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ABSTRACT

A 1970 census revealed that approximately half of the male population in the state of Georgia, 25 years of age or older, had completed fewer than eight years of school, the minimum requirement for literacy according to the United States Office of Education. In addition to the yearly income lost by these males (which amounts to 175 million dollars), and the related loss of 19 million state tax dollars each year, this low level of education presents other serious problems for the entire state. Besides the lower income levels and reduced job opportunities for the individuals involved, a low statewide level of education results in decreased voter participation, increased welfare costs, poorer civic involvement in politics, higher crime rates, and the related costs of maintaining law enforcement and criminal justice systems. Since the average cost of adult basic education is approximately $600.00 per person, using tax dollars to reduce illiteracy is both economical and practical for all concerned in that education solves the problem of economic self-sufficiency at the same time that it positively affects the educational levels of future generations. (Eleven tables are included.) (Author/MAI)

THE SOCIAL AND ECONOMIC IMPACT OF ILLITERACY IN GEORGIA

A Study Conducted

by the

Center for Educational Research

Georgia State University

for the

Georgia Right to Read Program
Georgia Department of Education

December, 1978

ABSTRACT

According to the 1970 census data, Georgia has almost 642,000 males, 25 years of age or older, with less than a high school education. Of these, almost 326,000 or 30% of the total male population, have completed less than 8 years of school. This 30% is considered to be illiterate by U.S. Office of Education standards which state that 8 years is a minimum requirement for literacy. In terms of dollars for the state of Georgia, the yearly income lost by these males, due to levels of education less than the eighth grade, amounts to $175 million, with a related loss of $19 million in yearly state tax dollars.

What does this mean for Georgia? For individual citizens, there is a $1,300 difference in yearly income levels due to job opportunities related to completion of an eighth grade equivalency, and greater differences for increasingly higher educational attainment. There is also a difference in income levels even when individuals occupy the same jobs. This is even more significant when one considers that the more educated individuals spend less time in the labor force due to longer periods of time in school. Other characteristics of a better educated individual include increased voter participation, home ownership, lower welfare levels, and a better understanding and participation in social and political issues and activities. Additionally, the educational level of one generation is positively related to the educational level of succeeding generations. An important fact to remember is that the lower levels of education are also related to increased welfare costs and crime. For example, the cost of the crime itself, imprisonment, lost income of the prisoner, law enforcement and court costs, and welfare expenditures to the prisoner's family are all state costs which must be added in some fashion to the lost state income tax. By combining

all of the figures, it is estimated that, in 1970, $10.4 billion was the cost of crime in the U.S. attributable to an inadequate education.

The average cost of an adult basic education program to raise the educational level of an individual to an eighth grade equivalency is approximately $600. It is evident that this expenditure would save tax dollars in the long run. Additionally, the vast majority of citizens would prefer their tax dollars going to make persons economically self-sufficient rather than supporting the current solutions to the problems which have resulted from inadequate education. The direct and indirect costs of ignorance and illiteracy far exceed the investment required to reduce them. The question is whether we shall pay for adequate educational preparation for all citizens or for the by-products of inadequate educational attainment, both now and in the future.

According to the 1970 United States Census data, 59.4 percent of all Georgians had not completed high school. Two percent of the population of Georgia was illiterate: that is, could not read or write in any language.[1] Forty-five other states had literacy rates higher than Georgia and a greater percentage of high school graduates.[2] For the state of Georgia, this means that more tax dollars per capita must be invested than these forty-five other states if it is to provide compensatory services that are functions of an inadequate education. The question which must be answered is whether or not this is a sound investment.

This presentation is largely a replication of a study done by Lillian Dean Webb[3] of the University of Iowa for the state of Florida which points out the savings to society and the state through an investment in adult education. Sincere appreciation must be expressed to Dr. Webb for her study as a base for this current report.

Education, Income and Jobs

Most individuals are aware that the greater the educational attainment of an individual, the greater are the chances of that individual to have a financially successful life. Through the funding of public education, there has been an attempt to provide each individual with a minimum education in order to attain that success. This is based on the realization that persons with higher education levels are less likely to become welfare recipients or need other kinds of public assistance. Individuals who successfully participate in adult education programs have the same realizations and have some anticipation that their earning power will be increased as their educational attainment is increased. Data indicate that this is a legitimate expectation.

As indicated in Table 1*, the estimated lifetime income of an individual increases as his/her level of educational attainment increases. One can quickly see that a graduate from high school earns $78,000 more in a lifetime than an individual who drops out of high school, even though the dropout works an additional year or two by entering the job market earlier. The average yearly income for a person leaving school before completing eight years is $5,391 compared to $10,304 per year for the high school graduate--a difference of $4,913 per year in income. The difference between a high school graduate's estimated lifetime income and that of a college graduate is $193,000, yet the college graduate usually spends four less years in the work force.

TABLE 1

Estimated Lifetime Income of Males From Age 18 to 64 by Educational Attainment

Years of Schooling Completed	Estimated Lifetime Income
Elementary:	
Less than 8 Years	$248,000
8 Years	301,000
High School:	
1-3 Years	338,000
4 Years	416,000
College:	
1-3 Years	474,000
4 Years	609,000
5 or More Years	705,000

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-60, no. 92 (March, 1974).

Even though Table 1 graphically points out the vast disparity between expected lifetime incomes of the different educational levels as they have existed, one could falsely assume that the laws of supply and demand would diminish the differences if significant numbers of individuals

*The data is only reported for males because most records are only available for male achievement.

raised their educational levels. Evidence suggests, however, that exactly the opposite has taken place. It has been found that as the supply of high school graduates increases relative to high school dropouts or elementary graduates, the income of high school graduates has increased. As an example, in 1949, male high school graduates were earning 134 percent of the income of male elementary school graduates. By 1966, male high school graduates were earning 156 percent of the income of male elementary school graduates.[4] The income differential had risen 22 percent despite a large increase in the number of high school graduates. The same trend can be found in income differentials between high school graduates and college graduates even though there has been a significant increase in the number of college graduates.[5]

As stated earlier, greater educational attainment yields greater earned income, but one might expect this to be true due to the different type jobs one could qualify for with an increase in educational attainment. Census data, however, shows that among people holding the same job, the ones with greater educational attainment earned higher incomes. For example, plumbers with less than a high school education earned an average of $8,870 per year compared to plumbers with a high school education who averaged $9,443 per year. The figures for mechanics were $7,397 and $8,016 per year and for construction laborers, the figures were $5,229 and $5,770.[6] Thus, one can conclude that a higher educational attainment doesn't just increase a person's income as a result of being able to secure a higher paying job, but in fact, also provides greater income for performing the same job.

Societal Contributions

To break from the economics of educational attainment, one must consider some less tangible benefits of education. Even though voter

participation has been declining, it can still be noted that the greater the educational level, the greater the percentage of participation (See Table 2). In non-presidential election years, the trend remains firm. Perhaps increased levels of educational attainment is a way to combat the steady decline of voter participation.

TABLE 2

Reported Percentage of Voter Participation in General Elections by Years of School Completed

Years of School Completed	Percentage Reported Voted			
	1964	1968	1972	1974
Elementary:				
0-8 Years	59.0	53.4	47.4	34.4
High School:				
1-3 Years	65.4	64.2	52.0	35.9
4 Years	76.1	75.5	65.4	44.7
College:				
1-3 Years	82.1	81.2	74.9	49.6
4 Years or More	87.5	85.0	78.8	61.3

Source: U.S. Bureau of the Census, Current Population Reports Series P-20, Nos. 192 and 253, and Statistical Abstracts of the U.S. 98th Annual Edition, 1977, Table 814.

There are other non-market sorts of benefits to be derived from education that are, nontheless, valuable to the individual in living a fuller life. The expected benefits include such things as increasing the probability of home ownership and filling out one's own income tax return.[7] Some even less tangible benefits are the ability to understand social and political issues and an overall increase in participation in societal activities.

Even though these societal contributions are valid, they are not likely to persuade decision makers to invest in plans to increase

educational attainment. Therefore, one must redirect this argument to the financial return on the investment in education. It has been noted what the individual can expect in return for additional education, but attention must now be turned to what society can expect in return for an individual's educational upgrading.

Expected Returns to Society

Just as the individual expects a return on time and effort for participation in adult education, society should rightfully expect a return for its investment as well. This return should be both a direct, economic return as well as a number of indirect returns. One of those indirect and long range returns is that of increasing the educational level of future generations. Educational attainment and success of one generation is directly related to the educational attainment and success of the next generation. It has been found that two additional years of education by parents results in 1.1 additional years of education for each child of those parents.[8]

Indirect benefits are more difficult to measure and evaluate; therefore, much of the case for investment in adult education can and should be presented in terms of direct benefits, which translates to simple economics.

Is Adult Education a Sound Investment for Tax Dollars?

The first phase of answering this question involves applying an economic model to national census data to determine the financial savings or gains that society would receive in the form of national income tax revenues if dropouts attained a high school education through a G.E.D. or basic adult education program.

Table 3 shows the educational attainment of males, ages 25 to 29 in the 1972 Census, and a percentage distribution at each level of

educational attainment. One can derive from this information that 1,338,000 or 19.5 percent of this chosen population has not completed four years of high school. The figures are a composite of 1,128.000 or 17.0 percent of the white males of this sample and 260,000 or 34.9 percent of the black males of this sample. It follows that only 80.4 percent of all males in this sample have completed four years of high school.

TABLE 3

Educational Attainment for Males 25 to 29 Years of Age, March, 1972, by Race (in thousands)

	ELEMENTARY		HIGH SCHOOL		COLLEGE		
	Less than 8 Years	8 Years	1-3 Years	4 Years	1-3 Years	4 Years	5+ Years
White Males	207	190	731	2543	1246	845	630
Percentage	3.3	3.0	11.5	39.6	19.5	13.3	9.9
NonWhite Males	56	39	165	298	96	48	42
Percentage	7.5	5.2	22.5	40.1	12.9	6.4	5.7
Total Males	263	229	896	2822	1341	893	673
Percentage	3.7	3.2	12.6	39.6	18.8	12.5	9.5

Source: U.S. Department of Commerce, Bureau of the Census, "Educational Attainment: March, 1972," Current Population Reports, Series p. 20, no. 243 (November, 1972), Table 1.

Summary of Table 3 by Race (in Thousands)

	Less than Years High School	4 Years High School or More
White Males	1128	5255
Percentage	17.8	82.3
NonWhite Males	260	484
Percentage	34.9	65.1
Total Males	1388	5729
Percentage	19.5	80.5

If these same individuals were to attain an educational level of four years of high school completed, a hypothetical distribution would appear as in Table 4. This hypothetical distribution was calculated by assuming that if all persons completed high school who had not done so at this point, some would continue on to higher education at a rate comparable to that of nonwhites. In using the nonwhite rate, a conservative estimate is presented in that only about 25 percent of nonwhite males have completed one or more years of college compared to 42.7 percent of white males.

In applying the hypothetical model, it should be noted that an additional 695,000 white males and 160,000 nonwhite males are projected to complete high school and remain at that level, and an additional 433,000 white males and 99,000 nonwhite males are projected to receive some college training.

An even more conservative approach, as shown in Table 5, is the hypothetical distribution of educational attainment if all those dropouts completed high school, but none continued on to college. In this model, an additional 1,128,000 white males and 260,000 nonwhite males would complete high school with none projected to continue on to college. (See Tables 4 and 5 on the following page.)

Having estimated the number of additional persons at the various levels of educational attainment, one can calculate the projected annual lifetime income of these individuals under a policy of high school completion based upon the median income as reported in 1972 (Table 6). The calculated lifetime incomes can be seen in Table 1.

These lifetime incomes have been applied to actual and hypothetical distributions of educational attainment and the differences between the

TABLE 4

Hypothetical Distribution of Educational Attainment
for Males 25 to 29 Years of Age, Under
a Policy of High School Completion
(in Thousands)

	High School Completion	College		
		1-3 Years	4 Years	5+ Years
White Males	3219	1469	956	729
Percentage	50.5	23.1	15.0	11.4
NonWhite Males	458	147	73	65
Percentage	61.6	19.8	9.8	8.7
Total Males	3677	1616	1029	794
Percentage	51.7	22.7	14.5	11.2

TABLE 5

Hypothetical Distribution of Educational Attainment
for Males 25 to 29 Years of Age, Under
a Policy of High School Completion
Assumption that No Additional Graduates Continue to College
(in Thousands)

	High School Completion	College		
		1-3 Years	4 Years	5+ Years
White Males	3662	1246	845	630
Percentage	57.4	19.5	13.3	9.9
NonWhite Males	558	96	48	42
Percentage	75.0	12.9	6.4	5.7
Total Males	4210	1341	893	673
Percentage	59.1	18.8	12.5	9.5

two are considered to be a measure of national foregone income (that is, potential income not earned as a result of a lower educational level). The estimates of national foregone income were decreased by 33 percent as an "ability adjustment" since increased incomes are associated with factors other than educational attainment such as ability, I.Q., parental characteristics, and socio-economic status. The 33 percent correction factor is generally accepted as appropriate in studies examining the ability-education-income relationship.[9]

TABLE 6

Median Income by Educational Attainment of Males 25 to 34 Years Old by Race (1972)

Years of School Completed	Median Income	
	Nonwhite	White
Elementary:		
8 Years or Less	$4,743	$6,618
High School:		
1-3 Years	5,749	7,910
4 Years	6,789	8,613
College:		
1-3 Years	7,699	9,190
4 Years	8,715	11,212
5 Years or More	9,955	11,808

Source: U.S. Department of Commerce, Bureau of the Census, "The Social and Economic Status of the Black Population in the U.S., 1972," Special Studies, Current Population Reports, Series p. 23, No. 46, p. 25.

The discussion to this point has still tended to focus on the individual's financial gain. It is now time to look at society's potential financial gain. Foregone income means foregone income taxes at both the state and national level. Data indicate that an average of 28.3 percent of personal income was collected in tax revenues, with 16.5 percent going to the federal government and 11.8 percent for state

taxes. When the figures are applied to foregone income (Tables 7 and 8), it is found that $270,115 in federal income tax and $193,173 in state income tax were lost in the first model and $182,132 in federal income tax and $130,252 in state income tax were lost in the second during 1972 if these hypotheses were correct.

TABLE 7

Estimated Annual Income Foregone as a Result of the Inadequate Education of Males 25 to 29 Years Old (1972)

	Foregone Annual Income Hypothesis A*	After 33% Adjustment	Foregone Annual Income Hypothesis B**	After 33% Adjustment
White Males	$1,953,243	$1,289,140	$1,305,908	$ 861,899
NonWhite Males	527,155	347,922	366,566	241,933
Total Males	2,480,398	1,637,062	1,672,474	1,103,832

*Hypothesis A--All Males 25 to 29 Years of Age Completing High School with a Percentage Continuing to Higher Education at the Rate of Nonwhites Normally Continuing.

**Hypothesis B--All Males 25 to 29 Years of Age Completing High School with Non Continuing to Higher Education.

Simple subtraction of the cost for providing adult education for these individuals from the foregone tax revenues would, or course, provide the amount of potential gain of federal and state revenues. These figures are important but perhaps too broad for practical purposes. For this reason, the model shall be applied to the census figures that are generated concerning educational attainment in Georgia.

TABLE 8

Foregone Annual Federal and State Income Tax Under a Policy of High School Completion (1972)

	Hypothesis A	Hypothesis B
Foregone Annual Income	$1,637,062	$1,103,832
Average Federal Income Tax Rate	x 16.5%	x 16.5%
Annual Foregone Federal Income Tax	270,115	182,132
Foregone Annual Income	1,637,062	1,103,832
Average State Income Tax Rate	x 11.8%	x 11.8%
Annual Foregone State Income Tax	$ 193,173	$ 130,252

Application to Georgia

According to the 1970 Georgia Census data of the males 25 years of age and older, 641,872 had less than a high school education. This figure represents 58 percent of the total male population over 25 years of age. Of these, 326,618 had completed less than eight years of school, the level at which the United States Office of Education considers a person to be literate. This means that 30 percent of the Georgia males

25 years old or older are illiterate. Table 9 shows the distribution by educational level of all males 25 years of age and older.

TABLE 9

Educational Attainment for Georgia Males
25 Years of Age or Older, 1970 Census, By Race

Level of Educational Attainment	All Males	White Males	Nonwhite Males
Elementary:			
0-4 Years	28,303	12,024	16,279
1-4 Years	115,376	57,573	57,803
5-6 Years	104,277	68,629	35,648
7 Years	78,662	61,272	17,390
8 Years	88,996	72,332	16,664
High School:			
1-3 Years	226,258	185,302	40,956
4 Years	231,557	200,466	31,091
College:			
1-3 Years	101,364	93,064	8,300
4 Years	72,939	68,334	4,605
5 or More Years	51,454	47,949	3,505
TOTAL	1,099,186	866,945	232,241

Source: U.S. Department of Commerce, Bureau of the Census, Census of the Population, 1970, Vol. 1, Characteristics of the Population: Georgia, Part 12, Table 51, p. 245.

When the lifetime incomes established in Table 7 are applied to this distribution, it can be shown that the total lifetime income of the group of males with less than an eighth grade education would be $81 billion. In contrast, if all these males were to receive an eighth grade education through a basic adult education program, their total lifetime income would be $98 billion. After deflating the difference of these two sets of lifetime incomes by 33 percent, it can be seen that there is $7 billion of foregone income to these Georgians.

Whenever there is a loss in personal income, there is a loss to the federal government and the state in foregone income tax. When the

percentage of 11.2 (the average percent of income going for Georgia personal income tax) is applied, one finds that the state of Georgia will not collect $784 million as a result of these males not having received an eighth grade education.

The obvious question, then, becomes what would it cost the state of Georgia to provide this basic level of an eighth grade education. According to a 1975 report to Congress by the Comptroller General of the United States, entitled The Adult Basic Education Program: Progress in Reducing Illiteracy and Improvements,[10] the average cost for each adult basic education participant completing an eighth grade equivalency for the period of 1968-1972 was approximately $470. If one arbitrarily raises this cost to $600 to account for inflationary increases since 1972, one finds that the cost of raising the 326,618 males with less than eight years of education to that equivalency would be approximately $196 million.

In summary, an investment of $196 million would hypothetically produce a 40 percent return on the investment. There are few, if any, other investments that the state might make that would yield this level of return.

Other Benefits of a Better Education

Millions of dollars are expended yearly in welfare payments, with Georgia spending 123 million alone on AFDC in 1976.[11] Certainly a great percentage of this expense is education related (experts estimate between 26 and 50 percent).[12] But figures are not available to allow accurate predictions on the savings by increasing the educational level of the citizens. In that eligibility for these benefits are based upon income and, as show, income is a function of education, there can be little doubt of the relationship. Unemployment

compensation also requires scrutiny but only in general terms due to a lack of data and the complexity of the situation. Certainly, all persons unemployed do not lack an adequate education, but it is true that those with lower educational levels are the last to be hired and the first to be fired.[13] Other factors adding to the complexity of the unemployment compensation discussion are, first, that one has to have been initially employed in order to collect the benefits and, second, that the lower wages earned by those with inadequate educational levels results in receiving lower unemployment benefits.

Crime

Much evidence exists to demonstrate the high correlation between inadequate educational attainment and crime and/or juvenile delinquency. The figures in Table 10 show that the median years of school completed by those in correctional institutions in the U.S. is significantly lower than that of the general population. Forty-five percent of the general population has not attained a high school education, whereas 75 percent of those in prison have not completed high school. It is further noted that 96 percent of the newly committed inmates have not finished high school and that 20 percent are functionally illiterate.[14]

The figures in Table 11 show that the number of years of education completed by felons in Georgia is significantly lower than that of the general population of the state, which follows the same pattern discovered in the national data. Fifty-eight percent of the general male population of Georgia has not attained a high school diploma, whereas 85 percent of the male felons have not completed high school. Additionally, a striking finding of the Georgia data concerns the large number of youths under age 25 who lack a high school diploma. The figure is 49 percent of all felons, thus indicating the recency

of the failure to complete the schooling process. Additionally, the average total daily inmate count (all crimes) was 5,530, with a per person yearly cost of $21,410 for incarceration, in 1970. By 1973, the total number of prisoners in Georgia had risen to 8,310, and to 9,718 in 1975. Combining this cost with the foregone income (almost 40 million dollars per year) and expenditures to the prisoner's families makes the cost substantial to the state.

TABLE 10

Educational Attainment of Persons in State and Federal Prisons and Reformatories Compared to that of the General Population, 1970

Years at School Completed	Percentage of Inmates in Correctional Institutions	Percentage General Population
Elementary:		
1-4 Years	6.4	5.3
5-7 Years	17.6	9.1
8 Years	16.2	13.4
High School:		
1-3 Years	34.8	17.4
4 Years	19.1	34.0
College:		
1-3 Years	4.9	10.2
4 or More Years	1.0	11.0
Median Years	9.8	12.2

Source: U.S. Department of Commerce, Bureau of the Census, "Persons in Institutions and Other Group Quarters, July, 1973," Table 24, and Statistical Abstracts of the U.S. 94th Annual Edition, 1974, Toble 175.

TABLE 11

Educational Attainment of Persons (Felons only) in State of Georgia-1970

Years at School Completed	Percentage of Felons in Correctional Institutions
Elementary:	
1-4 Years	Under age 25 - 1.6
	Over age 25 - 8.0
5-7 Years	Under age 25 - 9.0
	Over age 25 - 10.9
8 Years	Under age 25 - 9.7
	Over age 25 - 5.4
High School:	
1-3 Years	Under age 25 - 28.2
	Over age 25 - 12.0
4 Years	Under age 25 - 7.4
	Over age 25 - 5.3
College:	
(Some or All)	Under age 25 - .09
	Over age 25 - 1.4

Source: Georgia Board of Corrections, Annual Report, 1970.

These figures do not create a cause and effect relationship, but they do show that crime and educational attainment are related. A more direct relationship could be shown between crime and socio-economic status. As previously stated, there is a direct relationship between educational status and economic status. This leads one to the notion that individuals with lower educational attainment are less able to supply their socio-economic needs through employment, which may increase the likelihood of turning to illegal means to satisfy those needs. As an example, a 10 percent increase in family income in areas of high delinquency has been estimated to reduce delinquency rates by 15 to 20 percent.[16]

Crime has economic as well as social implications for society. The many factors to be considered include:

1. the actual cost as a result of the crime,
2. the cost of imprisoning the individual,
3. the foregone income of the inmate,
4. the cost of additional law enforcement officers needed in areas of high crime rates,
5. the cost of court proceedings, and
6. the welfare expenditures paid to the prisoner's family while imprisoned.

Although the social and economic factors associated with crime are difficult to determine, certain facts are indisputable. Public expenditures in the U.S., all government levels, for the criminal justice system in 1975 were as follows: Police-$9756 million, Judicial-$2068 million, Legal services-$933 million, Public Defense-$280 million and Corrections-$3843 million.[17] In Georgia, in 1975 alone,[18] more than $12 million was spent on police protection and almost $6 million was spent on corrections. Additionally, Georgia had 110,000 families receiving Aid to Families with Dependent Children in 1974.[19] Surely these figures are related to, and could be reduced by, more adequate education levels among the population of the state. By combining all of these figures, one study has estimated 10.4 billion dollars as the best estimate of cost in the U.S. of crime attributable to inadequate education for 1970.[20] With Georgia containing about 1/40 of the U.S. population, the figure as applied to Georgia would be about 1/4 billion as the estimate of cost of crime attributable to an inadequate education.

Summary and Conclusions

It is a fact that citizens are asked to pay substantial taxes for education, including adult education, but as demonstrated here, these

expenditures for education save tax dollars in the end by making other governmental services less expensive. The vast majority of citizens would be happy to see their tax dollars going to make persons economically self-sufficient rather than to provide more welfare "handouts."

As noted, education for the present makes good sense for the future. The higher an individual's educational level, the higher his/her children's educational attainment is likely to be. Adult education can better be expressed not as an expenditure, but as an investment in people.

The question before us is not what can we afford for adult education but, rather, can we afford not to spend what is necessary for adult education. We all must realize that the direct and indirect cost of ignorance and illiteracy far exceed the investment required to reduce ignorance and illiteracy. We can pay for adequate education now, or we can pay for the by-products of inadequate education in the future. Which is the sounder investment?

Footnotes

1. U.S. Department of Commerce, Bureau of the Census, Census of the Population 1970, Vol. 1, Characteristics of the Population: Georgia, Part 12, Table 51, p. 245.

2. U.S. Department of Commerce, Bureau of the Census, Statistical Abstracts of the United States 98th Annual Edition, 1977, Table 222, p. 138.

3. Lillian Dean Webb, "Savings to Society by Investing in Adult Education," Adult Illiteracy, (March, 1977).

4. Samuel S. Bowles, "Aggregation of Labor Inputs in the Economics of Growth and Planning: Experiments with a Two-Level CES Function," Journal of Political Economy, Vol. 78, no. 1 (January/February 1970) and George E. Johnson, "The Demand for Labor by Educational Category," Southern Economics Journal, Vol. 37, no. 2 (October, 1970), pp. 190-207.

5. Seyman E. Harris, "General Problems in Education and Manpower," in Seyman E. Harris, ed., Economic Aspects of Higher Education (Paris: Organization of Economic Cooperation and Development, 1964), pp. 49-50.

6. U.S. Department of Commerce, Bureau of the Census, "Occupational Characteristics," Subject Report, Final Report PC (2) 7A, pp. 300-307.

7. Burton A. Weisbroad, External Benefits of Public Education (Prineeton University Press, 1964), p. 25.

8. Thomas I. Ribich, Education and Poverty (Washington: The Brookings Institute, 1968), pp. 101-107.

9. Webb, op. cit., p. 61.

10. Department of Health, Education, and Welfare, Office of Education, The Adult Basic Education Program: Progress in Reducing Illiteracy and Improvements, Report of the Comptroller General of the United States to the Congress (Washington, D.C.: Department of Health, Education, and Welfare, 1975), pp. 5-6.

11. U.S. Department of Commerce, Bureau of the Census, Statistical Abstracts of the United States 98th Annual Edition, 1977, Table 547, p. 348.

12. Webb, op. cit., p. 68.

13. Webb, op. cit., p. 68.

14. National Advisory Council on Adult Education, Annual Report 1974 (Washington, D.C.: U.S. Government Printing Office, 1974), p. 15.

15. U.S. Department of Commerce, Bureau of the Census, State Abstract of the U.S: 98th Annual Edition, 1977.

16. Belton Fleisher, "The Effect of Income on Delinquency," American Economic Review, Vol. 56, no. 1 (March, 1966), pp. 118-137 as cited by Henry M. Levin, The Effects of Dropping Out, A Report to the Select Committee on Equal Opportunities of the United States Senate (Washington, D.C.: U.S. Government Printing Office, 1972), p. 41.

17. U.S. Department of Commerce, Bureau of the Census, State Abstract of the U.S. 98th Annual Edition, Table 317, p. 188.

18. U.S. Department of Commerce, Bureau of the Census, State Abstract of the U.S. 98th Annual Edition, Table 297, p. 179.

19. U.S. Department of Commerce, Bureau of the Census, State Abstract of the U.S. 98th Annual Edition, Table 299, p. 180.

20. Webb, op. Cit., p. 70.