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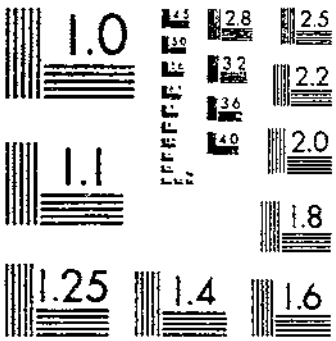

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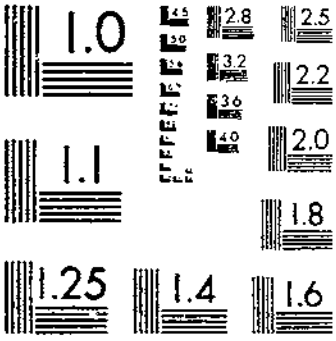

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Factors Associated with Level-of-Living in Washington County, Mississippi

United States Department of Agriculture

Economic Research Service

Technical Bulletin No. 1501

ABSTRACT

Step-wise multiple regression and typological analysis are used to analyze selected factors influencing vertical mobility and achievement of 418 male household heads in Washington County, Miss. The analysis is based on two indexes that were also used to construct a typology of vertical mobility: an index representing the respondents' level-of-living at childhood (a respondent's rank in this index is one of the 13 independent variables in the analysis), and an index for achieved level-of-living (the dependent variable in the analysis).

Education, age, and urban residence have the greatest influence on the blacks' upward mobility, while for whites, education and farm residence are the most positive factors. For all respondents, postponement of family development, place of birth, and military experience have negligible influences on achievement.

Key Words: Achievement; educational achievement; low-income families; mobility; opportunity; race; regional analysis; regression analysis; rural areas; rural families; rural poverty; rural social structure.

ACKNOWLEDGMENTS

The author is indebted to the following people in the Economic Research Service for their collaboration in the publication of this report: Calvin Beale, David Brown, Gladys Caspar, Robert Coltrane, John Crecink, Clark Edwards, Walter Epps, Manuel Goldberg and Melvin Janssen.

The author is also grateful for the valuable comments and guidance received from the following: Morris Rosenberg of the National Institutes of Mental Health, Muriel Cantor, Howard Vollmer, Harold Wahr of the Department of Sociology, The American University, Washington, D.C., and James Copp, Department of Sociology, Texas A&M University, College Station, Texas.

Washington, D.C. 20250 August 1974

CONTENTS

TABLES

TABLES--continued

APPENDIX TABLES

FIGURES

SUMMARY

In a 1971 survey of male household heads in Washington County, Miss., race was found to be the most important characteristic associated with vertical mobility and achieved level-of-living.

When the respondents were ranked along an achieved level-of-living index, the average black respondent ranked substantially below the average white respondent. Adjustments in the equation used to explain achievement--such as an increase in the blacks' formal educational attainment and migration of the rural blacks to urban areas--resulted in some increase in the blacks' achievement level. However, none of the adjustments, whether treated individually or collectively, closed the gap between the achievement levels of the black and white respondents.

The influence of ascribed level-of-living--which constituted a respondent's socioeconomic "quality of life" at childhood--was negligible on subsequent achievement, primarily because of the more powerful effect of race and because education altered the original relationship between ascribed status and achievement. However, from a conceptual standpoint, race cannot be separated from ascribed status, and therefore this relationship between race and ascribed status becomes a pivotal factor influencing the achievement levels of the study population.

Regardless of race, formal educational attainment was very important in significantly raising respondents' level-of-living, although with different payoffs.

Education of the spouse was also significantly associated with the respondents' achievement level. Black spouses had a slightly higher incidence of employment than did the white spouses (68 percent, compared with 62 percent). Also, a relatively higher proportion of black spouses with 12 years of education were employed (blacks, 52 percent; whites, 39 percent). Nevertheless, the households of the white respondents were much more likely to benefit from the impact of the spouse's educational attainment.

Blacks living in urban areas demonstrated greater achievement than blacks in rural areas, while the reverse was clearly evident for the white respondents. Urban blacks with urban backgrounds had achieved more than urban blacks with farm backgrounds or rural blacks with rural backgrounds.

For whites, age had a negligible influence on achievement because of the positive impact of ascribed status and the more powerful effects of formal education and farm residence.

Age was a predictor of black achievement after the effects of formal education had been accounted for. Younger blacks tended to have higher educational attainment levels than older blacks. Consequently, younger age acted, in part, as a proxy for higher education. For the older black men, formal education did not contribute significantly to their achievement.

Neither military service nor special training appears to have had any significant impact on achievement when considered among the constellation of other factors in the model.

FACTORS ASSOCIATED WITH LEVEL OF LIVING IN WASHINGTON COUNTY, MISSISSIPPI[1]

by

John L. McCoy, Economic Research Service 2/

INTRODUCTION

Economic deprivation has been a persistent problem for many southern rural people, particularly those who are black and live in the Mississippi Delta. Studies of the causes of poverty have often concerned the extent to which economic deprivation is repetitive--that is, determined by repetitive cultural patterns--and the extent to which it is societally and individually determined.

The research on which this report is based provides data for further clarification of these issues. The report examines the extent to which various factors had a positive or negative influence on a person's achievement. Thus, it considers poverty in the context of vertical mobility and in the context of how social and economic factors interact to influence vertical mobility. Specifically, the report examines the extent to which a person's social and economic status at childhood and several other variables--race, educational attainment, and place of residence, for example--affected his achievement. Childhood socioeconomic status was defined as "ascribed level-of-living" and achieved status, as "achieved level-of-living."

The analysis is based on a sample of male household heads in the Mississippi Delta who were 18-45 years old. It was reasoned that a concentration of respondents within the age range for employment would bring into sharper focus those social and economic problems that relate directly to the employable population and their immediate dependents. The following study objectives, therefore, are limited to the defined population:

(1) To specify factors associated with the achieved level-of-living of male household heads in the Delta;

(2) To elaborate the manner in which these factors function as causal and intervening variables;

(3) To examine the cyclical theories of poverty within the framework of a vertical mobility model;

(4) To ascertain the extent to which a respondent's ascribed level-of-living contributed to this achievement when considered among other variables such as race, educational attainment, and place of residence.

1/ This report is based on the author's unpublished Ph.D. dissertation, Factors Influencing Vertical Mobility and Achieved Level of Living in a Mississippi Delta County, The American University, Washington, D.C., 1973.

2/ Currently on the staff of the Division of Supplemental Security Studies, Social Security Administration, Washington, D.C.

SETTING OF THE STUDY

Washington County, Miss., the study location, is in the southwestern sector of the Mississippi Delta Yazoo area (fig. 1). Four major markets serve the area. Among these, Greenville--the county seat of Washington County--is the largest.

While the county's industrial sector has continued to grow, commercial agriculture has remained a dominant form of economic activity. The commercial farm operations in the county evolved from plantation-type organizations predominantly associated with cotton production, and this has had a significant historical influence on the lives of the residents. Because of the relatively high degree of industrial development within the county, it has a proportionately larger urban population than other counties in the Yazoo area, as well as a relatively high incidence of nonagricultural occupations. In several respects, the county represents a microcosm of the problems and characteristics of the Yazoo area, especially the problem of chronic poverty.

Washington County has high rates of displacement from agriculture and outmigration. As the plantation system adapted to more efficient technological methods of harvesting, blacks--who made up the largest portion of sharecroppers--were gradually forced out of agriculture or forced to take jobs as farm laborers. In 1954, almost 95 percent of the 6,185 black farm operators were split about evenly between sharecroppers and tenants. By 1959, sharecroppers had all but disappeared and the number of tenants had declined to 650. A surplus farm labor force in the county has placed additional demands for employment in nearby urban areas, and these stresses have subsequently been felt throughout the Nation.

The socioeconomic characteristics of Washington County were ideal for studying the effects of various factors on the level-of-living of a regional population group. It had a balanced racial population. In 1970, 52 percent of Greenville's population was black, and of the county's rural population, 57 percent was black. The county had sufficient industrial development to permit a comparison of urban occupations.

DATA COLLECTION

Data were obtained through personal interviews with 418 male household heads who were residents of Washington County, Miss. Because a major consideration of the study design was to exclude the effects of age and retirement on job discrimination, an age ceiling of 45 was maintained. Hence, the universe of investigation was defined as Washington County male household heads who were 18 through 45 years old. The design that was the most appropriate, given the constraints of time and cost, was an area-probability sample stratified by race and urbanization.

Data from black respondents were collected by black interviewers, and data from white respondents, by white interviewers. There was a prescreening which used census and local housing survey material to determine black and

STUDY LOCATION

The eleven counties which represent the Yazoo Mississippi Delta.

Washington County is the study site.

Figure 1

white households. Final data collection, which covered a period of approximately 3 months, began during the last week of February 1971 and terminated at the end of May.

Data collection instruments underwent two pretests. The first pretest was made in Oktibbeha County, Miss., with a random selection of 35 young male household heads. The purpose of this test was to determine what problems the respondents might have in understanding the questionnaire, and what problems there might be in its overall design and implementation.

The second pretest was made in Washington County, the study site, with a population similar in characteristics to that selected for the actual survey. This pretest was made (a) to determine if a projected screening ratio concerning age, race, and male household-head status was similar to estimates based on Census data, (b) to focus on logistic problems of matching interviewers and respondents, and (c) to further evaluate the data collection questionnaire.

ANALYTICAL METHODS

Essentially, three major techniques were used in the analysis: (1) principal component analysis (10, 11), (2) step-wise multiple regression analysis (7, 21), and (3) cross tabulation using a test-factor approach (16, 17). 3/

Principal component analysis was used to derive two indexes: (a) an index of ascribed level-of-living and (b) an index of achieved level-of-living. These two indexes were used to construct a model of vertical mobility that accounted for ascribed status and achievement. In addition, the index of ascribed status was treated as one of several independent variables hypothesized to explain achievement, with achievement--the dependent variable--being represented by the index of achieved level-of-living. Step-wise multiple regression was the major technique used to analyze the model of vertical mobility.

Cross tabulation was used for two major purposes, both related to the multiple regression model: (a) to develop a logical understanding of the interaction effects of the variables, and (b) to test subsequent hypotheses suggested by the entry order of variables into the equation. Cross tabulation was also used in a standard format, presented as a typology of vertical mobility, and its results were compared with results of the regression model.

The typology was designed to account for level of origin, as indicated by rank on the ascribed index, and "distance" moved, as indicated by the achieved index. Respondents were classified according to decile origin. Degree of movement was standardized according to net change between indexes of more than 1/2 sigma from the point of origin. Seven classes of mobility were developed: Low stable, from low upward, from middle downward, middle stable, from middle upward, from high downward, and high stable.

3/ Underscored numbers in parentheses refer to references listed at the end of this report.

Measurement of Achieved Level-of-Living

The index of achieved level-of-living included 25 household possession items, net household per capita income, and a measure of crowding determined by a rooms-to-person ratio. Possessions included: kitchen sink, flush toilet, hot and cold piped water, bathtub, shower, septic tank/cess pool, cold water only, electricity, range, refrigerator, radio, window screens, car, truck, washing machine, black and white television, color television, telephone, air conditioner, vacuum cleaner, sewing machine, toaster, furnace, home freezer, and automatic dishwasher.

Principal-component analysis was used to determine a single weighted score for a possessions component. This component was then analyzed along with net household per capita income and the crowding ratio, also using Hotelling's method of component analysis, to derive the achieved level-of-living index. As mentioned above, a respondent's rank in this index was treated as the dependent variable in the step-wise multiple regression analysis.

Measurement of Ascribed Level-of-Living

Measurement of ascribed level-of-living was designed to encompass a concept articulated by Max Weber (9), which emphasizes the relative importance of "life chances" and class situation in influencing achievement. This influence was defined as:

> ...the typical chance for a supply of goods, external living conditions, and personal life experiences, insofar as this chance is determined by the amount and kind of power, or lack of such, to dispose of goods or skills for the sake of income in a given economic order.

In operationalizing this concept, the following nine items were used in the same component-analysis procedure used to determine achieved level-of-living: (1) Father's presence during childhood, (2) father's major occupation, (3) father's highest level of formal education, (4) family's possession of radio, (5) family's possession of vehicle, (6) self or sibling presence in school or absence from school because of work, (7) self or sibling presence in school or absence from school because of insufficient clothing, (8) self or sibling receipt of clothing from sources other than family or relatives, and (9) size of childhood family.

Measurement of Independent Variables

Factors treated as independent variables in the multiple-regression model were selected on the basis of empirical, including historical, evidence, as well as on general mobility theory (3, 4, 6, 13, 14, 15). In addition to ascribed status, these variables were: Race, highest level of education, spouse's education, age, respondent's age at birth of first child, farm residence, town or village residence, farm origin, town or village origin, birth rank, and

military service experience. Most of the variables were directly quantifiable; however, some were derived variables such as ascribed rank and birth order.

Results of the multiple regression analysis are discussed below, followed by results of the typological analysis.

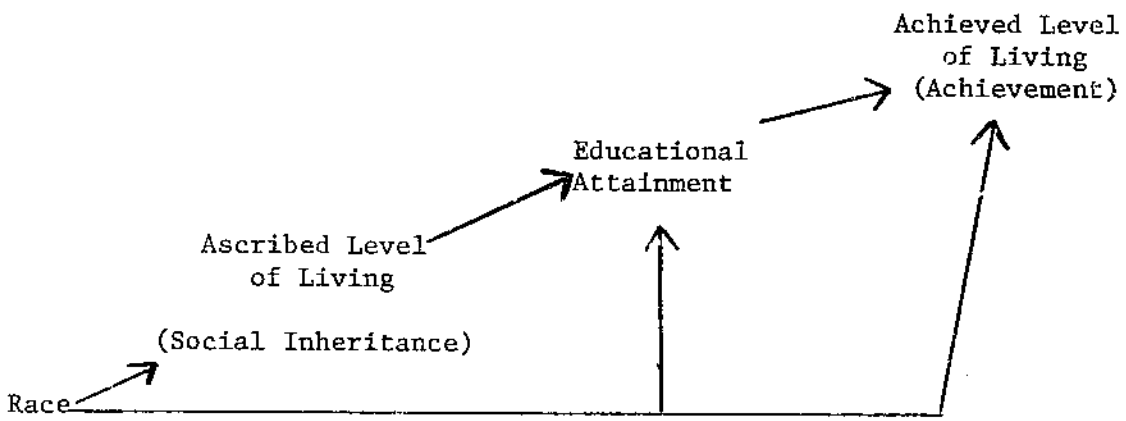
RESULTS OF MULTIPLE REGRESSION ANALYSIS

Effects of Race

Race was the most significant and pervasive variable in the analysis. It not only influenced the respondents' overall vertical mobility and achievement, but also had strong effects on all other variables hypothesized to explain achievement. As figure 2 illustrates, race had an antecedent effect on the black respondents' ascribed status, and there was a continuous relationship between race, educational attainment, and ultimate achievement.

Although race was not included as a component in the ascribed level-of-living index, it is clear from the distribution of cases in the scattergrams (figs. 3 and 4) that there was a high degree of black-white polarization along the index continuum. This polarization seriously influenced the overall impact of ascribed status on achievement.

Figure 2--Patterns of influence of race, ascribed status, and formal education on achievement



Blacks not only ranked lower than whites in both indexes, but, on an overall basis, their rank in the achievement index was lower than their rank in the ascribed index (table 1). Hence, compared with a relative starting position, the overall tendency was for blacks to manifest downward mobility. This occurred despite the floor and ceiling effects implicit in the method of classification--that is, ranks at polar extremes could only remain stable or move in the opposite direction.

Results of the step-wise multiple regression analysis, where race is considered along with 12 other factors treated as independent variables, further demonstrate the significant effect that race had on a respondent's

SCATTERGRAM OF ASCRIBED LEVEL-OF-LIVING RANK BY ACHIEVED LEVEL-OF-LIVING RANK FOR BLACK RESPONDENTS, WASH. CO., MISS., 1971

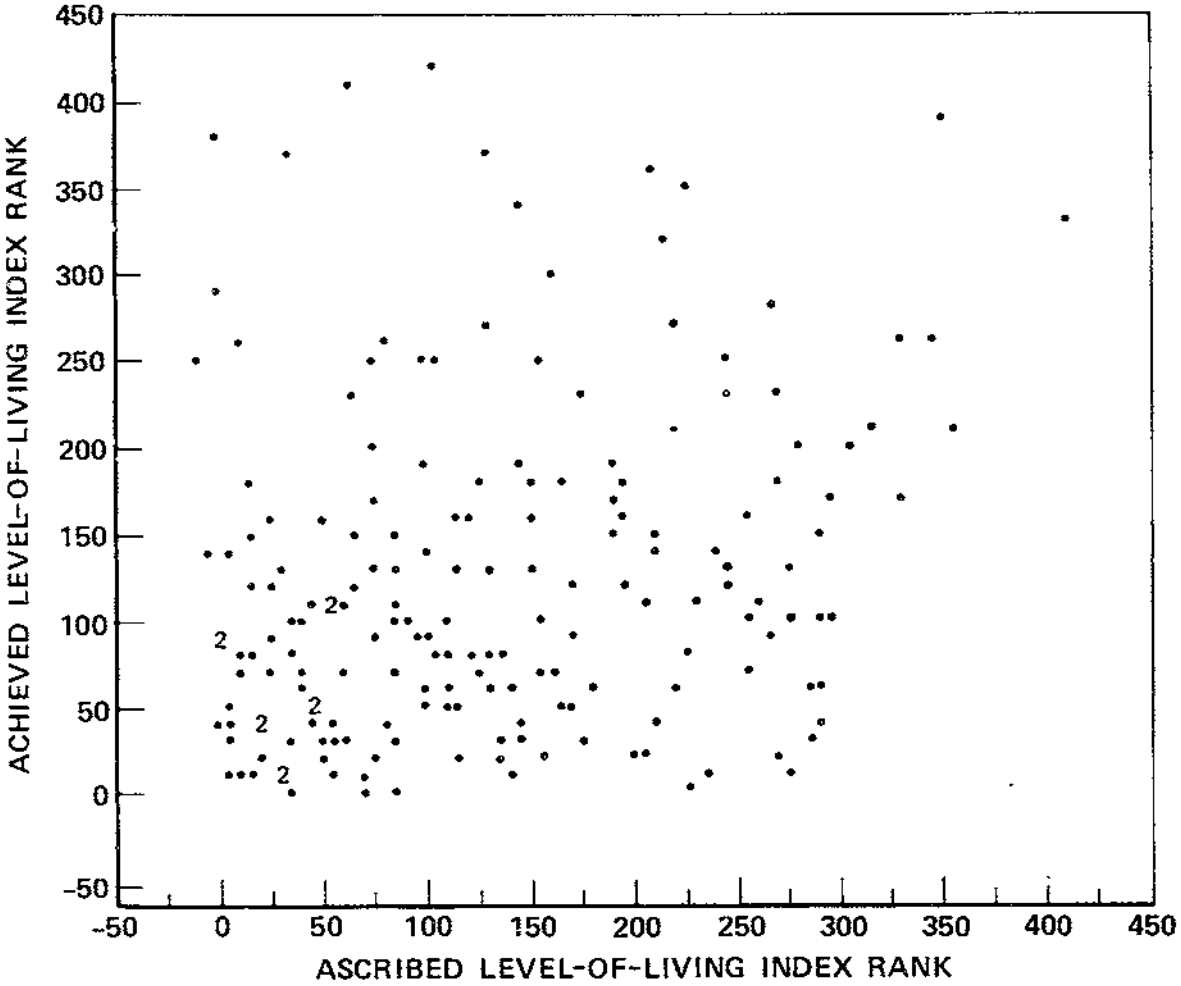


Figure 3

SCATTERGRAM OF ASCRIBED LEVEL-OF-LIVING RANK BY ACHIEVED LEVEL-OF-LIVING RANK FOR WHITE RESPONDENTS, WASH. CO., MISS., 1971

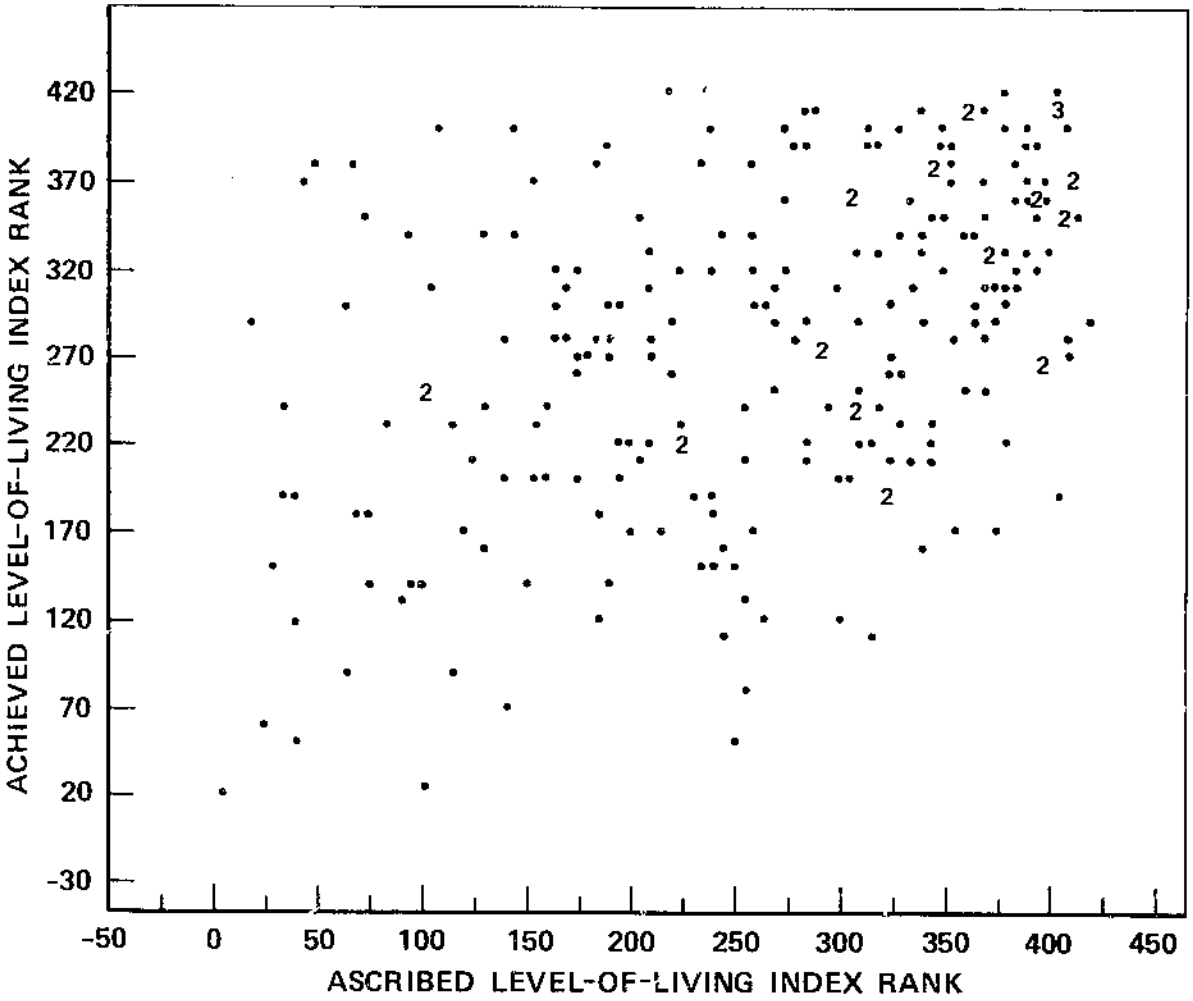


Figure 4

Table 1--Average level-of-living ranks and vertical mobility, by race, Washington Co., Miss., 1971

Item	Black	White
	Rank	Rank
Average childhood level-of-living rank	138.2	265.5
Average achieved level-of-living rank	122.4	278.2
Average vertical mobility	-15.8	+12.7

rank in the achieved level-of-living index. When race is examined along with the other variables in the overall regression, the average black respondent ranks 103 units lower than the average white respondent in the achievement index (table 2). That 61 percent of the total variation can be explained by the combination of items with race included (R^2 = .6134), and that the R^2 drops sharply when race is statistically controlled (R^2--blacks = .3566; R^2--whites = .3970), further demonstrates the paramount importance of race in specifying the direction of mobility and the level of achievement.

Effects of Ascribed Level-of-Living Status

One test of the effect of a respondent's rank in the ascribed level-of-living index would be to posit a direct correlation between that rank and his rank in the achieved level-of-living index. However, that approach tends to obscure the dynamic relationships between ascribed status and intervening variables, which, in turn, influence achievement. It is clear from the results of the regression analysis (table 2) that when other variables are statistically controlled, a respondent's rank in the ascribed level-of-living index had a negligible effect on his rank in the achievement index. Race and educational attainment were two variables that tended to obfuscate the effect of ascribed status.

Because education has been shown by other researchers to have a strong association with ascribed status and race, this factor was included in the present analysis to further specify the effects of ascribed status on achievement. In the step-wise regression analysis, education was shown to further suppress the impact of ascribed status through its intervention between that status and achievement. Therefore, when both race and education are included in the overall regression, they significantly reduce the impact of ascribed status, although they are both related to it.

The finding that a respondent's rank in the ascribed level-of-living index had no direct, statistically significant influence on achievement does not

Table 2--Results of step-wise multiple regression analysis of 13 independent variables influencing achieved level-of-living rank of respondents, Wash. Co., Miss., 1971

Attribute	Overall		Black		White	
	Regression coefficient	t-value	Regression coefficient	t-value	Regression coefficient	t-value
Constant	0.93		-85.85		6.80	
Independent variable: 1/			---	---	---	---
(1) Race (Black)	-103.39	10.88[a](1) 2/	---	---	---	---
(2) Highest level of education	8.87	5.86[a](2)	9.22	3.76[a](1)	8.23	4.23[a](1)
(3) Spouse's education	8.45	5.11[a](3)	6.97	2.94[a](2)	9.20	3.86[a](2)
(4) Age	1.46	2.42[b](4)	2.39	2.47[b](3)	0.51	0.66
(5) Respondent's age at birth of first child	0.87	0.79	0.17	0.35	0.93	0.59
(6) Farm residence	5.06	0.58	-28.66	1.79[d](5)	24.84	2.42[b](3)
(7) Town or village residence	-14.15	1.11	-36.32	2.05[c](4)	8.80	0.46
(8) Farm orientation	-17.19	1.63	-19.40	1.17	-9.17	0.66
(9) Town or village orientation	-13.62	1.08	-16.55	0.76	-1.67	0.12
(10) Ascribed rank	0.04	0.81	-.03	0.49	0.09	1.45
(11) Middle birth rank	1.58	0.18	2.85	0.21	*	*
(12) Youngest birth rank	5.93	0.52	30.86	1.69	-15.55	1.24
(13) Military service experience	-1.69	0.18	5.81	.34	-7.22	0.66
Total R^2		.6134		.3566		.3970
Total cases	(418)		(184)		(234)	

1/ Variable (1) was measured as a score of 1 for Black and 0 for White; variables (2), (3), (4), (5) and (10) were treated as continuous variables with a score value of 1 for each unit of attribute represented; variables (6), (7), (8), (9), (11), (12) and (13) were assigned values of 1 for presence of the attribute. Urban residence and orientation were treated as deletion variables. Oldest birth rank was also treated as a deletion variable.

a = significant at the 0.01 level or beyond. b = significant at the 0.02 level or beyond.
c = significant at the 0.05 level or beyond. d = significant at the 0.10 level or beyond.

2/ Numbers in parentheses denote order of entry into equation.

negate the validity of Weber's statement relating to life chances and class situation. In light of the previous analysis, the conclusion is that race serves to further specify the impact of ascribed status, while formal education acts as an intervening variable between ascribed status and achievement.

There are two ways to consider the impact of ascribed status. If this complex variable were completely determ istic, then there would be no vertical mobility--that is, everyone would remain at the same level at which he started. Such a form of social determinism might be represented by repetitive cultural patterns such as those described in the culture of poverty theories, or by structural factors such as foreclosed economic opportunities or societal and institutional constraints. On the other hand, if there were no societal or structural constraints operating or if these were random occurrences, achievement would depend on fortuitous events and on environmental opportunities directly associated with ability or skills. The pattern of mobility that has existed in most American communities is some greater or lesser variant of the more deterministic form. If the more deterministic hypothesis were accepted, the cyclical theories of intergenerational poverty (12) and the vicious circle theories of mobility (13) would gain support. However, these theories tend to minimize race as a pivotal variable in that they do not stress cross-ethnic comparisons. But, it is the racial factor that explains a large share of the variation in achievement and which thus tends to obscure the cyclical and vicious circle interpretations of the more deterministic pattern (8, 19).

To reiterate, results of the multiple regression analysis indicate that ascribed status had no discernible influence when other variables were statistically controlled. Two variables which tended to obfuscate the impact of ascribed status were race and formal education. Results of further analysis to clarify this finding suggested that race acts both as an antecedent and as a suppressor variable, while formal education intervenes between ascribed status and achievement.

The lack of any significant influence of ascribed status on achievement is demonstrated by (1) scattergram presentation of the two indexes (figs. 3 and 4), (2) overall and within-group regressions, and (3) a series of deletion regressions in which race and education are deleted individually and together. The scattergrams for blacks and whites suggest a high degree of polarity within the distributions on each of the indexes; i.e., blacks tend to cluster at the lower end of both index continua, while whites tend to be distributed toward the upper end of both index continua, although without the same degree of concentration as exists for blacks. This suggests that race may be a reasonably good proxy for ascribed status as measured in the present study. However, even within each racial classification, ascribed status has no significant impact on achievement. This suggests that either there is no direct relationship whatsoever, or that some other variable or variables may be intervening to account for achievement.

The remaining key variable appears to be formal education (table 2). Furthermore, when race and formal education are deleted together from the overall regression equation, ascribed status enters the equation first with an R^2 of .46. This is demonstrated in table 3, which suggests the very powerful antecedent and intervening effects of race and formal education.

Table 3--Entry order of ascribed status into step-wise regression equation, with race and education deleted separately and together

Type of deletion specification	Entry order of ascribed status into equation	Regression coefficient	Significance level of t value	Total R^2
Race 1/	Third 2/	.2203	.01	.50
Education	Third 3/	.1614	.01	.58
Race and education	First	.3559	.01	.46

1/ While the effects of race were statistically controlled, all the effects of race could not be removed because of its antecedent relationship with ascribed and achieved index rank.

2/ Education of respondent and spouse entered first and second, respectively.

3/ Race and education of spouse entered first and second, respectively.

As explained later, the role of formal education is a complex one strongly associated with family background (ascribed status). It will be recalled that the components contained within the ascribed status index reflect the father's educational level, his occupation, and the existence of socioeconomic deprivation during childhood. For blacks, plantation existence during childhood carries with it a high probability that the father will have a very low educational attainment level, and that there will be a higher incidence of deprivation reported. A conclusion suggested by these relationships is that ascribed status has no discernible impact precisely because of its high interaction with race and formal education. Remove the effects of these variables, and ascribed status does indeed influence achievement.

Results of this analysis and the findings presented later reiterate the impact of race as an antecedent of ascribed status, and the influence of education as a factor intervening between ascribed status and achievement. This process is shown diagramatically in figure 2. This is evident from the significance levels of the regression coefficients when various deletion assumptions are used and also by the primary importance of ascribed rank when the effects of race and education are statistically removed.

The conclusion from the present findings is that the complex of conditions, including race, which go into establishing one's social inheritance are among the most powerful factors influencing ultimate life success. If race were no longer a determinant of social inheritance, and ceased to influence other variables affecting achievement, a more opportunistic variant of mobility would result.

Methods of testing the concept of a "vicious circle" or cycle of poverty have differed widely. However, whether the concept is operationalized after the manner of Blau and Duncan (3) and Lipset and Bendix (13) or by means of an ethnographic or case study approach such as that of Lewis (12), many researchers

agree that earlier advantages or disadvantages have some important influence on later achievement. The research problem presented by these theoretical perspectives remains one of distinguishing those influences relating to life-chances after the net effects of race have been elaborated. 4/

The conclusion reached on the basis of the present findings is that race cannot be separated from ascribed status. To the extent that it can be statistically, but not conceptually, distinguished, ascribed status has an insignificant positive effect on achievement. However, ascribed status, like race, has an important antecedent influence on education, which, in turn, has an effect on achievement.

TYPOLOGICAL ANALYSIS OF VERTICAL MOBILITY STATUS

The use of a typological format introduces into the analysis the concept of emergent and conjoint influence (Rosenberg, 16, p. 191). In the derived typology, it is possible to compare the relationship of different variables with each of seven classes of vertical mobility. These classes represent the conjoint relationship between achievement of the respondent and his ascribed status.

There are some important distinctions between the typological and the regression approach to the study of vertical mobility. The typology demonstrates stability at three standardized levels of comparability. The step-wise multiple regression model uses achievement as a dependent variable displayed along a rank continuum. The typology allows the analyst to say something about downward mobility, which is not directly ascertainable in the regression model. The step-wise multiple regression model introduces simultaneous statistical controls over multiple predictors and allows one to estimate their differential impact on the index of achievement. While both approaches allow for a treatment of mobility processes, the relationship between the two techniques is more conceptual than empirical.

Application of a typological approach introduces another analytical perspective, i.e., another conceptual framework designed to illuminate structural and intervening effects which are sometimes obscured in a regression analysis. In this sense, the two methods were intended to be both complementary in their supporting evidence while also demonstrating contrasts resulting from classification procedure.

Effects of Race

Results of the typological analysis support the overall conclusion relating to black mobility. The data show that 30 percent of the black respondents had low-stable positions, compared with 4 percent of the white respondents (table 4). Thirty percent of the black respondents moved from middle ranked

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4/ Duncan (8, pp. 85-108) has convincingly demonstrated, using a path analysis approach, that black poverty stems largely not from "...the legacy of poverty but from the legacy of race."

Table 4--Distribution of respondents on typology of vertical mobility, by race, Washington County, Miss., 1971

Race 1/	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black	184	30	17	30	10	4	7	(1)	2/ 100
White	234	4	9	7	14	21	20	25	100
Percent of total	---	16	13	17	12	14	15	14	100
		Number							
Total cases	418	58	53	59	51	65	61	71	---

1/ Chi Square = 162.92 d.f. = 6 p = .001

2/ In some instances, tables may not add to 100 percent because of rounding.

positions, compared with 7 percent of the white respondents. In the ascribed index, a greater proportion of blacks ranked below middle index positions, while a greater proportion of whites ranked above these positions. (This supports the evidence presented in the scattergram--figs. 3 and 4.)

However, there was some upward mobility for blacks, contrary to their overall downward tendency. Seventeen percent of the black respondents moved upward from low ranks, compared with 9 percent of the white respondents; and 4 percent of the black respondents moved upward from middle positions, compared with 21 percent of the white respondents.

Effects of Formal Education

In American middle-class society, formal education has generally been recognized as an important determinant of upward mobility. Although educational attainment may be a necessary condition for entry into the job market and for further occupational advancement, it is evident that it is not the only factor influencing either mobility or achievement.

Educational attainment has been shown to be influenced by parental and personal values, by early school opportunity, by family size and income, by place of residence, and other factors (Lipset and Bendix, 13, pp. 91-101; Duncan, 8, p. 104; Coleman, 5; Blau and Duncan, 3, pp. 316-320). Rural people, generally, have attained less formal education than have urban or metropolitan residents, and black people of southern rural backgrounds have attained far less education than have whites of similar residential backgrounds (U.S. Bureau of the Census, 20).

From the perspective of Delta history, the completion of a high school education has not been necessary for most farm work. Traditionally, and continuing into the present decade, whites have been more often employed in supervisory plantation jobs and in entrepreneurial, white-collar, and professional occupations (McCoy, 14, 15). Whites have, therefore, been more likely to realize the direct benefits of formal schooling. For black residents of the Delta, however, educational credentials have become a relatively more crucial element for achievement.

Table 5 compares differences between ranks in the achieved and ascribed level-of-living indexes by race and educational attainment. The results show that of the respondents with low levels of educational attainment, whites were much more upwardly mobile than were blacks. Forty-four percent of the black respondents with 8 years or less of education had low-stable positions, compared with 16 percent of the white respondents with the same educational level. Twenty-nine percent of the black respondents with this educational level moved from middle-ranked positions downward, compared with 19 percent of the white respondents. Even among respondents with 12 years or more of schooling, blacks were less likely than were whites to show progress and were more likely to be downwardly mobile.

Findings from the regression analysis (table 2) emphasize the significance of education for both blacks and whites. It is interesting to distinguish the different relationships between formal education and achievement as presented

Table 5--Educational attainment of respondents, by race and vertical mobility status, Washington County, Miss., 1971

Completed formal education	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black: 1/									
8 years or less	75	44	17	29	9	--	--	--	100
9-11 years	53	28	26	32	6	4	4	--	100
12 years or more	56	14	9	29	16	11	20	(1)	100
Percent of total	---	30	17	30	10	4	7	1	100
		Number							
Total respondents	184	56	32	55	19	8	13	(1)	---
		Percent							
White: 2/									
8 years or less	31	16	26	19	16	16	3	3	100
9-11 years	52	8	13	11	27	21	13	6	100
12 years or more	151	--	4	3	9	22	26	36	100
Percent of total	---	4	9	7	14	21	20	25	100
		Number							
Total respondents	234	9	21	16	32	50	48	58	---

1/ Chi Square = 46.76 d.f. = 12 p = .001
2/ Chi Square = 87.07 d.f. = 12 p = .001

by the cross tabulation analysis and the multiple regression analysis. The cross tabulation data emphasize the lack of progress shown by blacks relative to whites with corresponding levels of education. The regression technique, while holding several other factors constant, stresses the relative progress that can be made through educational attainment. A somewhat surprising finding was that blacks, relative to whites, had a higher degree of achieved level-of-living for each additional year of educational attainment (blacks--β = 9.22; whites--β = 8.23). However, this relationship appears to have been influenced by the fact that blacks averaged a much lower level-of-living. Also, because their average educational attainment was much lower (blacks, 9.2 years; whites, 12.3 years), additional years of schooling had a relatively more significant impact on achievement. Hence, it can be argued that while an increase in formal education helped to move black people up relative to their origin, it had comparatively little influence when judged within the context of white achievement.

Whites not only had a higher average educational attainment, but more importantly, they had additional advantages which enhanced their achievement. However, there were certain early socioeconomic factors which directly influenced trends toward increasing amounts of education for both groups. Place of origin and father's educational level both had a causal relationship with a respondent's educational attainment.

Regardless of race, farm origin was associated with generally lower levels of education (table 6). However, a greater proportion of the whites with farm backgrounds had 12 or more years of schooling. Only 18 percent of the black respondents who had spent their childhood on farms had that many years of schooling, compared with 54 percent of the white respondents. Nonfarm origin had a positive influence on the educational attainment of both groups, but it had a comparatively greater influence on the educational level of the white respondents. Eighty-four percent of the white respondents who had spent their childhood in towns had 12 or more years of schooling, while only 59 percent of the black respondents from towns had achieved this educational level.

However, the above findings suggest that the effect of community of origin on educational attainment may have been conditionally influenced by local occupational structures and by race. A majority of the black respondents had not only been born on farms or plantations (65 percent), but their fathers had been employed in low-status jobs such as farm laborer, tenant, and small farm operator. Such occupational characteristics would suggest a strong relationship between father's sharecropper or farm laborer status and son's ultimate educational attainment.

Because 85 percent of the blacks had fathers who had completed only 8 years or less of education, an exhaustive analysis of this relationship was not possible. However, a cumulative influence was demonstrated for whites and a similar trend was suggested for blacks (table 7). The more educated respondents tended to have the more educated fathers. Moreover, race influenced educational attainment of the fathers, particularly at the lower levels. Among the respondents whose fathers had attained 8 years or less of education, blacks were less likely than whites to have completed at least 12 years of education (blacks, 27 percent; whites, 44 percent).

Table 6--Educational attainment of respondents, by race and place of origin, Washington County, Miss., 1971

Race and place of origin	Total cases	Years of completed formal education			Total
		8 or less	9-11 years	12 or more	
	Number	Percent			
Black: 1/					
Farm and open country	120	53	28	18	100
Towns	22	18	23	59	100
Cities	41	17	32	51	100
Percent of total	---	41	28	30	100
		Number			
Total respondents	183	75	52	56	---
		Percent			
White: 2/					
Farm and open country	141	19	27	54	100
Towns	51	6	10	84	100
Cities	42	2	21	76	100
Percent of total	---	13	22	64	100
		Number			
Total respondents	234	31	52	151	---

1/ Chi Square = 30.82 d.f. = 4 p = .001
2/ Chi Square = 21.0 d.f. = 4 p = .001

While the evidence suggests that there is a relationship between race and education, it is also evident that there are interdependencies between race and place of origin, and between race and current residence. The latter relationship reflects a trend for the more educated blacks to locate in cities. Although there was no appreciable relationship between residence and educational attainment for whites (table 8), black urbanites were much more likely to have acquired at least 12 years of education than were black farm residents (42 and 12 percent, respectively).

These findings indicate a rather intricate linkage between place of origin, education, residence, and vertical mobility. Ascribed status, through father's education and level of living, interacts with other factors such as community

Table 7--Educational attainment of respondents, by race and educational attainment of father, Washington County, Miss., 1971

Race and father's educational attainment	Cases	Respondent's educational attainment			Total
		8 years or less	9-11 years	12 or more years	
	Number	Percent			
Black:					
8 years or less	161	43	30	27	100
9-11 years	14	36	14	50	100
12 or more years	9	(1)	(2)	(6)	---
Percent of total	---	41	29	30	100
		Number			
Total respondents	184	75	53	56	---
		Percent			
White:					
8 years or less	128	19	37	44	100
9-11 years	30	13	10	77	100
12 or more years	76	3	3	95	100
Percent of total	---	13	22	64	100
		Number			
Total respondents	234	31	52	151	---

Note: Figures in parentheses refer to actual number of respondents rather than percentages.

of origin to influence educational attainment, which in turn, further influences residential living patterns and migration.

In the Delta, the more urbanized areas have tended to offer better opportunities for black people than the rural areas have. The first move for many blacks, after leaving the plantation is to a nearby urban area. A concentration of higher educated urban blacks, in association with a finding discussed later that black urbanites were significantly more mobile and had higher achievement levels, suggests that those with more education have obtained some relative benefits. It also suggests that the urban environment and its demanding occupational structure recycles a need for higher levels of education and training.

Another factor affecting the level of living of the respondents was their wives' educational attainment. Recent studies in the economics of the household strongly suggest that there are significant returns to the education of women. Schultz (18, p. 32) has observed that "...it appears to be true that, as the

Table 8--Educational attainment of respondents, by race and place of current residence, Washington County, Miss., 1971

Current residence	Respondents	Education			Total
		8 years or less	9-11 years	12 or more years	
	Number	Percent			
Black: 1/					
Urban	105	29	29	42	100
Village	28	29	50	21	100
Farm and open country	51	70	18	12	100
Percent of total	---	41	29	30	100
		Number			
Total respondents	184	75	53	56	---
		Percent			
White: 2/					
Urban	118	12	26	62	100
Village	17	6	12	82	100
Farm and open country	99	16	19	65	100
Percent of total	---	13	22	65	100
		Number			
Total respondents	234	31	52	151	---

1/ Chi Square = 33.1 d.f. = 4 p = .001
2/ Chi Square = 4.6 d.f. = 4 p = n. s.

level of education of wives rises, other things equal, the earnings of their husbands also rise." Although the present analysis does not attempt to respond to this observation in depth, it does lend empirical support. For both blacks and whites, the higher the educational attainment of a respondent's wife, the higher the respondent's level-of-living and the more likely the tendency for upward mobility (table 3). However, whites obtained much greater benefits (whites--β = 9.20; blacks--β = 6.97).

This was true contrary to the evidence that black spouses were somewhat more likely than white spouses to be employed full-time, (blacks--68 percent; whites--62 percent), which partly reflects a greater abundance of domestic and

service-type occupations in Washington County (15, Chp. 2). In terms of educational attainment, black wives with more education were more likely to be employed full-time, and those with at least 12 years of education had a higher incidence of employment than did white spouses with the same amount of education (table 9). These data further demonstrate that at each level of education, black spouses were more likely to be employed. This employment pattern among black women no doubt reflects a need to further contribute to their family's level-of-living and a desire to retard downward mobility.

There are several possible reasons for the relatively greater contribution of a white spouse's educational attainment. A higher correlation between a white spouse's education and that of her husband (table 21) suggests that the effect of an unemployed, but highly educated, wife may be an artifact of her husband's superior earning ability, although the multiple regression analysis partly adjusts for this problem. The contribution of an employed white spouse would have a relatively greater impact because, as mentioned earlier, the white respondents started at a higher point on the ascribed level-of-living index. In addition, returns on education may have been greater for the white spouses. Better and more numerous income opportunities for white males may also indirectly add to the relative effect of the education of their spouses.

As mentioned earlier, there was an overall tendency of downward mobility for the black respondents in the study. In general, the upwardly mobile black respondents had wives who were employed full-time and who had more formal education than did wives of downwardly mobile black respondents (tables 10 and 11). Such a relationship also existed for the white respondents, but here it was associated with higher levels of living than it was for blacks. A large proportion of white spouses with full-time employment and more education were wives of respondents in the high-stable group. This suggests that education of spouse may not be entirely an effect of covariation.

The educational level of a respondent's wife appears to have had some influence on the respondents' level-of-living status through a greater likelihood of the wife's being employed (table 12). However, because only a small number of the black spouses had at least 12 years of education, a firm conclusion cannot be made regarding the effect of spouse's educational attainment.

The effects of a wife's being unemployed suggest a relatively greater negative impact on the level-of-living of blacks than on that of whites, which further emphasizes the greater need for employment among blacks. Employment among white spouses had its greatest influence among respondents who maintained a high-stable vertical mobility position, which further suggests that any additional income contributed by their wives may have been instrumental in their maintaining this position. The general trend was for unemployed wives to be in households which experienced downward mobility.

Because the black respondents began at lower points in the ascribed level-of-living index than did whites, and were employed in lower paying jobs, their spouses could, at best, add relatively little more to this lower threshold. However, when considered in terms of necessity, without her contribution through formal education, the plight of the black household would be considerably worse.

Table 9--Educational attainment of wives of respondents, by race and employment status, Washington County, Miss., 1971

Race and educational attainment of spouse	Cases	Employment status of spouse		Total
		Less than full-time	Full-time	
	Number	Percent		
Black:				
8 years or less	63	71	29	100
9-11 years	44	68	32	100
12 years or more	58	48	52	100
Percent of total	---	62	38	100
		Number		
Total cases	165	103	62	---
		Percent		
White:				
8 years or less	24	88	12	100
9-11 years	47	79	21	100
12 years or more	140	61	39	100
Percent of total	---	68	32	100
		Number		
Total cases	211	144	67	---

Effects of Residence

The earlier evidence concerning relationships between a respondent's formal education and his residence serves as a clue concerning the relationship between residence, vertical mobility, and achievement. The data suggest that urban areas in and near Washington County, Miss., attract and hold better educated blacks.

Results of the multiple regression analysis support the general hypothesis that the local urban environment had a generally positive influence on the achievement of the black respondents, but a reverse effect on the achievement of the white respondents (table 2). The interpretation to be placed on this finding is that residence must be judged from the comparative viewpoint; that is, among blacks, urbanites are relatively better off only in the sense that rural blacks experience lower levels of living. Among whites, farm residents are significantly better off than those who live in the city.

Results of the regression analysis also suggest that with reference to blacks, the net effects of residence are not as powerful when considered in

Table 10--Employment status of wives of respondents, by race and vertical mobility status, Washington County, Miss., 1971

Spouse's employment status	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number				Percent				
Black:									
Less than full-time 1/	103	36	15	33	6	--	10	--	100
Full-time	62	22	16	26	16	9	10	--	100
Percent of total	--	31	16	30	10	5	8	--	100
		Number							
Total cases	165	51	26	50	17	7	13	1	---
		Percent							
White:									
Less than full-time 2/	144	6	9	8	13	21	24	18	100
Full-time	67	--	9	6	10	22	19	33	100
Percent of total	--	4	9	7	12	22	23	23	100
		Number							
Total cases	211	9	19	15	26	46	48	48	---

1/ Includes 8 spouses with part-time employment.
2/ Includes 17 spouses with part-time employment.

Table 11--Educational attainment of wives of respondents, by race and vertical mobility status, Washington County, Miss., 1971

Spouse's educational attainment	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black:									
8 years or less	63	43	14	32	6	3	--	--	100
9-11 years	44	29	18	27	16	2	7	--	100
12 years or more	58	19	15	29	10	7	17	(1)	100
Percent of total	---	31	16	30	10	4	8	1	100
		Number							
Total cases	165	51	26	50	17	7	13	1	---
		Percent							
White:									
8 years or less	24	21	17	25	8	8	12	8	100
9-11 years	47	4	13	8	21	21	19	15	100
12 years or more	140	3	6	4	10	24	26	28	100
Percent of total	---	4	9	7	12	22	23	23	100
		Number							
Total cases	211	9	19	15	26	46	48	48	---

Table 12--Spouses with 12 years or more of education, by employment, vertical mobility status, and race, Washington County, Miss., 1971

Spouse's employment status	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black:									
Employed	30	(4)	(5)	(6)	(5)	(4)	(5)	(1)	100
Unemployed	28	(7)	(4)	(11)	(1)	---	(5)	---	100
Percent of total	---	19	15	29	10	7	17	2	100
		Number							
Total cases	58	11	9	17	6	4	10	1	---
		Percent							
White:									
Employed	54	---	9	2	7	20	20	41	100
Unemployed	86	2	5	5	12	27	30	19	100
Percent of total	---	3	6	4	10	24	26	28	100
		Number							
Total cases	140	4	9	5	14	34	36	39	---

combination with race, ascribed status, or education. Evidence for this is based on the two negative coefficients for blacks living on farms and in towns (-36.32 and -28.66, respectively) and on their corresponding significant t- values. A very significant, but positive coefficient, for white farm residents (β = 24.84, t significant at .02 level) demonstrates that while the effects of farm residence are very important in explaining achievement for whites, they are not as powerful as educational attainment of the respondent or that of his spouse.

Although the level-of-living of the urban blacks was lower than that of the urban whites, it was significantly higher than that of black respondents on plantations or black respondents in other rural areas. Thus, the Delta area offers some distinctive advantages for black people who are in a position to take advantage of available urban opportunities. However, the above findings also suggest, particularly in light of the previous evidence linking education and residence, that there are selective forces within the urban environment which tend to attract persons who have the skills required for industrial jobs, and who can eventually fill white-collar occupations.

Relationship Between Place of Origin and Current Residence

Table 13 compares the respondents' mobility status with their place of residence. The data show that black farm residents were much more likely to remain at low levels in the typology of vertical mobility than were white farm residents: 39 percent of the black farm residents had low-stable positions, compared with only 5 percent of the white farm residents. Also, black farm residents were more likely to move downward from middle-ranked positions than were white farm residents. Black respondents living in urban areas showed a greater tendency toward upward mobility than did the other black respondents.

The research problem which these findings present concerns how selective migration and residential patterns may be influenced by the relationship between place of origin and educational attainment. The Delta's historical-economic structure, as well as the general theory of urban stratification, would suggest that black urban residents who had also spent their childhood in urban areas would achieve more than urban residents with farm backgrounds. To test this hypothesis, respondents were classified by race into the following three groups: (a) Farm residents with farm backgrounds, (b) urban residents with urban backgrounds, and (c) urban residents with farm backgrounds. Because there was practically no urban migration to farm areas, this fourth logical classification was not made. Data in table 14 show that there are conditional mobility effects by race, which are strongly influenced by origin-residence linkages.

Migration from the farm to the city clearly had the effect of raising the level-of-living of a black respondent. Blacks who remained on farms demonstrated the greatest tendency, relative to other black respondents, to stay at low positions in the typology of vertical mobility or to be downwardly mobile from middle positions. Data relating to the two classifications of black urbanites were not as clearcut. Black residents with farm backgrounds were at lower points on the index of ascribed status than were blacks who had urban backgrounds, but they showed relatively greater upward mobility. Also, black urban residents with farm backgrounds did not appear to differ substantially

Table 13--Respondents' place of residence, by race and vertical mobility status, Washington County, Miss., 1971

Race and residence	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black: 1/									
Urban	105	29	20	20	14	6	10	1	100
Village	28	25	18	39	7	7	4	--	100
Farm and open country	51	37	12	45	4	--	2	--	100
Percent of total	---	30	18	30	10	4	7	1	100
		Number							
Total respondents	184	56	32	55	19	8	13	1	---
		Percent							
White: 2/									
Urban	118	3	9	8	14	20	24	22	100
Village	17	--	6	6	18	29	12	29	100
Farm and open country	99	5	10	5	13	21	18	28	100
Percent of total	---	4	9	7	14	21	20	25	100
		Number							
Total respondents	234	9	21	16	32	50	48	58	---

1/ Chi Square = 22.63 d.f. = 12 p = .05
2/ Chi Square = 5.43 d.f. = 12 p = n.s.

Table 14--Relationship between respondents residence and place of origin, by race and vertical mobility status, Washington County, Miss., 1971

Residence and place of origin 1/	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Blacks:									
Farm residents with farm background	49	36.7	12.2	46.9	2.1	---	2.1	---	100
Urban residents with urban background	61	26.2	11.5	26.2	13.1	8.2	13.1	1.6	100
Urban residents with farm background	72	29.2	25.0	23.6	12.5	4.2	5.6	---	100
Percent of total	---	30.2	17.0	30.8	9.9	4.4	7.1	.6	100
		Number							
Total respondents	182	55	31	56	18	8	13	1	---
		Percent							
Whites:									
Farm residents with farm background	75	6.7	12.0	5.3	14.7	24.0	14.7	22.7	100
Urban residents with urban background	69	1.4	4.4	2.9	17.4	17.4	23.2	33.3	100
Urban residents with farm background	66	4.6	12.1	13.6	10.6	25.8	21.2	12.1	100
Percent of total	---	4.3	9.5	7.1	14.3	22.4	19.5	22.9	100
		Number							
Total respondents	210	9	20	15	30	47	41	48	---

1/ Excludes farm residents with urban backgrounds because of insufficient number of cases.

from black urbanites with urban backgrounds in their downward mobility from middle positions. Black urbanites of urban origin displayed a somewhat greater tendency toward upward movement from middle positions. However, some were also downwardly mobile from high positions.

These data further suggest that urban residence across generations may have a cumulative effect in its positive contribution to ascribed status, which, in turn, may reinforce the effects of education and occupation on achievement.

Among whites, there was a greater diversification of mobility for each residence-origin classification, which may be interpreted as representing a less deterministic mobility system and a more open opportunity structure for this group. White farm residents with farm backgrounds displayed many of the same mobility characteristics as did white urban residents with urban backgrounds. However, the latter classification included proportionately more high-stable respondents, while there was a higher proportion of low-stable respondents among the farm resident group. White urban residents with a farm background were generally less upwardly mobile from middle origins than were white respondents in the other residence-origin classifications.

A relatively greater incidence of upward mobility among black urbanites of urban origin may be the result of more white-collar and more highly skilled blue-collar occupations in the urban areas (table 15). While there are variations within the broad occupational classifications in table 15, it is evident that relative to all blacks, those in the urban residence-urban origin classification had the lowest representation among laborers, and the highest representation among professionals and craftsmen. Black farm residents who remained on farms were more likely to be classified as operatives and laborers. Blacks who moved to a city were also more heavily represented among nonfarm laborers and operatives, but there was a trend toward a more expansive occupational profile.

These findings tend to confirm the hypothesis that a farm background tends to suppress the chances for upward mobility through the interaction of ascribed status and education. The findings also support the hypothesis that educational attainment functions as a selection factor in such a way that persons with the least amount of education tend to remain on farms, while persons with increasingly higher levels of education move to urban areas (table 16). The most striking effect of origin and residence was the finding that black urbanites with urban backgrounds had the highest educational attainment of all blacks--56 percent had attained 12 years or more of education.

The pattern of educational attainment for whites was similar to that of blacks, but because upward mobility and achievement were functions of several other structural factors exclusive of education, the impact of urban experience was not as striking as it was for blacks.

Effects of Age

In the general population, age effects on mobility usually conform to a curvilinear pattern--that is, achievement and mobility increase up to a given age and subsequently diminish, particularly following retirement. In the

Table 15--Occupation of respondents, by race and residence-origin classification, Washington County, Miss., 1971

Race and residence-origin classification	Profes-sionals	Mana-gers	Crafts-men	Cleri-cal and sales	Oper-atives	Service workers	Laborers: except farm	Farm oper-ators	Farm labor-ers	Pct. of total	Total cases
					Percent						
Farm residents with farm background:											
Black	---	2.0	---	---	51.0	2.0	8.2	4.1	32.7	100	49
White	5.3	6.7	21.3	1.3	20.0	---	4.0	28.0	13.3	100	75
Urban residents with urban background:											
Black	11.5	3.3	11.5	14.8	39.3	6.6	11.5	---	1.6	100	61
White	29.0	18.8	8.7	14.5	14.5	1.5	8.7	2.9	1.4	100	69
Urban residents with farm background:											
Black	1.4	2.8	1.4	5.5	41.7	6.9	36.1	---	4.2	100	72
White	13.6	4.6	27.3	18.2	21.2	7.6	6.1	1.5	---	100	66
					Number						
Total:											
Black	8	5	8	13	79	10	37	2	20	---	182
White	33	21	40	23	39	6	13	24	11	---	210
					Percent						
Percent of total:											
Black	4.4	2.8	4.4	7.1	43.4	5.5	20.3	1.1	11.0	100	---
White	15.7	10.0	19.1	11.0	18.6	2.9	6.2	11.4	5.2	100	---

1/ Excludes farm residents with urban backgrounds because of insufficient number of cases.

Table 16--Residence-origin characteristics of respondents, by race and education, Washington County, Miss., 1971

Race and residence-origin	Cases	Education			Total
		8 years or less	9-11 years	12 or more years	
	Number	Percent			
Black:					
Farm residents with farm background	49	69	18	12	100
Urban residents with urban background	61	15	29	56	100
Urban residents with farm background	72	42	36	22	100
Percent of total		40	29	31	100
		Number			
Total respondents	182	73	53	56	---
		Percent			
White:					
Farm residents with farm background	75	21	23	56	100
Urban residents with urban background	69	6	17	77	100
Urban residents with farm background	66	17	32	51	100
Percent of total		15	24	62	100
		Number			
Total respondents	210	31	50	129	---

present investigation, the curvilinear effects of age were minimized by the age ceiling of 45 that was placed on the sample population selection. The net result of this procedure was to maximize any linear effects that age might have on the dependent variables.

An initial hypothesis was that age would have a greater positive influence on black mobility than it would on the mobility of whites. The rationale was that because black people had a lower ascribed status, relative to whites, it would take them longer to accumulate the benefits of upward mobility. The passage of time would also have a greater relative influence on blacks since they would experience more constraints on their mobility.

Results of the multiple regression analysis (table 2) support this conclusion--that is, age was important only with respect to black achievement, but had very little importance with respect to white achievement (blacks--$\beta = 2.39$, t significant at .02 level; whites--β was not significant). Additional support is presented in table 17, which compares the respondents' age with their vertical mobility status. For blacks, age acts more to retard downward mobility than to accelerate further upward mobility. This interpretation is given further empirical support by the earlier evidence presented that, on the average, blacks were downwardly mobile.

Upon further consideration of the above data, it became evident that for blacks, formal education might be conditionally associated with age, and that such a relationship might have a significant influence on upward mobility. For the general adult population, age tends to be inversely related to number of years of schooling. In the multiple regression analysis (table 2), education accounted for more of the variation in the black respondents' achievement than did age. Hence, it was reasoned that the remaining effects of age would be largely associated with those black respondents in the upper age range--those who were approaching age 45. In terms of the regression analysis, what happens is that higher education also represents younger age among black respondents. Consequently, since age enters the equation after education, we can conclude that "achievement" for older black men in the study is more of a function of the passage of time without the benefits of a formal learning experience.

Data in table 18 support the hypothesis that there was a relationship--although a conditional one--between education and age that was applicable only to the black respondents. Because the younger black respondents had attained higher levels of education, and because education was a key variable in explaining the achievement of black respondents, the previously mentioned influence of age on the blacks' upward mobility seems plausible. Education and age both served to retard the downward mobility of the black respondents, but in different ways. Age functioned without the direct benefit of education to slow the downward mobility of black respondents who had relatively low levels of educational attainment.

Effects of Military Experience and Special Training

As an alternative to formal education, other forms of training would seem to have positive influences on upward mobility. Two such forms of training examined in this study are military experience and "special training." Military

Table 17--Age of respondents, by race and vertical mobility status, Washington County, Miss., 1971

Race and age	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black: 1/									
30 years or less...	85	29	9	41	11	1	7	(1)	100
31 to 45 years.....	99	31	24	20	10	7	7	0	100
Percent of total...	---	30	17	30	10	4	7	1	100
		Number							
Total respondents..	184	56	32	55	19	8	13	1	---
		Percent							
White: 2/									
30 years or less...	101	5	6	4	14	16	26	30	100
31 to 45 years.....	133	3	11	9	14	26	16	21	100
Percent of total...	---	4	9	7	14	21	20	25	100
		Number							
Total respondents..	234	9	21	16	32	50	48	58	---

1/ Chi Square = 17.40 d.f. = 6 p = .01
2/ Chi Square = 11.18 d.f. = 6 p = n.s.

Table 18--Age by formal education and race, Washington County, Miss., 1971

Age in years	Cases	Educational attainment			
		8 or less	9-11	12 or more	Total
	Number	Percent			
Black:					
25 or less	44	34	25	41	100
26-30	41	37	24	39	100
31-35	41	24	46	29	100
36-45	58	60	22	17	100
Percent of total	--	41	29	30	100
		Number			
Total	184	75	53	56	---
		Percent			
White:					
25 or less	42	7	24	69	100
26-30	59	10	27	63	100
31-35	43	16	19	65	100
36-45	90	17	20	63	100
Percent of total	--	13	22	65	100
		Number			
Total	234	31	52	151	---

experience included any form of military service, regardless of length of time involved and type of discharge received. Special training included any type of on-the-job training; other forms of training sponsored by industry, private institutions, or the Government; and vocational courses taken in high school that were not a part of the regular curriculum. 5/

Neither military service nor special training appears to have had any discernible influence on the respondents' achievement after the effects of education had been accounted for. However, the actual impact of military service and special training is problematic because of the possible selective effects of outmigration and because only a relatively small proportion of the black respondents had military experience or special training.

5/ Some high school courses unrelated to college preparation were interpreted as being vocational courses.

The latter condition seriously limits any firm generalization that might be stated concerning the influence of the two variables on the blacks' achievement. Only 19 percent of the black respondents had military service, compared with 52 percent of the white respondents. This pattern of military service may not differ significantly from that of the general population of southern black men.

The relationship between educational attainment and military experience was more definitive for the black respondents than it was for the white respondents. Proportionately more whites entered military service with less than 12 years of education, while for the black respondents, at least 12 years appears to be the entrance level (table 19). As demonstrated earlier, the effects of race suppressed the positive impact of education for the black respondents, and these effects may have also had a similar influence on the blacks' military experience.

Table 19--Military service of respondents, by race and education, Washington County, Miss., 1971

Race and education	Cases	Military service		Total
		Yes	No	
	Number	Percent		
Black: 1/				
8 years or less	74	7	93	100
9-11 years	50	12	88	100
12 or more years	56	43	57	100
Percent of total	---	19	81	100
		Number		
Total respondents	180	35	145	---
		Percent		
White: 2/				
8 years or less	31	26	74	100
9-11 years	52	47	53	100
12 or more years	151	59	41	100
Percent of total	---	52	48	100
		Number		
Total respondents	234	121	113	---

1/ Chi Square = 29.0 d.f. = 2 p = .001
2/ Chi Square = 11.7 d.f. = 2 p = .001

For the white respondents, the coefficient of military service had a negative sign in the multiple regression analysis, but the coefficient was small and not statistically significant (table 2). This lack of relationship may be due to the intercorrelation of military service with educational attainment. Among the white respondents, 39 percent of those with 11 years or less of schooling reported military experience, while 62 percent of those with 16 or more years of education had served in the military (table 20). These trends are not contrary to what is known about the southern propensity for military life. Military experience also increased by educational level among black respondents, but since very few reported college education, the relationship between higher education and military service for blacks could not be completely determined (table 20).

About 30 percent of the blacks reported special training, compared with about 40 percent of the whites (table 21). Although special training was not

Table 20--Military service of respondents, by race and by college and noncollege education, Washington County, Miss., 1971

Race and education	Cases	Military service		Total
		Yes	No	
	Number	Percent		
Black:				
11 years or less	128	9	91	100
12 years	39	41	59	100
13-15 years	7	(4)	(3)	100
16 or more years	10	(5)	(5)	100
Percent of total	---	19	81	100
		Number		
Total respondents	184	35	149	---
		Percent		
White:				
11 years or less	83	39	61	100
12 years	63	55	44	100
13-15 years	28	54	46	100
16 or more years	60	62	38	100
Percent of total	---	51	49	100
		Number		
Total respondents	234	119	115	---

Table 21--Respondents having special training, by race and years of formal education, Washington County, Miss., 1971

Race and formal education	Cases	Special training received		Total
		Yes	No	
	Number	Percent		
Black: 1/				
8 years or less	74	14	86	100
9-11 years	51	26	74	100
12 years or more	53	57	43	100
Percent of total	---	30	70	100
		Number		
Total cases	178	53	125	---
		Percent		
White: 2/				
8 years or less	30	17	83	100
9-11 years	51	39	61	100
12 years or more	144	44	56	100
Percent of total	---	40	60	100
		Number		
Total cases	225	89	136	---

1/ Chi Square = 28.1 d.f. = 2 p = .001
2/ Chi Square = 8.0 d.f. = 2 p = .02

included in the regression analysis, the cross tabulation data suggest that special training did have some influence in retarding the downward mobility of black respondents (table 22). A greater proportion of black respondents without special training were at low-stable positions than were respondents with such training. Also, those with special training were more likely to be upwardly mobile.

There are at least three hypotheses suggested by the lower incidence of special training and military experience among the black respondents. The out-migration hypothesis suggests that because of limited opportunities in the area, blacks with more training and education are moving to other areas where they believe greater opportunities exist. Second, a motivational factor may operate to suppress the involvement of qualified blacks in the pursuit of greater achievement. No doubt motivation and perception are affected by the

Table 22--Respondents having special training, by race and vertical mobility status, Washington County, Miss., 1971

Race and special training	Cases	Low-stable	From low upward	From middle downward	Middle-stable	From middle upward	From high downward	High-stable	Total
	Number	Percent							
Black: 1/									
Yes	53	21	21	11	28	11	6	2	100
No	125	34	17	10	32	1	6	--	100
Percent of total	---	30	18	10	31	4	6	1	100
		Number							
Total cases	178	53	32	55	18	8	11	1	---
		Percent							
White: 2/									
Yes	89	2	10	15	5	22	20	26	100
No	136	5	8	14	8	21	20	24	100
Percent of total	---	4	9	14	7	21	20	25	100
		Number							
Total cases	225	9	20	15	32	48	45	56	--

1/ Chi Square = 12.88 d.f. = 6 p = .05
2/ Chi Square = 2.58 d.f. = 6 p = n.s.

structural impact of environment. Younger blacks who have greater motivation and who perceive fewer opportunities in the local area will move to more urbanized areas. A third hypothesis concerns the actual impact of the interaction and intervening function of race with other factors on those who have remained in the area.

IMPLICATIONS FOR INCREASING UPWARD MOBILITY

In the presence of a relatively low level of black achievement, under what conditions might the blacks' upward mobility be enhanced? To examine the possible effects of different assumptions about increasing the blacks' upward mobility, a series of adjustments were made in the original regression equation. This technique, which amounts to what is otherwise known as "tinkering with the model," demonstrates what the blacks' average achieved level-of-living would be if certain independent variables were assigned values which differed from those in the original equation. The objective was to increase average achievement parity between blacks and whites. A more practical goal was to develop a more complete understanding of the relative impact of each variable and its relationship within the model.

Limitations of the Model

A general observation that should be made explicit about any model of the type used in this study is that mathematical relationships among variables apply primarily to the specific system of relationships under investigation. The relationship between any two variables is contingent on the overall relationship of each of these to all other variables in the system. Results of changes in any given value--whether it is the mean or a beta coefficient--must therefore be interpreted in the context of this methodological limitation.

Also, the model is concerned only with the individual who is representative in a statistical sense--that is, the summary man who represents all of the average attributes of the group as a whole. The multiple regression method is therefore useful in assessing the common effects of common attributes. Results of adjustments in the regression equation have far greater conceptual application than statistical generalization. Of particular importance is the relationship between a specific variable and the system as a whole, which is what the beta coefficient largely represents.

In the original regression analysis, coefficients for blacks most often represented a lower rate of progress up the achievement index. In those few cases where these coefficients were larger than corresponding coefficients for whites, a much lower ascribed index rank tended to detract from the maximum impact the particular variable might have had in a more opportunistic social and economic system.

The problem was to determine what changes in values or sets of values, representative of the blacks' average demographic characteristics, would diminish the average achieved level-of-living gap between blacks and whites. The procedure, in the majority of instances, was to assign white values to corresponding black values. In those instances where urban blacks had achieved more than

rural blacks, corresponding urban black values were substituted. Although there were a few exceptions where both a coefficient and its mean were changed together, other relationships remained unchanged.

Relative Impact of Various Assumptions

Results of the various assumptions about increasing the blacks' upward mobility are shown in figure 5. A complete local urban inmigration of blacks (situation b) is less effective than several other assumptions such as an increase in formal education, postponement of family development, and raising the ascribed index rank of the black respondents.

Raising the blacks' average level of formal educational attainment to 12 years (situation c), without other changes, would not increase their mobility potential much more than would the change from farm to urban residence. However, it is interesting to consider the impact of raising the educational level of the spouse (situation g). By raising her educational level, the blacks' rank on the achieved level-of-living index moves from 122 to 162.

Clearly, very few, if any, of these changes would occur as isolated events. Formal education, for example, was shown by the multiple regression and cross tabulation analyses to be associated in varying degrees with a number of other variables.

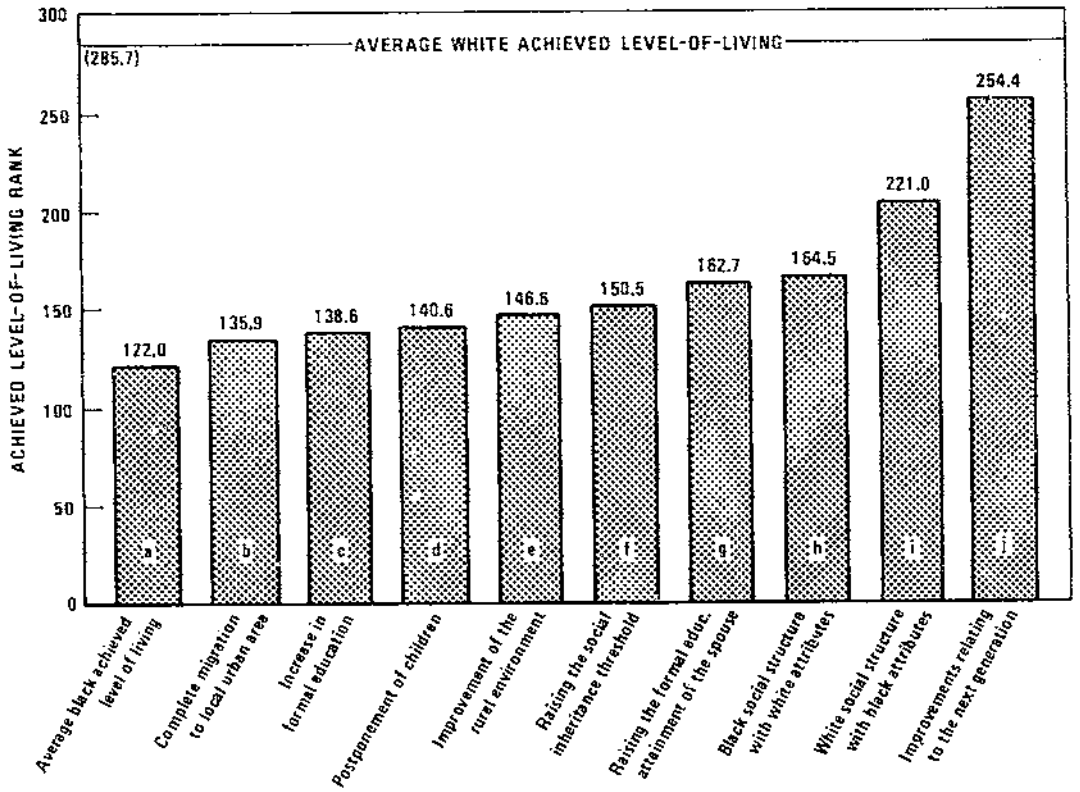
Situations h and i emphasize some of the major differences between the black and white socioeconomic structures in the Delta. In situation h, the black social structure (as indicated by the model's coefficients for black respondents) is retained, but the black respondents are assumed to have the same demographic characteristics as the white respondents (the means of the white respondents are substituted for the means of the black respondents). This assumption results in the blacks moving from a rank of 122 in the achieved level-of-living index to a rank of 164, which is still considerably below the rank of 285 of the white respondents.

Situation i is just the opposite of situation h. Here, the demographic characteristics of the black respondents are retained, but the white social structure is substituted for the black social structure. This assumption results in the black respondents moving from a rank of 122 to a rank of 221 in the achieved level-of-living index.

Differences in the results of situations h and i clearly suggest that even if the black respondents had the same demographic characteristics as did the white respondents, these characteristics would not raise the blacks' achievement level as much as would a change in the value of benefits of educational attainment and urban residence, for example. The relative strength of white structural relationships in the presence of black attributes, when compared with the situation representing white attributes associated with black structural properties, convincingly shows that it is the condition representative of the white social structure that remains a major condition of upward mobility.

A narrowing of the achievement gap between the black and white respondents is most dramatically illustrated by situation j, where certain changes are

RESULTS OF ADJUSTMENTS IN THE MULTIPLE-REGRESSION EQUATION TO INCREASE UPWARD MOBILITY OF BLACK RESPONDENTS



a/ $\bar{Y} = 85.85 + B_1 \bar{X}_1 + B_2 \bar{X}_2 + B_3 \bar{X}_3 + B_4 \bar{X}_4 + B_5 \bar{X}_5 + B_6 \bar{X}_6 + B_7 \bar{X}_7 + B_8 \bar{X}_8 + B_9 \bar{X}_9 + B_{10} \bar{X}_{10} + B_{11} \bar{X}_{11} + B_{12} \bar{X}_{12}$

Average Black Achieved Level of Living

Where: $\bar{X}_1$ = Average highest year education completed; $\bar{X}_2$ = Average highest year of spouse's education; $\bar{X}_3$ = Age of respondent; $\bar{X}_4$ = Age of respondent at birth of first child; $\bar{X}_5$ = Farm residence; $\bar{X}_6$ = Town or village residence; $\bar{X}_7$ = Farm orientation; $\bar{X}_8$ = Town or village orientation; $\bar{X}_9$ = Average ascribed rank or social inheritance; $\bar{X}_{10}$ = Middle birth rank; $\bar{X}_{11}$ = Youngest birth rank; $\bar{X}_{12}$ = Military service status

Estimates of the effects of each succeeding condition presented in the histogram were made as follows:

b/ Complete migration to local urban area: $B_5 \bar{X}_5$ and $B_6 \bar{X}_6$ were deleted.

c/ Increase in formal education: $B_1 \bar{X}_1$ was substituted with white coefficient and mean.

d/ Postponement of children: $B_4 \bar{X}_4$ was substituted with white coefficient and mean.

e/ Improvement of the rural environment: $B_5 \bar{X}_5$ and $B_6 \bar{X}_6$ were substituted with white coefficients and means.

f/ Raising the social inheritance threshold: $B_9 \bar{X}_9$ was substituted with white coefficients and mean.

g/ Raising the formal education of the spouse: $B_2 \bar{X}_2$ was substituted with white coefficient and mean.

h/ Black social structure with white attributes: all white means were substituted, but black coefficients were retained.

i/ White social structure with black attributes: black means were retained, but white coefficients were substituted.

j/ Improvements relating to the next generation: white coefficients and means were substituted for: $B_2 \bar{X}_2$, $B_4 \bar{X}_4$, $B_9 \bar{X}_9$, $\bar{X}_1$ was set equal to 12 years and the white coefficient was applied; $B_5 \bar{X}_5$, $B_6 \bar{X}_6$, $B_7 \bar{X}_7$, $B_8 \bar{X}_8$ were deleted. Deletion of these variables implies a condition of urban residence and urban orientation.

Figure 5

implemented to raise the ascribed level-of-living of the following generation of blacks. This change results in the blacks moving from a rank of 122 to 254 on the achieved level-of-living index--however, parity with the whites' achievement rank is still not reached.

Situation j is based on the hypothesis that changes influencing both the individual and society may not only have immediate effects on an individual, but also--and perhaps more importantly--they may influence the mobility potential of succeeding generations. Of particular importance in this regard is the complex impact of the variable identified in the present analysis as social inheritance or ascribed level-of-living. This variable was shown to represent a quality of early material existence as well as an environmental-structural property. By increasing human potential in the present generation, the social inheritance of the next will be accordingly influenced in a positive manner--that is, by raising the educational level of the present generation and by instituting a more opportunistic socioeconomic system, the upward mobility potential of the next generation can be significantly increased.

Situation j is representative of the impact of changes in social inheritance, educational attainment, and postponement of family development. While these combined changes can increase the blacks' upward mobility beyond any other changes, it is of particular significance that the blacks' level-of-living rank never reaches the average level achieved by the whites.

The overall evidence supports the conclusions that there are fewer environmental and structural constraints on the vertical mobility of whites than on that of blacks, and that the value of an attribute cannot be judged in isolation from the structural forces which bear upon it.

Appendix table 1--Correlation matrix of variables included in step-wise regression analysis, by race, Washington County, Miss., 1971

Item	Age	Education	Military service	Spouse's education	Farm origin	Village origin	Village residence	Farm residence	Ascribed status	Birth order: youngest	Birth order: middle
Black:											
Age	1.00	-.266	.175	-.126	.181	-.047	-.064	.001	-.157	.093	-.136
Education		1.00	.315	.528	-.394	.249	.075	-.412	.505	-.030	-.075
Military service			1.00	.214	-.321	.120	-.090	-.269	.210	.065	-.069
Spouse's education				1.00	-.337	.166	-.007	-.325	.318	-.077	-.111
Farm origin					1.00	-.511	-.045	.396	-.260	.019	.011
Village origin						1.00	.217	-.191	.160	-.016	-.034
Village residence							1.00	-.262	-.020	.031	.061
Farm residence								1.00	-.139	.042	.012
Ascribed status									1.00	.050	-.020
Birth order: youngest										1.00	-.424
Birth order: middle											1.00
White:											
Age	1.00	-.063	.381	-.043	.045	.111	-.035	.033	-.152	-.053	.015
Education		1.00	.211	.605	-.355	.215	-.113	-.112	.656	.138	-.296
Military service			1.00	.183	-.082	.208	.045	-.093	.056	.074	-.171
Spouse's education				1.00	-.155	.151	.118	-.031	.478	.136	-.181
Farm origin					1.00	-.650	-.143	.271	-.290	-.079	.187
Village origin						1.00	.092	-.138	.198	.064	-.169
Village residence							1.00	-.240	.044	-.093	.009
Farm residence								1.00	-.037	.097	.073
Ascribed status									1.00	.188	-.297
Birth order: youngest										1.00	-.494
Birth order: middle											1.00

Appendix table 2--Coefficients of multiple determination and relative increases in R^2 for variables included in step-wise multiple regression analysis

Variable specification	R^2	Increase in R^2
Race	.4129	.4129
Highest level of educ.	.5713	.1584
Spouse's education	.5999	.0285
Age	.6070	.0072
Residence: town	.6090	.0019
Farm orientation	.6104	.0014
Town orientation	.6114	.0010
Ascribed rank (social inheritance)	.6121	.0007
Respondent's age at birth of 1st child	.6137	.0006
Farm residence	.6131	.0004
Youngest birth rank	.6133	.0002
Military service	.6134	.0000
Middle birth rank	.6134	.0000

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