.1%
Northumberland	2,022	476	23.5%
Nottoway	3,323	766	23.1%
Orange	5,143	348	6.8%
Page	5,066	768	15.2%
Patrick	3,879	481	12.4%
Pittsylvania	13,453	1,882	14.0%
Powhatan	3,332	190	5.7%
Prince Edward	3,494	990	28.3%
Prince George	7,174	399	5.6%
Prince William	64,784	2,635	4.1%
Pulaski	7,503	1,435	19.1%
Rappahannock	1,463	196	13.4%
Richmond County	1,677	376	22.4%
Roanoke County	17,730	666	3.8%
Rockbridge	4,091	738	18.0%
Rockingham	13,856	1,034	7.5%
Russell	7,085	2,005	28.3%
Scott	5,102	1,201	23.5%
Shenandoah	6,995	936	13.4%
Smyth	7,270	1,768	24.3%
Southampton	4,009	847	21.1%
Spotsylvania	17,316	924	5.3%
Stafford	17,765	777	4.4%
Surry	1,601	266	16.6%
Sussex	2,493	741	29.7%
Tazewell	11,446	2,672	23.3%
Warren	6,250	549	8.8%
Washington	10,204	1,892	18.5%
Westmoreland	3,545	726	20.5%
Wise	10,567	2,976	28.2%
Wythe	5,837	1,479	25.3%
York	12,391	826	6.7%
Alexandria	16,613	1,817	10.9%

Locality	Total Persons Under 18	Total Persons Under 18 Below the Poverty Level	Percent Persons Under 18 Below the Poverty Level
Bristol	3,894	1,110	28.5%
Buena Vista	1,354	278	20.5%
Charlottesville	6,980	1,416	20.3%
Chesapeake	43,060	5,618	13.0%
Colonial Heights	3,438	255	7.4%
Covington	1,388	244	17.6%
Danville	11,840	3,577	30.2%
Falls Church	1,827	69	3.8%
Franklin City	2,076	602	29.0%
Fredericksburg	3,379	536	15.9%
Galax	1,453	447	30.8%
Hampton	32,865	5,381	16.4%
Harrisonburg	4,678	778	16.6%
Hopewell	5,941	1,406	23.7%
Lexington	813	82	10.1%
Lynchburg	14,734	3,642	24.7%
Manassas	7,728	353	4.6%
Manassas Park	2,072	102	4.9%
Martinsville	3,588	877	24.4%
Newport News	45,895	9,842	21.4%
Norfolk	58,632	16,788	28.6%
Norton	1,118	363	32.5%
Petersburg	8,678	2,674	30.8%
Poquoson	3,010	111	3.7%
Portsmouth	26,928	7,423	27.6%
Radford	1,960	187	9.5%
Richmond City	41,364	14,819	35.8%
Roanoke City	21,129	5,268	24.9%
Salem	4,516	254	5.6%
South Boston	1,645	346	21.0%
Staunton	4,767	687	14.4%
Suffolk	13,914	3,522	25.3%
Virginia Beach	107,625	8,460	7.9%
Waynesboro	4,055	741	18.3%
Williamsburg/James City	9,283	752	8.1%
Winchester	4,615	679	14.7%
Colonial Beach	*	*	*
West Point	*	*	*
State Total	**1,480,087**	**197,382**	**13.3%**

* 1990 Census data not available for the towns of Colonial Beach and West Point.