RURAL EDUCATION AND THE EDUCATIONAL AND OCCUPATIONAL ATTAINMENTS OF YOUTH

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INTRODUCTION

Research is beginning to clarify the main outlines of the process by which people attain occupations of higher or lower standing. To a large extent, one's occupational standing is determined by the amount and quality of his education. Educational attainment, too, has its determinants. A number of factors influence educational attainment. Rural-urban differences have important effects on it; so do certain other sociological and psychological variables. An overview of this process can provide suggestions as to which factors offer prospects for improving rural education and which do not. To provide such leads is the aim of this paper.

But this objective must be seen in terms of the present incomplete state of knowledge regarding the occupational attainment process. As yet we have neither a complete knowledge of the process as a whole nor a completely satisfactory understanding of the ways educators and other concerned people may influence the process. Of these two gaps in knowledge, the first is the least important. Knowledge of the main lines of the process is sufficient to provide leads as to the kinds of people to whom to devote special attention, and at an abstract level, what kinds of actions are likely or unlikely to produce the desired results. The second gap is more important. It is one thing to have solid theoretical knowledge of the causes of attainment differences; it is quite another to know how to put that knowledge to practical use. Where practical conclusions seem clearly warranted we shall draw them; where they would be premature we shall try to sketch what needs to be done to provide bases for drawing them.

One additional observation should be made. Despite the partial incompleteness of available knowledge, a full review regarding the attainment process would require a more exhaustive treatment than is possible here. In this paper we shall restrict ourselves to the process as it relates to rural people, and even then to certain parts of the process which seem to have special relevance for strategies by which rural education might be improved.

Looking at the paper as a whole, we shall try to present the sociologist's perspective on rural education as it relates to the occupational and educational attainment process. Some findings confirm what "everybody already knows"; some are new. In brief, we begin with occupational prestige as the key to assessing differences in occupational attainment. Relations of this factor to income and education are shown. Major variables indicating rurality are then presented showing that rural education is often quite deficient. Recent findings on the effects of different scales of environment are reviewed, and recent thinking on the individual process of attainment is sketched. Special attention is given to the influence of "significant others" in this process. Finally, implications for action based on these findings are presented.

ATTAINMENT AND OCCUPATIONAL PRESTIGE[1]

The occupational prestige structure and its changes are the starting point for sociological explanations of the occupational attainment process. Educational attainment and the factors bearing upon it are of importance primarily because of their bearing on occupational attainment. We turn now to the occupational prestige structure and its relation to certain other key variables. The data are presented in some detail because, though, perhaps not surprising, their documentation is not readily available.

The Occupational Prestige Hierarchy

Most of the time, when sociologists refer to occupational attainment levels, they mean achievement along the prestige dimension of the occupational structure. It is important to note that this dimension is not identical to money income. Research on the social standing or prestige of occupations has shown that variations in what the population believes to be the quality of occupations is far from perfectly associated with income, though the association is positive, as one would expect (15, 124; 13, Table VI-8, 150). Income is only one of the rewards provided by an occupation; prestige includes the net balance of this and other rewards. This is not difficult to understand. Some prestigious occupations, such as priest or minister, are commonly believed to bring great intrinsic rewards much more important than money; indeed money income is often viewed as a necessary evil for such people. Or on the other hand, some necessary occupations are viewed as so degrading as to require unusual compensation in order to attract personnel. Others, not degrading, have other drawbacks such as being dangerous and therefore require extra compensation. In short, though money is important, the sociologists believe that prestige or social evaluation is the best way to describe occupational attainment.

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[1] Some of the materials needed to understand the argument are condensed from an earlier essay (7).

What do we know about occupational prestige hierarchies? The most important fact is that the occupational prestige hierarchy of contemporary urban societies is remarkably stable from time to time and from place to place. The prestige of various occupations has been assessed in a number of research projects in the United States. Most of the more important of these have been summarized by Hodge, Siegel, and Rossi (12). Ordinarily in these projects, each member of a sample of the population is asked to rate each of a sample of occupational titles on a short scale of "social standing" or some similar term. In the United States for example, large and representative samples of the adult population have rated each of 90 occupational titles. Data were collected in the mid-40's and early 60's. As thus determined, the correlation between the two sets of occupational prestige scores is $r = +.99$. This indicates almost no change in the relative standing of most occupations over a period of about a fifth of a century. Other studies of occupational prestige are technically less adequate than these but show similar results between 1925, 1940, and 1947 (12).

The General Rise in the Occupational Prestige Hierarchy

Though there are exceptions to the rule, there is a long-term upward drift in the occupational structure. On the whole it is the low occupations that become obsolete. The expanding white-collar sector consists of occupations which are substantially above the bottom of the hierarchy. Also, the newly emerging occupations appear to be mostly those of high skill requirements and of moderate to high prestige. Finally, many older occupations seem to be undergoing a remarkable degree of upgrading. In recent years public universities have instituted specialized courses, usually short summer sessions, for many occupations which were once believed not to require any information which could not be learned with a few weeks on the job. Not all such courses are short. For example, a few universities now offer degree training leading to both the bachelor's and master's degrees in police work. Also, workers in some fields have organized themselves into voluntary associations which emphasize what is called "professional

development." A nationwide secretaries' association, for example, provides a series of examinations over various levels of duties of secretaries, and supplies rewards for secretaries who pass them. Obviously, state and national civil service examinations provide the same function by requiring specific minimum standards of performance.

Thus, there are two general changes which tend to raise the level of the occupational prestige structure as a whole. One which has received much attention includes obsolescence of old lower occupations and the emergence of new occupations toward the top of the system. The other, less well known, consists of the upgrading of old occupations. The material presented in the preceding paragraph merely illustrates this. Almost all of the changes, particularly in the more recent data, are in an upward direction.[2]

Occupational Prestige, Income, and Education

The interpretation just presented, in which changes in the occupational prestige hierarchy were related to occupational upgrading, strongly suggests that changes in the education of the population are tied up with the changes in the occupational structure. We shall now present data on the relations between occupational prestige and income on the one hand, and occupational prestige and education on the other, as well as relations between education and income.

Income. There is a substantial, though imperfect, positive association between annual income and occupational prestige position. In 1960 the median wage of salary income of nonfarm managers, officials, and proprietors was $7,241. That of clerical and kindred workers was $5,247, of operators and kindred workers (roughly, skilled workers)

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[2]Data on the social psychological reasons for this do not exist, but one would suppose something like the following is happening. Prestige is assigned to occupations as a reward for applying scarce skills to activities people believe to be important. Occupational upgrading is a process which, by improving the worker's skills, makes his contribution more unique, and therefore scarcer and more valuable.

$4,977, that of laborers (except farm and mine) $3,872, that of farm laborers and foremen $1,731 (13, Table III-c, 82-83).

Education. "Everyone knows" that occupational prestige and education are positively correlated. The data on the subject bear this out. Various studies show substantial correlations (about r = +.50) between these two factors (4, 5, 20, 21). Indeed, except for one's occupational prestige status at earlier periods (such as "first jobs") it appears that no other factors have ever been shown to be so highly correlated with occupational prestige status.

One could easily argue that several practices may ever be tightening the dependence of occupational achievement on education. There appears to be a professionalization of an increasing number of occupations. Along with this, it appears that there is an increase in licensing and other procedures specifying minimal formal educational requirements for various occupations. Also, it is known that some large companies use college graduation as a necessary condition for employment in management and technical jobs. Finally, we have already noted that many may move up in their organizations only by passing examinations, and that some voluntary organizations encourage self-improvement by means of examinations and awards for superior work performance. If these observations are well-founded, they imply that a general rise in the educational levels has been going on for some time. In fact, between October 1948 and March 1964, the median educational levels for all civilian workers 18 or more years old rose from 10.6 years to 12.2 years (28, 227).

Education and Income. Education appears to be a profitable investment. For the male working population of 18 to 64 years of age, 1959 mean average earnings by education were as follows: less than eight years of school, $3,659; eight years, $4,725; one to three years of high school, $5,379; four years of high school, $6,132; one to three years of college, $7,401; four years of college, $9,255; five or more years of college, $11,136 (13, Table VI-3, 139). In other words,

those who completed at least one year beyond college averaged about 300 percent more than did those who completed less than eight grades of school.[3]

Summary

The sociologist measures occupational attainment by assessing the prestige of the person's occupation. Money income is not the only reward for high achievement and occasionally it is used to attract workers to undesirable jobs. Thus the correlation between money income and occupational attainment (prestige) is far less than perfect. But though imperfect, such a correlation exists and it is positive: on the average, the higher the occupation the higher the income. Next, as we would expect, occupational prestige and education are positively, though imperfectly, related: the higher the education the higher the occupation. So we would assume as many have, that if one is paid for his work contribution, and derives much of his work ability from education, then differences in years of school completed should ultimately result in differences in income. The data show that this occurs. This suggests that any possible deficiencies in rural education may have effects on rural youth. We turn now to rural-urban differences in educational attainment.

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[3]There are important differences related to race. For a given number of years of school completed, the earnings of whites ranged up as high as 300 percent of those of nonwhites (among Southern men completing four years of college). (13, 139-140).

RURAL-URBAN VARIATIONS IN EDUCATIONAL ATTAINMENT

Rural-Urban Aspects of the Regional and Racial Distribution of the Population

Today, the best single index of rurality of a region is still the proportion of the region's population which lives on farms outside urban places. By this measure the South remains the most rural of the major regions of the country. In April 1965, 44 percent of the national farm population resided in the South, while the South's proportion of the total population was about 20 percent (26).

Rurality is also confounded with ethnicity.[4] Sixteen percent of the nonwhite population (four-fifths of whom are Negroes) lived on farms in 1965, while six percent of the white population did so (26, 27). Practically all rural Negroes live in the South; there are almost no Blacks on farms in the North and West.

We may thus speak of rural regions of the nation and of rural ethnic groups, as well as rural or country people.

Data on Rural-Urban Variation in Educational Attainment

We have seen that we need to understand educational behavior in order to understand occupational attainment. To understand rural-urban variations in nonfarm occupational attainment, we must therefore understand the school attainment and performance of rural and urban people.

School Completion. Nam and Powers have presented the most comprehensive analysis of rural-urban, regional, and race differences regarding number of years of school completed (14). Their report is based on census data. The overall pattern for 1960 was as follows: urbanites had completed the highest number of years of school; rural nonfarm people the next; and farm people the least. There were, too,

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[4] An ethnic group is a culturally distinct part of the population, such as the Blacks, Mexican Americans, etc. This report depends upon secondary data which refer to "race." In such cases we follow the terms of the original.

fairly substantial differences among regions. On the whole, people of the South had completed the fewest years of school. Those of the North Central region were next. Westerners completing the most. (The South, however, was second to the West in proportion of whites who had attended college.) Nonwhite Southern farmers showed the smallest proportion going to college (21 percent) and the largest proportion completing no more than eight grades (85.4 percent).

Enrollment Rates. For 1960, Nam and Powers have analyzed rural-urban, regional, and race differences in this variable quite well. Judging by the high percentage of these age groups enrolled in school (86.3 percent of the 16 year olds and 75.6 percent of the 17 year olds) one would suppose that the trend toward completing more years of school was continuing (14). An examination of their data shows that the rural population in each region made larger gains in the proportion of these age groups enrolled in school than did the urban population. The largest gains for both rural and urban youth were in the South.

Looking at the 1960 overall picture, the differences are small between urban, rural nonfarm, and farm groups of these ages. The urban and farm categories are about equal, with the rural nonfarm lagging slightly behind. By regions, the West was highest, followed by the North Central states, the Northeast, and the South, in that order. Nonwhites lagged behind the total population about eight or nine percent.

Achievement Test Behavior. Coleman and his colleagues have recently produced the most comprehensive and thorough study ever done of regional, residence, and racial differences in test performance and of aspects of the environment of public school children thought to be relevant to the quality of education (2). Considerable information was collected, including data on individual students, their teachers and guidance counselors, and their schools. Data were collected on all children in grades 1, 3, 6, 9, and 12 in a sample of the nation's

schools. Reasonably complete information was obtained. Special checks show that their sampling problems do not affect the outcome substantially. Within any grade studied, all students in the sample took the same set of tests: (1) verbal ability; (2) nonverbal ability; (3) reading comprehension; and (4) mathematics achievement. Most of the results reported here are taken from the present writer's analysis of graph data.

Test response data are presented for residence (metropolitan and nonmetropolitan location of school), race (whites and Negroes), and region, as well as for various minority groups: Puerto Ricans; Mexicans; Indians; and Orientals. Because Orientals are urban and because they do about as well as whites we take no special note of them. Other ethnic groups are included because they have rather immediate rural origins.

We have studied the crucial tables from the Coleman report (2, 221-245) and have summarized the main apparent effects of metropolitan-nonmetropolitan location, region, and race for each of the above tests.

(1) Verbal ability. Those attending metropolitan schools appear to outperform those attending nonmetropolitan schools at all grade levels tested: 1, 3, 6, 9, and 12. For the lower grades (1 and 3) there is no discernible effect of region. For the higher grades (6, 9, and 12) the Northeast and Midwest appear to be highest, the South lowest, and other regions in between. Whites outscore Negroes in all grades; this is the most outstanding effect. In the 6th and 9th grades the Puerto Ricans, Mexicans, and Indians do poorly, but this effect is not present in the 12th grade, possibly because the lower scorers have dropped out.

(2) Nonverbal ability. Little if any metropolitan-nonmetropolitan effects are noticeable for grades 1 and 3. In grades 6, 9, and 12 the metropolitan youngsters are higher. Neither is there any obvious effect of region in grades 1 and 3, except for an analogies test in grade 3, where the Northeast and Midwest were high, and the South low, with others between. This latter regional pattern also holds for grades 6, 9, and 12 except that for grade 6 the Southwest

is about as low as the South. Whites systematically outscore Negroes, and in grades 6 and 9 the Puerto Ricans, Mexicans, and Indians are again low.

(3) Reading comprehension. Again, there is not much, if any, effect of metropolitan-nonmetropolitan location of the child's school (an index of the rural-urban variable) on reading comprehension for grades 3 and 6. In grades 9 and 12, however, the metropolitan students tend to be higher than the nonmetropolitan. Next, there is no discernible regional effect in the data on the third graders. But among 6th, 9th, and 12th graders, those from the Northeast and Midwest tend to outperform those of other regions, while those from the South (and in the case of grade 12, the Southwest) tend to perform at a lower level than the others. Again whites systematically outperform Negroes. In grades 6 and 9 the other ethnics (Puerto Ricans, Mexicans, and Indians) are low, but as on previous tests this effect does not persist into grade 12.

(4) Mathematics achievement. The pattern of influences on mathematics achievement of students is quite similar to the pattern we have already discussed. By the 6th grade, metropolitan students tend to be outscoring the nonmetropolitan students, though there is little difference among 3rd graders. There is no regional difference in mathematical achievement in the 3rd grade. But in the 6th grade the Northern children make higher scores and the Southern and Southwestern children make lower scores, with Westerners in between. In the 9th and 12th grade, the Northerners and Westerners appear to be about equal to each other and score higher than the Southern and Southwestern students. Again, whites systematically outperform Negroes, and the low scores for Puerto Ricans, Mexicans, and Indians which persist through grades 3, 6, and 9 are no longer evident in grade 12.

There is one unusual fact about the mathematics achievement data. Large numbers of sixth grade Mexicans, Puerto Ricans, Indians, and Negroes have exceedingly low scores. The same phenomenon is observed in the 12th grade metropolitan Western and nonmetropolitan Southern

Negroes. It appears in no other grades or categories of students, and on no other tests. It is our guess that since mathematics is a difficult subject, a poor performance in mathematics is one of the earliest symptoms of readiness to drop out of school. A great many minority group members, we might suppose, are already disheartened with school by the sixth grade. This is reflected in their mathematical test performance, and they drop out at the first opportunity. This eliminates most drop-out-prone Mexicans, Indians, and Puerto Ricans, as well as many such Negroes. In the nonmetropolitan South and the metropolitan West quite a few drop-out-prone Negroes remain to continue into high school, when the same sort of discouragement sets in by the time they reach the 12th grade.

(5) Overview of test results. Ethnic differences exist at all levels and for all tests. Residence and regional effects begin to show after the 3rd grade. And in all cases the groups which are most rural--the Negroes, the Southerners, and the nonmetropolitans--show the poorest test performance.

Summary of Rural-Urban Differences

The main conclusion to be drawn from all of these findings is that by and large nonmetropolitan people, people of rural regions, and those of rural ethnic groups (or from ethnic groups with recent rural origins) are the most poorly educated. They are the people least likely to obtain the knowledge needed to contribute to and gain from our industrialized society. The rural elements of the population have serious educational deficiencies (though in the North the farm youth are perhaps better off than most others). This is not to downgrade the more spectacular problems of the "urban crisis." On the contrary, we must recognize that the long-term neglect of the rural population, especially in the South and Southwest and in Puerto Rico where minority groups are disproportionately concentrated, has undoubtedly contributed to the urban problem.

ENVIRONMENTAL INFLUENCES

If we want to understand and to affect educational achievement, we must understand the system in which the person's achievement behavior is conducted, which is the same thing as determining the variable aspects of his environment which influence his behavior as he progresses through school. We are only beginning to learn how to analyze these factors systematically. Obviously, we must have concepts for describing the environment. One main distinction we draw here is between the "shared environment" and the "unique" environment.

The "Shared Environment"

By the term "shared environment" we mean to indicate all variables describing the amount and accuracy of information which, objectively, is readily accessible to all or most people in a group. For the topic of educational and occupational achievement, the term refers to all such information indicating what a person might do in order to be successful in school or at work. There are large-scale and small-scale shared environments. The former are major groups with clearly identifiable cultural systems, such as the national regions or the more distinctive ethnic groups. The latter are minor groups which (except as they may involve the above, as in cases of ethnic segregation) do not have distinctive cultural systems, such as school classes, rural counties, rural and urban neighborhoods, etc.

Education and the Shared Environment

Information relevant to success in school and in the work-a-day world is objectively available from a variety of sources to most young people. Of course, there are differences among sectors of the population. Schools that are far from major population centers, schools in poorer economic areas, sometimes lack the facilities and the teachers to motivate and teach the students well. Nevertheless, data from the Coleman report show that most such differences, except for the rural South, are no longer very great (2, 36-217). Also, areas isolated from the

population centers may have somewhat fewer occupational alternatives available among which the young person and his family can choose. In such areas, the connection between education and the occupational structure may not be so clear to people. This is partly because well-educated youth who are born and reared in the area, and are therefore known well by local people, usually take jobs elsewhere (14, 116). They must often leave home in order to become educated and stay away in order to find a job which can let them express their education. The outcome is that the shared environment of such places is somewhat poorer in information which young people need in order to make satisfactory educational and occupational adjustments later on (8, 16, 19, 22). Almost everyone in the area is influenced in this way--the child, his parents, his teachers, his friends.

But whether or not they live in population centers, the child, his family, and his friends belong to a certain ethnic group and socio-economic stratum. With a long history of poor educational facilities and ill-prepared teachers, Blacks and members of some other major ethnic groups, such as Indians, Mexicans, and Puerto Ricans, tend to be poorly educated. A person's interactions are usually restricted to other people like himself. Because of this, his goals and beliefs regarding education are usually much like others of his ethnic group or stratum.

We have dwelt upon the shared environment at some length for a reason. Large-scale shared environments have important effects on everyone within them because they limit or provide the information everyone has to share with everyone else. But these environments have little or no effect on <u>variations</u> among persons within such an environment. Factors in the "unique" environment do this. Moreover, despite much speculation about their effects, small-scale shared environments, such as particular counties, schools, or neighborhoods, have little effect on the people within them (10, 18).

These findings are important for educational policy. They tell us that programs designed to improve education in major shared environments (regions, ethnic groups, rural vs. urban areas) may have a possibility of working. Obviously these would have to be national policies.

The findings also tell us that isolated efforts to improve education by improving resources in limited areas--a school or a grade--will not have much long-run effect, possibly because without wide-spread acceptance within the cultural group the resources would be indifferently or incompetently applied. Let us now turn to the "unique environment."

The Unique Environment

By the unique environment we mean those parts of the person's social environments which vary substantially from individual to individual and which produce individual differences in behavior. The elements of a person's unique environment consist of the information presented to him and emphasized as important for him by other people whose judgment and actions he respects. For present purposes, these people are perhaps more precisely called significant others (25), although some have referred to them as "reference groups." There are two main types of significant others: definers and models. Definers influence the youngster because they tell him something about himself and his options. The most important of these communicate expectations regarding the youth's performance or attainment. Most youths come to accept the expectations that their significant others have for them. Models provide examples for the youth. The most influential significant others are people who are, at the same time, definers with clearly articulated expectations for the youth and models who exemplify what they expect. The persons who perform this function vary to some degree from individual to individual and from one type of behavior to another. The evidence that parents, peers, and school personnel frequently become significant others regarding educational and occupational decision-making is available in brief summaries (1, 23). The concept of significant others is only now beginning to receive the attention needed to make it most useful. Nevertheless, variables based upon it, especially the individual's conception of the expectations of significant others, are among those most highly and systematically related to

educational and occupational choice behavior (3, 11). We shall return to this in a moment.

Emergence of Attainment Variables

The factors which influence performance in the early years are not wholly identical to those which function later in the young person's educational career. During the first years, the basic causal variables are not well known. They may include the attitude of the teachers toward the student, the student's intelligence (learned or unlearned) and his family's socioeconomic status. Shortly afterward, it appears that the child's conception of himself as a learner--a self-conception, in turn, learned from others--begins to exert an influence on his performance. Being over-age in grade begins to exert a negative influence on the child due to environment while he is still in grade school. Later, but perhaps as early as the later elementary grades, parents and other significant others may begin to formulate and communicate to the child their expectations regarding college, which in turn influence whether or not the young person plans to go to college. Levels of occupational aspiration (9) are also developing at this time. At this point, college plans and levels of occupational aspiration are already correlated with grades in school but probably do not yet have any influence on how well the youth does in school.

By the later years of high school one's conceptions of his own ability to learn, his college plans, and his levels of occupational aspiration are all probably influencing grades and drop-out behavior (and, because of the finality of dropping out, his college enrollment and years of college completed). Significant others' expectations regarding college and occupations probably also begin to influence his performance, his plans, his hopes, and expectations for him.

Many of the details of the process are still unknown because of the substantial practical problems in conducting the necessary research. Our greatest gaps are in the early years. Appropriate longitudinal studies have been conducted on the later stages. Two sets of data exist on Wisconsin high school senior boys who were first studied in

1957 and followed up in 1964. One consists of farm-reared men from the whole State and the other of Milwaukee urbanites. To oversimplify, both studies showed that a great deal of the variation among the men in number of years of college completed is explained by a causal chain which includes the youth's college plans and the influence of his significant others' encouragement regarding college. This latter factor, in turn, was affected much more by the youth's performance in high school than by his family's socioeconomic level (20, 21).

In other research for the United States Office of Education (unpublished), we have been able to work out techniques for identifying significant others--the exact persons who are models and/or definers for any high school youth--and for measuring the variables describing their influence on the youth. We have found that definers are much more numerous than models.

Different kinds of significant others exert their influence in different ways, and some are more influential than others. We have learned that some models influence a youth by communicating to him the prestige levels of occupational aspiration they have for themselves. These models are often other young people. Other models are influential in that they exemplify the style of life characteristic of a given occupational prestige level. These are older people. But far more important are the definers. These people develop an expectation of what is possible and desirable for a given youth, and they communicate their expectation level to him. Though they may not have sociological data on the occupational prestige hierarchy, they believe that only a limited range of the hierarchy is appropriate for the youth. The correlation is quite high between the occupational prestige levels these significant others expect of a young person and the occupational prestige levels to which he aspires. The correlation is even higher between the educational level these significant others expect the person to attain and the educational level to which he aspires.

It should not be thought, however, that significant others exert the same amount of influence on the educational and occupational

decision-making of each youth. On the contrary, some young people seem to be embedded in a sea of such influence, while other young people have almost none at all. Moreover, one group of significant others has some kinds of effect on youngsters and other groups have different effects. A parent or other relative may be a model and a definer for a person regarding both education and occupation, thus having a substantial influence, but only on one youth. A school counselor may have a small influence on any one youth but may have a substantial net effect by influencing many. Several other young people may influence one person, but their individual effects are usually small and they may well be conflicting.

If we can change the appropriate parts of the unique environment of each individual, there is reason to believe we can change his educational and, ultimately, his occupational attainment levels. Apparently this requires that we identify the exact persons who exert the most influence on a students' educational and occupational decisions, measure the variables--primarily expectation levels--describing their modes of influence on him, and work out ways to change the levels of these variables. This assumes that the youth is already in a network of such influences. For those students who are not, it may be necessary to add new people to their unique environments or to heighten the educationally and occupationally relevant influence these people may have for particular students.

IMPLICATIONS FOR POLICY

We have seen that raising educational attainments of rural youth is an important key to raising youths' later occupational attainments, assuming continuation of a long-term trend of expansion of opportunity at the top of the occupational prestige structure and contraction or stagnation at the bottom. When people are classified by the large-scale shared environments to which they belong, notable differences in educational attainment indicators appear. When people are classified by the small-scale shared environments to which they belong, holding large-scale shared environments constant, there appear to be no appreciable differences in educational behavior indicators. These two findings give us the strong suspicion that whatever programs are devised may be most effective if they approach large-scale shared environments as wholes; programs may be ineffective if they deal with small-scale shared environments at all. But we have good reason to believe that change might be introduced by manipulating the unique environments of each individual student. Why could not this be done for students in the most strategic large-scale shared environments? The following points specify these implications.

1. The educational deficiencies occurring in rural sectors of the society, and their consequences for occupational and financial equality, are quite plainly responsible for some of our major modern problems. I see no reasonable escape from focusing massive resources on these rural sectors of the society, especially the minority ethnic groups and the poor whites in the rural South or Southwest. This focusing must be done, but not haphazardly or in an off-again on-again manner--this would produce a disaster. On the contrary, we need a single, overall educational policy for rural regions, rural ethnic groups, and rural peripheries of urban areas--a long-range plan for improving rural education with special but coordinated emphasis for different regions and ethnic groups. Blacks, poor whites, Mexicans, Indians, and Puerto Ricans should all be included. (Piecemeal moves such as improving a few schools here and there will have no useful effect. The supposed

influence of small-scale environments such as counties, neighborhoods, schools, and school classes, simply has not been found.)

2. We must not deceive ourselves into thinking that putting up buildings and buying equipment is enough (although these things may help, especially for schools that have almost nothing). The probable pay-offs are greater if we learn how to employ our growing knowledge of the actual and potential roles of significant others regarding education and occupations. We know that the unique environment of each individual is influential, and apparently the expectations that a youngster's significant others have for him are the single most potent influence on his educational attainment. Significant others evidently influence the youth's aspirations and his attitudes to learning, and through these his educational attainments. We need to learn: (a) how to provide such people for youngsters who do not have them; (b) how to make existing significant others aware that they play this role, aware of the ways they influence the youth; and (c) how to let the youth know of their influence on him. This should be done with all possible speed consistent with careful evaluation of the effects of such programs. This requires research and experience.

3. Assuming such programs work effectively, we should design ways and find resources to teach large numbers of people to utilize the motivational and informational potentials that already exist or could be brought into existence in the immediate social environment of the individual youth. We think this might be done by training school personnel to identify and measure the influence of the significant others of each youth, as well as how to use the information to raise the youth's performance levels. If initial experiments demonstrate the validity of this approach, this training should be done on the broad scale suggested in the first point above.

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