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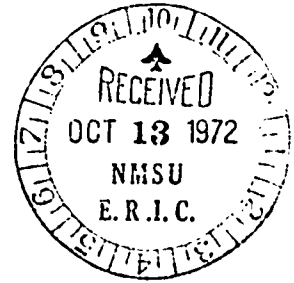
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ABSTRACT

The papers presented in this collection are said to represent the major thrusts of research and other scholarly activities of rural sociologists in the South in 1972. Arranged in the order of their presentation at the Rural Sociology Section of the Southern Agricultural Workers meetings, these papers discuss such topics as youth, social change in rural areas, sociology of the environment, social and economic indicators of rural development, race and culture, and population. "Occupational Choice and Perceived Goal-Blockage Among Black High School Seniors: A Rural-Urban Comparison" is 1 of 6 topics in Part I. "New Dimensions in Human Resource Development" is 1 of 7 topics in Part II. "Pollution and Solid Waste Disposal in the Rural South" is 1 of 5 topics discussed in Part III. "Social and Economic Indicators of Rural Development From the Sociological Viewpoint" is 1 of 2 titles in Part IV. "A Longitudinal Study of Black's Perceptions of Race Relations: A Study of Village Blacks in a Southern Area" is 1 of 4 headings in Part V. "Factorial Ecology and Demographic Research" is 1 of 4 topics in Part VI. Introductory and summary comments at the beginning of each major section are provided by the editor. (HBC)

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RURAL SOCIOLOGY IN THE SOUTH: 1972

*Proceedings
Rural Sociology Section*

Association of
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1972

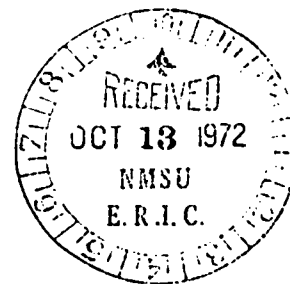
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Annual Meeting, Richmond, Virginia • February 13-16, 1972

Maurice E. Voland, Editor

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Editor

Department of Sociology
Agricultural Experiment Station
University of Kentucky
Lexington, Kentucky 40506
C.O. Little, Director

FORWARD

Included in this volume are copies of the papers presented in the Rural Sociology Section of the Association of Southern Agricultural Workers 1972 meetings in Richmond, Virginia. While these papers do not document all of the many and varied types of rural sociological research and other activities being carried on in the South, it may be said that these papers do represent the major thrusts of research and other scholarly activities of Rural Sociologists in the South in 1972.

The papers in this volume are arranged in the order of their presentation at the meetings. I have taken the liberty of providing some introductory and summary comments at the beginning of each major section in the hope of increasing the utility of the contents of this volume to the reader.

The officers of the Rural Sociology Section wish to express their appreciation to the many sociologists who participated in the 1972 meetings by preparing and presenting papers, chairing sessions, and serving in various other ways. Each paper presenter has provided copies of his paper to the Section Secretary-Program Chairman to make this volume possible.

Special appreciation is expressed to the Department of Sociology, the Agricultural Experiment Station and the Cooperative Extension Service of the University of Kentucky for assisting in the compiling, binding and distribution of this volume.

Maurice E. Volland, Editor - and -
Secretary-Program Chairman
Rural Sociology Section, 1971-72

RURAL SOCIOLOGY SECTION
ASSOCIATION OF SOUTHERN AGRICULTURAL WORKERS

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PART I

YOUTH

The occupational choice process has been one of the key interests of Rural Sociologists in the South in recent years. Much of this research has centered around social psychological and various cultural factors that influence the occupational choice process of young people.

The Cosby - Picou paper reports on perceived barriers to the attainment of desired occupations and provides a rural-urban comparison. The Picou, et. al. paper uses these and other data to develop various models of occupational choice pointing out variations for rural and urban populations.

Cultural factors are considered by Dhaliwal and Dhaliwal as well as by Singh as they are considering populations from various geographic regions and countries. Their research seems to indicate that when social status is controlled, many of the apparent differences in occupational aspiration seem to disappear. While scholastic performance by itself is not an indicator of occupational aspiration, it is a rather important facilitating or limiting factor when realistic as opposed to idealistic occupational choices are considered. In his paper, Asaro reports on an attempt to consider the effect of the youth peer culture on scholastic performance in the development of an instrument that will predict achievement.

Information on occupational alternatives has been generally identified as an important ingredient in occupational aspiration research. Pratt is reporting on an investigation of the use of the counseling program in rural high schools. She found that many eligible students were not utilizing these services and that students enrolled in college preparatory programs received more attention from the counselor than did vocationally oriented students.

Results from the current research thrust on the occupational choice process of youth is beginning to accumulate. These studies have provided documentation for much of what has been thought to be true in relation to the occupational choice process, while discovering additional information as well. This body of knowledge will help to form the basis for the development of policies and programs that will assist young people in preparing for career alternatives that may maximize their human potential without compromising their human dignity.

Occupational Choice and Perceived Goal-Blockage:
Residential and Racial Comparisons

Arthur G. Cosby
Texas A&M University

J. Steven Picou
The Ohio State University

Introduction

Kuvlesky (1970) in his presentation of a theoretical perspective for analyzing the "Dynamics of Occupational and Educational Status Projections" outlined a set of basic underlying assumptions which he considered that sociologists either explicitly or implicitly make in their studies of status projection phenomena. Quoting Kuvlesky, these were:

- (1) The sociologist's basic interest in status projections is in utilizing these phenomena as a means of understanding vertical social mobility. This leads to marked tendency to concentrate attention only on the rank element of social positions (statuses). Yet, it seems quite clear that people can and probably do orient themselves toward other attributes of social positions (Kuvlesky and Bealer, 1966).
- (2) It is presumed that individuals consciously orient themselves toward the future and cognitively structure their future social involvements.
- (3) Given the presumed future orientation, it is further assumed that people are predominantly rational in developing logical alignments among various status projections, in the modification of these in terms of perceived reality factors, and in the relationship that exist between status projections and actual attainment.
- (4) It is generally assumed that status projections represent mediating variables -- they evolve out of the socialization process and provide direction for future status placement by triggering appropriate anticipatory socialization (Lane and Ellis, 1968).

*Paper presented at the Rural Sociology Section of the ASAW Meetings, Richmond, Virginia, February, 1972. Development of this report was sponsored by the Texas Agricultural Experiment Station as a contribution to research project H-2811. The project contributes to USDA-CSRS regional project S-81, "Development of Human Resource Potentials of Rural Youth in the South and Their Patterns of Mobility." Appreciation is expressed to the Louisiana Agricultural Experiment Station and Al Bertrand and Petro Hernandez for the use of the Louisiana data set. Gratitude is also expressed to Taft Vivian, Maureen Isbell, and Sue Richardson for their assistance in the preparation of the manuscript.

- (5) The formation of status projections and their change over time is viewed as an evolutionary process consisting of several differentiated stages.

The purpose of this paper is to investigate some lower order propositions which can be derived from the aforementioned set of assumptions. More specifically, the paper will deal at the descriptive level with the perception of a set of reality factors (Perceived Goal-Blockage) between selected subgroups.

Some Theoretical Considerations

Typical theoretical treatments of the choice-selection-process frame their discussion in terms of stages or phases of choice where the nature and quality of choices vary according to the given stage. Ginzberg (1951) formulates the fantasy stage (pre-adolescent), the tentative stage (adolescent), and the realistic stage (late adolescent and early adulthood). Generally such discussions view the actor (child) as moving from stage to stage with his occupational choices becoming more focused, the range of occupations considered narrows and his commitment to a particular occupational goal tends to increase.

At various periods in the choice process, different types of choices can be delineated. Although there is considerable lack of agreement on appropriate terminology and perhaps conceptual differences, at least two dimensions of choice can be distinguished. First, there are occupational aspirations where the student's choice of an occupation is one he wishes or desires to enter as his life's work, second, there are occupational expectations where the student's choice of a particular occupation is one he expects or anticipates entering as his life's work (Blau, 1956; Glick, 1962; Kuvlesky and Bealer, 1966). In the pre-adolescent years, the child is thought to select those occupations that he perceives as being pleasurable. The choices are thought to be generally variable, quite often high in status, and often unrealistic in terms of the actual occupation which the individual will enter when he becomes an adult (Ginzberg, 1951). Furthermore, the choices at this period can be characterized as being "goal centered" with little or no concern for the means required to obtain the given occupation. During the adolescent years, the choices become more tentative and the range and type of desired and expected occupations are greatly narrowed. The individual now becomes concerned with the means required to obtain a particular occupational goal. As the actor introduces reality factors (in the present discussion considers the means required to obtain his occupational choice) he perceives or brings into his cognitive set obstacles or blocks which he views as limiting or obstructing his chances (opportunities) related to attainment of his choices. Furthermore, the perception of blocks should vary according to actual disparity of chances in the social situation.

During later stages of development occupational choices tend to become more realistic in terms of the individual's chances for actual attainment. The final occupational choice that a youth makes is thought to reflect a "compromise" between an individual's occupational desires and the reality factors that tend to define his actual chances for occupational attainment. (Ginzberg, 1951).

Residence and Perception of Goal Blockage

Lipset (1955) and Lipset and Bendix (1959) have pointed to the sharply differing economic and occupational structures of urban and rural settings as a device for explaining rural - urban patterns of social mobility. The urban occupational structure can be characterized by a larger number of available jobs and as having a greater diversity in types of occupations than the rural occupation structure. The fact that urban students develop their occupational cognitive set in the urban locale with its -road occupational structure increases his chances relative to the rural youth to experience a wider range of occupational influences and consequently to acquire a wider range of both formal and informal occupational knowledge. Of special interest in the urban setting are the informal influences resulting from association with friends and relatives who work in a variety of occupations who are thus able to transmit to the urban youth information about both the nature and availability of a wider range of occupations. In addition to the above factors, a similar argument can be set forth with respect to urban residence and the proximity of such institutions as vocational-technical schools, labor unions, colleges, and universities which more readily represent possible facilitation for the realization of occupational goals. If we can assume that perception of goal blockage varies according to the actual disparity of the residential setting, we can formulate the following propositions:

Proposition I: Urban youth will experience lower levels of perceived goal blockage than rural youth.

This is, in one very real sense, a simple minded assertion that tends to overgeneralize the effects of residence. There is some data resulting from the southern youth study S-61 that suggests that under certain conditions (broken homes) that the rural effect may be in the opposite direction.

Race and Perception of Goal Blockage

It is generally felt that no other segment of the American Youth population (with the possible exceptions of Mexican-American and American Indian youth) have the special difficulties of occupational attainment as do the black youth. The racial disparity in opportunities and subsequently attainment is typically explained in terms of a set of social, demographic, economic, and historical factors which have been operating for years (Rose, 1957; Simpson and Yinger, 1965; and Broom and Glenn, 1965). For example, during the last two decades, the unemployment rates for young blacks have generally run about twice that of whites. Even when employed the black has been traditionally excluded from many industries and professions, and in those jobs where blacks are employed, their work more often than not has been limited to unskilled or to those skilled occupations which are considered either inappropriate or unattractive to white workers. Furthermore, job competition between blacks and whites has to a very large degree been restricted by a "social definition" of some occupations as white work and others as black work. The rather

unfortunate expression "nigger work" referring to menial, dirty unpleasant labor is indicative of the extent of the racial disparity. The strength of this type of explanation has probably decreased as a result of the gains in opportunities evolving from the civil rights movement of the last decade. Without further elaboration on the race-linked disparity in occupational chances, Proposition II is derived.

Proposition II: White youth will experience lower levels of perceived blockage than Black youth.

Changes in Perceived Goal Blockage

Since earlier stages of occupational development are usually considered to be characterized by fantasy or goal centered choices and that the later adolescent stages are thought to be more realistic resulting from the introduction of reality (limiting) factors, the proposition that increase awareness of goal blockage will occur over time can be formulated. It should be noted that one may further expect an intensification of awareness of blocks at points in development such as time of high school or college graduation or time of school drop out.

Proposition III. The perception of goal blockage will increase as high school students approach the time of graduation.

Data Set I: Louisiana Data

Data Set I was obtained in the spring of 1968 from group-administered interviews with 264 male and female black high school seniors in Louisiana. The rural sub-sample consists of 157 students, 67 male and 90 female. The rural respondents were selected from four non-metropolitan parishes (counties). All seniors present were sampled. The urban sample was drawn in January of 1969 from two, large, all-black high schools located in Baton Rouge. A twenty percent random sample of senior homerooms was taken.

The vast majority of all respondents came from families of low socio-economic status reflecting a probably poverty situation. Seventy percent of all major wage-earners in the respondents families were either unemployed or held low status occupations. Furthermore, the families were characterized by high rates of broken homes.

Data Set II: East Texas Panel

Data Set II consists of interviews at two time periods with a panel of East Texas high school students. In 1966, a total of 484 group-administered interviews with high school sophomores in 15 East Texas high schools. The sample was designed to insure the inclusion of both male-female and white-black student. The panel was re-interviewed during their senior year in the spring of 1968. Group administered interviews were again used resulting in 325 interviews. In addition 71 schedules were completed by personal interviews and 37 by mail out questionnaire resulting in a total recontact sample of 433 or slightly less than 90% of the original sample. The 1968 recontact included both students and high school dropouts.

Measurement Operations: Data Set I

In the Louisiana Data Set, two open-ended questions were employed to obtain the occupational desires and plans of the respondents. The occupational desires or aspirations were determined by the responses to the following question:

If you were completely free to choose any job, what would you most desire as a lifetime kind of work?

Occupational plans, or expectations, were obtained from the responses to the following question:

What kind of job do you really expect to have most of your life? The responses to both of these questions were coded according to the Edwards' socio-economic grouping of occupations. This scheme was then collapsed into three broad levels to facilitate analysis of the data. Professional occupations were classified as "high-level" occupations. "Middle-level" occupations included owners, managers and officials, clerical and sales jobs and skilled workers. "Lower-level" occupations consisted of operatives, laborers and other unskilled occupations. The above occupational coding procedures were utilized in the classification of both the occupational desires and occupational plans of the respondents.

Perceived occupational goal-blockage was determined from a fixed-choice question which asked the respondents to indicate if the following factors would or would not affect the eventual attainment of their occupational goals: (1) not enough money to go to technical school or college; (2) the schools I have gone to; (3) no technical school or college nearby; (4) don't know enough about opportunities that exist; (5) lack of good job opportunities in or near my community; (6) my race; (7) not smart enough.

Measurement Operations: Data Set II

The decision to include the East Texas Panel in the analysis was to obtain additional information about racial and longitudinal differences in the perception of occupational goal blockage. Perceived occupational goal blockage was determined from a slightly differing (differing somewhat from the question used in data set I) question which asked the respondents both in 1966 and again in 1968 to indicate if the following factors would or would not effect the eventual attainment of their occupational goals: (1) not wanting to move; (2) good jobs are getting scarce; (3) no technical schools or college nearby; (4) not knowing enough about opportunities; (5) my race; (6) not being smart enough; and (7) lack of good job opportunities in or near my community.

Analysis of Data Set I

Overall, the occupational aspirations of all the respondents in the Louisiana sample were found to be high. Approximately 67 percent of the urban males, 54 percent of the rural males, 74 percent of the urban females and 61 percent of the rural females expressed high level aspirations. It is also interesting to note that very few of the respondents desired low level occupations. Only in the rural male category did a substantial portion (16 percent) of the respondents indicate low level aspirations.

Table 1. The Level of Occupational Aspirations of Rural and Urban Blacks by Sex^a (Louisiana Data Set)

	Males ^b		Females ^c	
	Urban (N=42) %	Rural (N=60) %	Urban (N=65) %	Rural (N=87) %
High Aspirations	67	54	74	61
Medium Aspirations	26	30	23	38
Low Aspirations	7	16	3	1

^aUtilizing the two sample test of difference in proportions, statistically significant differences were found between the proportion of rural and urban high aspirants for both males and females. For a discussion of this test, see: (Blalock, 1960).

$${}^b Z=1.216; \text{Pr } [(P_1^* - P_2^*) < 0] > .05.$$

$${}^c Z=1.688; \text{Pr } [(P_1^* - P_2^*) < 0] < .05$$

Although there was a strong tendency for black youth in each of the categories to have high-level occupational goals, differences in aspiration levels were observed between the rural and urban female respondents. In the female sub-samples, a larger proportion of urban respondents had high-level aspirations, e.g., urban females .74 versus rural females .61. This difference was found to be statistically significant utilizing the two sample test of differences between proportions. The difference of proportion between urban males and rural males with high-level occupational aspirations was not found to be significant (Table 1).

The analysis of the occupational expectations of the respondents revealed that expectation levels followed a pattern similar to occupational aspirations (See Table 2). First, as found for occupational aspirations, large proportions of the students expected to enter high-level occupations. For example, slightly less than one-half (49 percent) of the urban males and 64 percent of the urban females anticipated holding jobs in the future that fell into the high-level category. Second, sharp sex differences were discernable for the respondents who planned to enter low-level occupations. Table 4 reveals that about 36 percent of the rural males and 15 percent of the urban males manifested low-level occupational plans. In contrast, only one percent of the rural females and three percent of the urban females anticipated future employment in the low-level occupational category. Third, statistically significant differences were observed between the proportions of urban and rural females that expected to enter high-level occupations. However, no similar statistically significant variation in the high-level occupational category was found for males.

Table 2. The Level of Occupational Expectations of Rural and Urban Blacks by Sex (Louisiana Data Set)

	Males ^a		Females ^b	
	Urban (N=41) %	Rural (N=50) %	Urban (N=63) %	Rural (N=79) %
High Aspirations	49	38	64	49
Medium Aspirations	36	26	33	49
Low Aspirations	15	36	3	1

$${}^a Z = 1.050; \Pr [(p_1^* - p_2^*) \leq 0] > .05.$$

$${}^b Z = 1.787; \Pr [(p_1^* - p_2^*) \leq 0] < .05.$$

Because of the close link between formal educational training and high level occupational attainment, information was collected concerning educational factors that the student might possibly view as limiting the attainment of his occupational goals. The data included such potential limiting facilities as: (1) the students' evaluation of the "schools they have attended;" (2) the "nearness of technical school or college" and (3) "lack of enough money to go to technical school or college."

Relatively large proportions of both males and females and rural and urban students perceived these educational limitations as lessening their occupational chances. Of the three factors, the lack of enough money was by far the most common response. For example, 82 percent of the rural males and 72 percent of the urban males thought that lack of money for educational training would have some effect in keeping them from getting the jobs they desired. Furthermore, substantial proportions of the rural and urban females perceived this factor as an important blockage for the eventual attainment of desired occupational goals. The perceived effects of the closeness of technical schools and colleges and the perceived effects of the school attended were of considerably smaller magnitude. (See Table 3 for the percentages for the various subclasses).

Table 3. Perceived Educational Blocks to Attainment of Occupational Aspirations (Louisiana Data Set)

Perceived Blockage	Urban Males Some Effect %	Rural Males Some Effect %	Urban Females Some Effect %	Rural Females Some Effect %
"Not Enough Money to go to Technical School or College	72	82	62	73
"The Schools I Have Gone to"	44	42	39	47
"No Technical School or College Nearby"	34	44	24	36

A second set of possible perceived blocks were concerned with: (1) the student's perception of his race as a limiting factor; (2) his perception of his intelligence; (3) his perception of his knowledge about existing opportunities and (4) his perception of the lack of job opportunities in or near his community. As with the perception of the various educational blocks, relatively large proportions of the students in the various subgroups viewed these factors as having some effect in limiting their occupational chances.

An unanticipated finding was that substantial proportions of the respondents indicated that they thought their race would have "no effect" on the eventual attainment of their occupational goals. For example, the percentages ranged from 41 to 59 percent. It had been expected that the perception of race as a block would rank very high among black students as a result of the sharp racial disparity found in the deep south.

Table 4. Perception of Race, Intelligence, and Knowledge of Opportunities as a Block to Attaining Occupational Aspiration (Louisiana Data Set)

Perceived Blockage	Urban Males Some Effect %	Rural Males Some Effect %	Urban Females Some Effect %	Rural Females Some Effect %
My Race	59	44	50	41
Not Smart Enough	57	37	40	46
Don't Know Enough About the Opportunities that Exist	67	55	50	55
Lack of Good Job Opportunities in or Near my Community	65	74	71	76

The data also suggested that a fairly large porportion of the students had a negative evaluation of their ability in terms of their intelligence and in terms of their knowledge of opportunities. For example, approximately 57 percent of the urban males and 37 percent of the rural males thought that their "not being smart enough" would have some effect in keeping them from attaining their aspirations. Likewise, about 55 percent of the rural males felt that their lack of knowledge would limit attainment. Both findings suggest support of the contention that disadvantaged southern black youth tend to have negative self-concepts.

The last potential block investigated was the perception of the "lack of good jobs in or near the students' community." Again, large proportions of the students in all the subclasses said that this block would limit the attainment of their aspirations. It is interesting to note that, although the job opportunities are generally considered to be very restricted in the rural areas, there was little difference between rural and urban blacks in the perception of this factor as a block.

Analysis of Data Set II

In the analysis of the East Texas Data Set, the perception of goal blockage was compared between racial groupings (white-blacks) over time. The analysis was made on an item-by-item bases. The degree of blockage was determined by the response of some, much, or very much to the goal blockage question.

Table 5. Change in perception of No technical school or college nearby as a factor in blocking the attainment of their occupational aspirations [East Texas Sample]^a

Degree of Effect	Proportion		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.48(N=193)	.46(N=162)	-.02
Whites	.35(N=273)	.24(N=221)	-.11
Racial Difference	+.13	+.22	
Have much effect (much + very much)			
Blacks	.20(N=193)	.21(N=162)	+.01
Whites	.11(N=273)	.06(N=221)	-.05
	+.09	+.15	
Have very much effect (very much)			
Blacks	.12(N=193)	.10(N=162)	-.02
Whites	.07(N=273)	.01(N=221)	+.06
	+.05	+.09	

^aTotal N = 484

^bNo information = 8

^cNo information = 93

The first item considered was the perception of no technical school or college nearby as a factor in the blocking the attainment of occupational goals. There was an apparent overall tendency for black youth both in their sophomore year (1966) and senior year (1968) to be more likely to perceive this factor as a block than among the white youth. For example, 48 percent of the black youth as compared to 35 percent of the whites viewed this factor as having some effect in 1966. By 1968, the magnitude of the racial difference had increased to 46 percent for the blacks and only 24 percent for the white subgroup. There was also a discernable difference in the magnitude of the racial difference as the degree of the effect (some, much, or very much) increased (see Table 5). The magnitude of the racial difference appeared to decrease with increases in the degree of effect.

The change over time (1966 to 1968) in the perception of this blockage factor did not support the proposition of increased awareness over time. In fact there was a tendency especially among the whites for a decrease in perception rates.

The perception of good jobs getting scarce as a blockage factor revealed slightly different racial trends (Table 6). In 1966, only slight racial variation were observed, i.e., 47 percent for blacks and 49 percent for whites as having some effect. Similar percentages were observed with increased degree of effect. However, somewhat larger racial differences were observed by the senior year. No noticeable increase in the racial difference with change in the degree of effect was found.

Table 6. Change in the Perception of GOOD JOBS GETTING SCARCE as a factor in blocking the attainment of their occupational aspirations [East Texas Sample]

Degree of Effect	Proportions		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.47(N=191)	.48(N=163)	+ .01
Whites	.49(N=273)	.38(N=222)	- .11
Racial Difference	-.02	+.10	
Have much effect (much + very much)			
Blacks	.19(N=191)	.15(N=163)	-.04
Whites	.18(N=273)	.10(N=222)	-.08
Racial Difference	+.01	+.05	
Have very much effect (very much)			
Blacks	.10(N=191)	.08(N=163)	-.02
Whites	.07(N=273)	.02(N=222)	-.05
Racial Difference	+.03	+.06	

^aTotal N = 484

^bNo information = 11

^cNo information = 91

As was the case with the perception of the first block factor (no technical schools or college nearby), no increases in perception of good jobs are getting hard to find was observed between the sophomore and senior years.

The third factor to be considered, perception of lack of good job opportunities in or near my community, as a goal blockage factor revealed few noticeable differences between racial groups. The largest racial differences here were only 6 percent. Also no clear relationship between degree of effect and magnitude of racial difference was found.

There was, however, a slight tendency for the percentage of students perceiving this factor as a block to increase over time; e.g., 68 percent of the students when they were sophomores and 76 percent of the students when they were seniors perceived this factor as a goal block. It should

also be pointed out that of the seven factors considered as blocks in this study, lack of good jobs in or near my community as having a higher degree effect than any of the other blocks.

Table 7. Change in perception of the Lack of Good Job Opportunities in or near my community as a factor in blocking the attainment of their occupational aspirations [East Texas Sample]^a

Degree of Effect	Proportion		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.68(N=193)	.76(N=160)	+.08
Whites	.66(N=274)	.70(N=222)	
Racial Difference	+ .02	+ .06	+.04
Have much effect (much + very much)			
Blacks	.34(N=193)	.36(N=160)	+.02
Whites	.29(N=274)	.39(N=222)	
Racial Difference	+ .05	- .03	+.10
Have very much effect (very much)			
Blacks	.19(N=193)	.21(N=160)	+.02
Whites	.13(N=274)	.18(N=222)	
Racial Difference	+ .06	+ .03	+.05

^aTotal N = 484

^bNo information = 7

^cNo information = 93

The fourth factor considered was Not Knowing enough About Opportunities. In each racial comparison, a higher percentage of black students than white students indicated that this factor had some effect. However, the magnitude of the differences were small ranging from only 9 to 3 percent. No trends were noted with respect to magnitude of racial differences and increase in degree of effect. Also, the changes from the sophomore to senior year were all slight ranging from 1 to 6 percent.

Table 8. Change in perception of Not knowing enough about opportunities in blocking the attainment of their occupational aspirations [East Texas Sample]^a

Degree of Effect	Proportion		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.60 (N=193)	.59 (N=162)	-.01
Whites	.54 (N=274)	.56 (N=220)	-.02
Racial Differences	-.06	+.03	
Have much effect (much + very much)			
Blacks	.20 (N=193)	.17 (N=162)	-.03
Whites	.14 (N=274)	.08 (N=220)	-.06
Racial Difference	+.06	+.09	
Have very much effect (very much)			
Blacks	.11 (N=193)	.06 (N=162)	-.05
Whites	.07 (N=274)	.03 (N=220)	-.04
Racial Difference	+.04	+.03	

^aTotal N = 484

^bNo information = 7

^cNo information = 94

The blockage factor not wanting to move was considered next. The expected racial differences were observed in both the sophomore and senior interviews: 35 percent of the black sophomores perceived some effect as compared to 28 percent of the whites, and in the senior interview 37 percent of the blacks as compared to 23 percent of the whites perceived some effect. No consistent trend was observed as the degree of effect increased.

The changes in the perception of blocks between the sophomore and senior year were generally small. Furthermore, the tendency was for a slight decrease in perception in the senior year.

Table 9. Change in the perception of not wanting to move as a factor in blocking the attainment of their occupational aspirations [East Texas Sample]^a

Degree of Effect	Proportions		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.35(N=191)	.37(N=163)	+.02
Whites	.28(N=273)	.23(N=222)	-.05
Racial Difference	+.07	+.14	
Have much effect (much + very much)			
Blacks	.17(N=191)	.13(N=163)	-.04
Whites	.12(N=273)	.05(N=222)	-.07
Racial Difference	+.05	+.08	
Have very much effect (very much)			
Blacks	.10(N=191)	.07(N=163)	-.03
Whites	.05(N=273)	.02(N=222)	-.03
Racial Difference	+.05	+.05	

^aTotal N = 84

^bNo information = 10

^cNo information = 91

Race as a perceived blockage factor was considered next. As would be expected much larger proportions of the black youth both in the 1966 and 1968 recontacts perceived their race as a blockage factor. Approximately 43 percent of blacks and 9 percent of the whites so indicated in the sophomore contact. Similar percentages were absent in the 1968 recontact. As was the case with the Louisiana data set, the proportion of blacks who considered race as a block was less than expected.

The magnitude of the racial difference also tended to decrease with increases in the degree of effect. Differences of +.34 percent and +.39 percent were observed between racial grouping in both contact (race having some effect). However, comparable differences of +.12 percent and +.11 percent were found for race having very much effect. There was also a slight downward trend in the percentages overtime.

Table 10. Change in the perception of Race as a factor in blocking the attainment of their occupational aspirations [East Texas Sample]^a

Degree of Effect	Proportions		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.43(N=191)	.42(N=163)	-.01
Whites	.09(N=271)	.03(N=222)	-.06
Racial Difference	+ .34	+ .39	
Have much effect (much + very much)			
Blacks	.18(N=191)	.17(N=163)	-.01
Whites	.05(N=271)	.01(N=222)	-.04
Racial Difference	+ .13	+ .16	
Have very much effect (very much)			
Blacks	.14(N=191)	.12(N=163)	-.02
Whites	.02(N=271)	.01(N=222)	-.01
Racial Difference	+ .12	+ .11	

^aTotal N = 484

^bNo information = 11

^cNo information = 91

The last goal blockage factor considered was Not being smart enough. Although there was a tendency for higher percentages of black students in each comparison, to perceive of this factor as a block, the magnitude of the differences were small (only in one comparison was there a 10 percent difference). No clear trends were observed between the racial differences and degree of effect. Also, there was a slight decrease in perception of factor over time.

Table 11. Change in perception of Not being smart enough in blocking the attainment of their occupational aspirations
[East Texas Sample]^a

Degree of Effect	Proportion		Change
	1966 ^b Sophomore Year	1968 ^c Senior Year	
Have some effect (some + much + very much)			
Blacks	.46(N=196)	.46(N=161)	0
Whites	.45(N=274)	.42(N=222)	-.03
Racial Difference	+.01	+.04	
Have much effect (much + very much)			
Blacks	.21(N=196)	.12(N=161)	-.09
Whites	.11(N=274)	.07(N=222)	-.04
Racial Difference	+.10	+.05	
Have very much effect (very much)			
Blacks	.11(N=196)	.07(N=161)	-.04
Whites	.07(N=274)	.02(N=222)	-.05
Racial Difference	+.04	+.05	

^aTotal N = 484

^bNo information = 4

^cNo information = 92

Discussion

Analysis of the Louisiana data revealed that lower-class southern rural and urban black youth have relatively high-status occupational desires and plans for the future. These occupational choices appear "unrealistic" in terms of: (1) the past attainment of youth with similar disadvantaged backgrounds; (2) the present opportunities available to the majority of southern blacks; and (3) the actual occupations these youth will probably enter.

In addition, it was found that significant differences existed between rural and urban females in the high aspiration and expectation categories. For both occupational aspirations and expectations proportionately more urban females were found in the high occupational category than their rural counterparts. This finding tends to support Seymour M. Lipset's (1955) contention that rural youth have lower occupational aspirations than urban youth only for black females. This finding contradicts the findings of an earlier study by Middleton and Grigg (1959). Also the lack of a statistically significant relationships could occur, e.g., the male difference was .13 yet not statistically significant. The rationale for reporting these findings is to demonstrate the similarity or lack of similarities between this data set and data sets reported in previous studies.

The respondents tended to show an overall agreement in their perception of factors that would tend to block the eventual attainment of their occupational goals. Large proportions of all respondents perceived lack of financial resources for continuing their education beyond high-school as an important occupational goal-blockage factor. This finding provides further support for the contention that the occupational goals of the respondents are unrealistic because one of the most salient prerequisites for placement in the majority of high-status, professional occupations is graduate-level college training. Ostensibly, lack of money to attend college is a very realistic deterrent to the occupational goals of disadvantaged youth. Both rural and urban respondents were cognizant of the fact that the attainment of their occupational aspirations would be hampered by lack of job opportunities in their communities.

Proposition I: Urban youth will experience lower levels of perceived goal blockage than rural youth.

The data suggest that this proposition was only partially supported. Rural youth both male and female were more likely than urban youth to perceive educational linked blocks as effecting the attainment of their occupational goals. This generalization held for the factors: (1) "not enough money to go to technical school or college," (2) "the schools I have gone to," and (3) "no technical school or college nearby." Similarly, rural youth were more likely (however, the magnitude of the difference was less) to perceive of the "lack of good job opportunities in or near my community." The one exception was with the males perception of the schools I have gone to." On the other hand, the urban male students were more likely to perceive "self concept" linked factors as blocking their occupational attainment, i.e., higher percentages of urban males perceived (1) "my race," (2) "not

smart enough" and (3) "don't know enough about the opportunities that exist." The female differences were mixed. The first generalization closely approximates a social psychological version of the Lipset hypothesis, i.e., rural youth are more likely to perceive community factors (educational and occupational) as blocking the attainment of their goals. Urban youth, or at least, urban males tended to look inward (to their race, their knowledge, and their intelligence) in the perception of blocks. The above set of generalizations were empirically derived and are set forth not as findings but rather are suggestive of possible hypotheses for future research.

Proposition II: White youth will experience lower levels of perceived blockage than Black youth.

The item by item analysis of racial differences observed in the East Texas Data can be summarized as follows. When racial comparisons were made over time and with respect to degree of effect, forty-two comparisons resulted (these were not all independent comparisons, however). In forty of the forty-two comparisons, higher proportions of black students than white students perceived the factor as having effect. This information was indicated in the various tables by the sign of racial difference. When a different evaluating technique was used more mixed results occurred. This second evaluating technique utilized both the sign and informal measure of the magnitude of the racial difference. A difference of .08 was somewhat arbitrarily selected (the rationale for using .08 was that such a magnitude would have yielded statistical significance had tests been appropriate). Using this method racial difference occurred in only sixteen of the forty-two comparisons. The majority of the difference were observed in response to two factors: race and no technical schools or college nearby.

Proposition III. The perception of goal blockage will increase as high school students approach the time of graduation.

Of the forty-two comparison over time of the perception of blacks, increases in perception were observed in only nine comparison. The overall tendency was for perception to slightly decrease - a finding contradictory to the above proposition. When the .08 measure was applied increase were observed in only two comparisons and decreases in only four comparisons suggesting little change had occurred.

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OCCUPATIONAL CHOICES OF ELEMENTARY, JUNIOR, AND SENIOR HIGH SCHOOL
GIRLS FROM AMERICA AND INDIA AS INDICATORS OF CROSS CULTURAL DIFFERENCES

Kailash K. Dhaliwal

Mammohan S. Dhaliwal

Department of Education, Alcorn A. & M. College
Lorman, Mississippi

ABSTRACT

This study was conducted for the purpose of investigating cultural differences among the pupils of India and America with respect to degree of importance placed upon vocational choices. The group of students involved in this study were from four schools in Delhi and New Delhi (India) and from three schools in Logan, Utah (U.S.A.). The occupation of the father was used as the principal criterion for defining the social class levels of the pupils under study. The students in their respective countries belonged to the same socio-economic status.

Occupational choices of the female students in the American sample and their reasons for adopting a particular occupation differed significantly when compared by Chi-Square analysis. This showed that girls at each grade level did not have any similarity in their occupational choices or in their reasons for their choices. As the girls moved from elementary to high school, they changed in personality and behavior. The comparison of the occupational choices of female students in comparison to their father's occupation showed that pupils had the tendency to follow their fathers at the ninth and eleventh grade levels but that they chose higher occupations at the sixth grade level.

The girls in the Indian sample had similar occupational choices at sixth, ninth, and eleventh grade levels. In this case the age and the advancement of education of the girls did not have any influence in changing occupational choices. On the other hand, reasons given by them for adopting a particular occupation were significantly different at every grade level. It is surprising but interesting to note that the Indian girls were similar in their occupational choices but not in the reasons. Occupational status of the girls as compared to their father's occupation was higher at sixth and eleventh grade levels but girls followed their parents at ninth grade level.

Occupational choices, and the reasons for adopting a particular occupation of the American and Indian female students at sixth, ninth, and eleventh grade levels, were significantly different. These differences may be accounted for cultural and educational differences of the two nations, and also the society in which the pupils live may have great influence upon the students. The female students of the two nations were similar in their occupational choices of receiving higher occupational positions as compared to their father's occupation at sixth grade level while girls from both the sources at ninth grade level showed the trend of following their fathers. At the eleventh grade level the girls in the American sample followed their fathers while the girls in the Indian sample did not follow their fathers and preferred higher occupations in comparison to their parents.

REVIEW

Educators are deeply concerned with the vocational choices of our secondary school children. The choice of a vocation is without a doubt one of the most important decisions the students are called upon to make. Having a vocational objective at the school level is important in a society like that of India and also of America where earning a living is important and where occupational roles are of major significance.

Education is a social institution which is ultimately bound with the culture in which it functions. As our culture has every expectation for work for girls, it seemed worth while to examine the ways in which the high school girl in India differs from the high school girl in America when responding to the question for what she really values and desires in a job. In this way we might see if cultural roles do influence the adolescent's desire in the field of occupational selection and adjustment.

Nelson (1938) reported that certain vocations such as agriculture and labor seem to act as "feeders" for other vocations. On the other hand, such vocations as medicine, Journalism, and teaching are gainers from the college shuffle. He also stated that the degree of relationships between father's occupation and the student's vocational choice is small, but positive and significant. In fact, the larger percentage chooses an occupation at a higher level than that of their father's. General agreement between the occupational attitudes of the parents and their children was suggested by Dyer (1958). Parents were among the more influential factors in students' occupational or educational selections. It was reported by Switzer (1962) that the parents play a major role in vocational choice. From the study of Hays (1961) it is apparent that ninth grade superior students prefer to make their own decisions as the educational and vocational matters, but parents, particularly the father, would rather make the choices than leave them to their children or to their mates. Jersild (1957) pointed out that approval by one's school mates becomes a strong factor in occupational decision making as boys and girls reach adolescence. Little (1959) reported that the majority of high school seniors planned to do what their friends were doing after graduation.

Singh and Prasad (1962) were convinced that occupational prestige and stereotypes were the most potent determinants of occupational choices. Among Indians many students are vocationally immature. Singh et al (1961) also found that American students are more self centered while Indian and Chinese are social centered. Carter (1948) showed that the expressed preferences of boys and girls in their early and middle teens are unstable. Using Bordin's theory of occupational choice, Schultz and Blocher (1960) reported

significant relationship between vocational preference and occupational stereotypes selected as self-descriptive by twelfth grade students. They later found that twelfth grade students perceived both their self-concepts and their ideal concepts to be closer to stereotypes of workers in occupations with little interest. A definite relationship was revealed by Uzzell (1961) between respondents, occupational aspirations and their knowledge of occupation.

The institute of student opinion (1958) reported the occupational preferences of over 10,000 students, covering grades 7 through 12, and found that sex influenced occupational preference. Singer and Buford (1954) indicated that job values and desires are significantly related to the sex of the adolescent respondent. In an other study they also reported that sex differences influenced job values and desires. An analysis of undergraduate records revealed that certain factors are positively related to the measured interest and/or present occupation of alumnae. Further Warren (1959) found that vocational interests were different among different groups of college women. Girls today are faced with conflicting pressures in developing an occupationally relevant self-concept. There is also evidence that the majority of American women and small proportion of Indian women will devote an increasingly large share of their adult lives to work outside the home. Yet little is known about the vocational development of women.

The study of differences in cross culture is now a defined field, the rapid growth of which has been made possible by much research over the past ten years. It is no longer necessary to indicate the increasing scope and importance of this field or to emphasize the continuing widespread interest in the field due to the accelerating growth in international travel, exchange and communication. This study is an effort to contribute useful information about cultural differences among the girls of American and India which may help in the management of human adjustment problems in order to control human resources and to maximize effective cross cultural adjustment.

METHODOLOGY

The group of students involved in this study were enrolled in four schools in Delhi and New Delhi, India. Schools in America were representative samples of Urban area in Utah. Like American Schools the medium of instruction in Indian Schools under study was English. The children going to these schools belonged to middle and upper class families in India, the status of which is quite comparable to American families whose children go to schools under study. Students in each group seemed to be uniform with respect to mental maturity.

Each student was asked to write a composition on the subject "What I want to do when I grow up" and why? In addition to their grade, sex, and hometown, they were asked to indicate their father's occupation, designation, and business address. The occupation of the father was used as the principal criteria for defining the social class levels of the pupils to be studied. Students selected (from sixth, ninth, and eleventh grade) for this study were given the questionnaire personally in the class, with an explanation of the importance of the study, and they were told that the inquiry will be considered strictly confidential. The test to the students in India was administered by Author's husband, Dr. Manmohan S. Dhaliwal who was then working in the education department in Delhi.

Occupational choice is one of the major variables in Social Research. It was thought appropriate to use Warner, et al,s (1964) revised scale for rating occupation in this research. The major classification include professionals, businessmen, clerks, manual workers, farmers, service workers, and farm laborers. The study of values aims to measure the relative prominence of six basic interests or motives in personality: Theoretical, economic, aesthetic, social political, and religious. This classification is based directly upon Spranger's work (1928).

The statistical analysis (1964) consisted of the Chi-Square test to determine the probability and significance of differences among American and Indian girls of professional choices and on frequency of different types of reasons. The data on a father's occupation and pupil's choice, the same occupation or to an occupation of higher or lower status were also analyzed using the same statistical technique.

Results and Discussion

This study was conducted to ascertain differences among the pupils of two countries with respect to the degree of importance placed upon vocational choice. It is fairly obvious that occupations vary with regard to a wide variety of characteristics such as income, work conditions, command of respect or prestige, training requirements, and numerous other features as culture, etc.

Father's Occupation of Female Students in the American Sample

The purpose of collecting these data was to ascertain if significant differences were present between the socio-economic status of girls at different grade levels. The distribution patterns of father's occupational classification of girls is presented in figure 9-1. It can be seen that occupations of most fathers of 6th, 9th, and 11th grade girls fall in occupational classifications 1, 5, and 2 respectively.

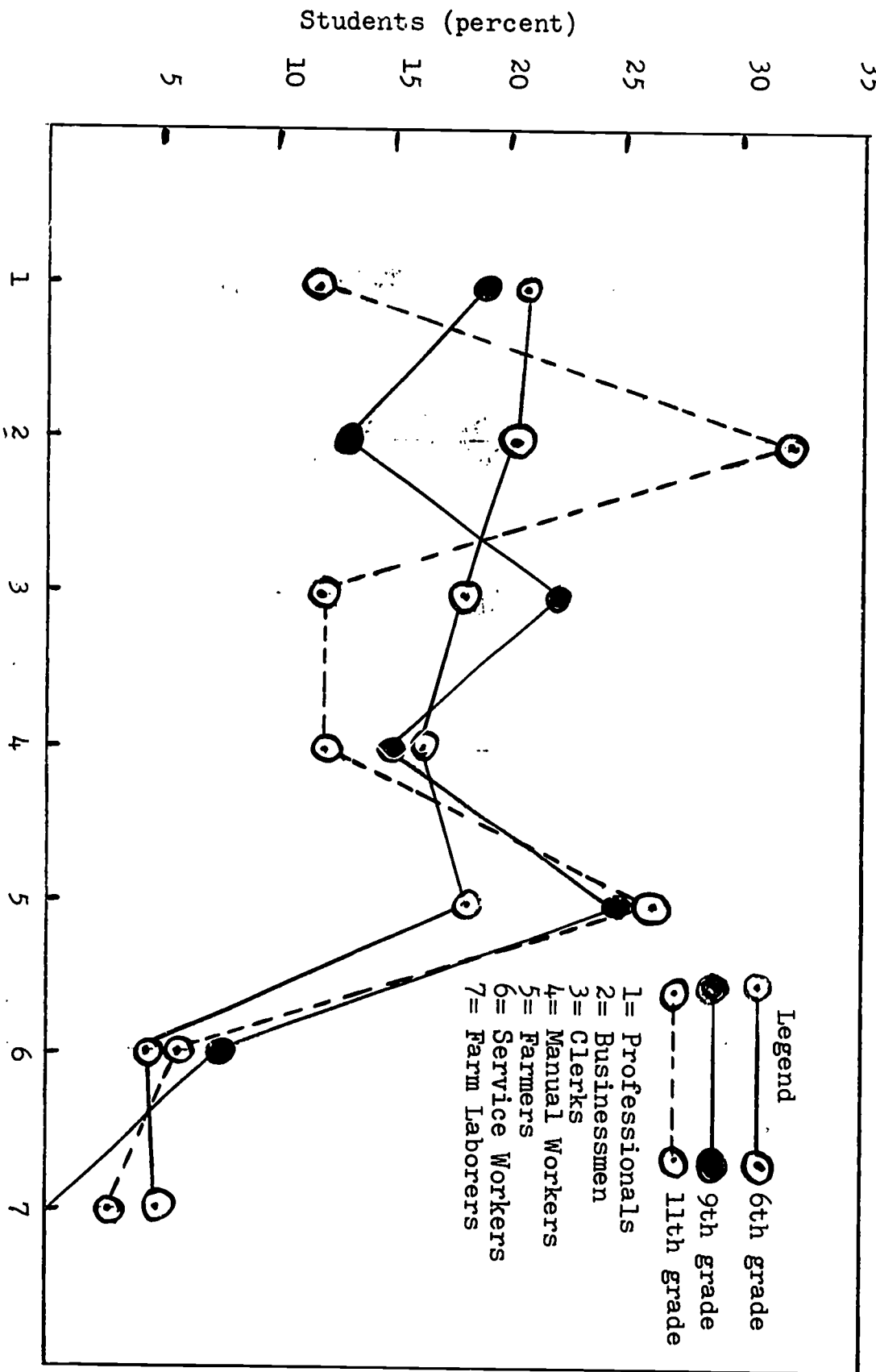


Figure 9-1 Father's Occupation of the American female students for sixth, ninth, and eleventh grades

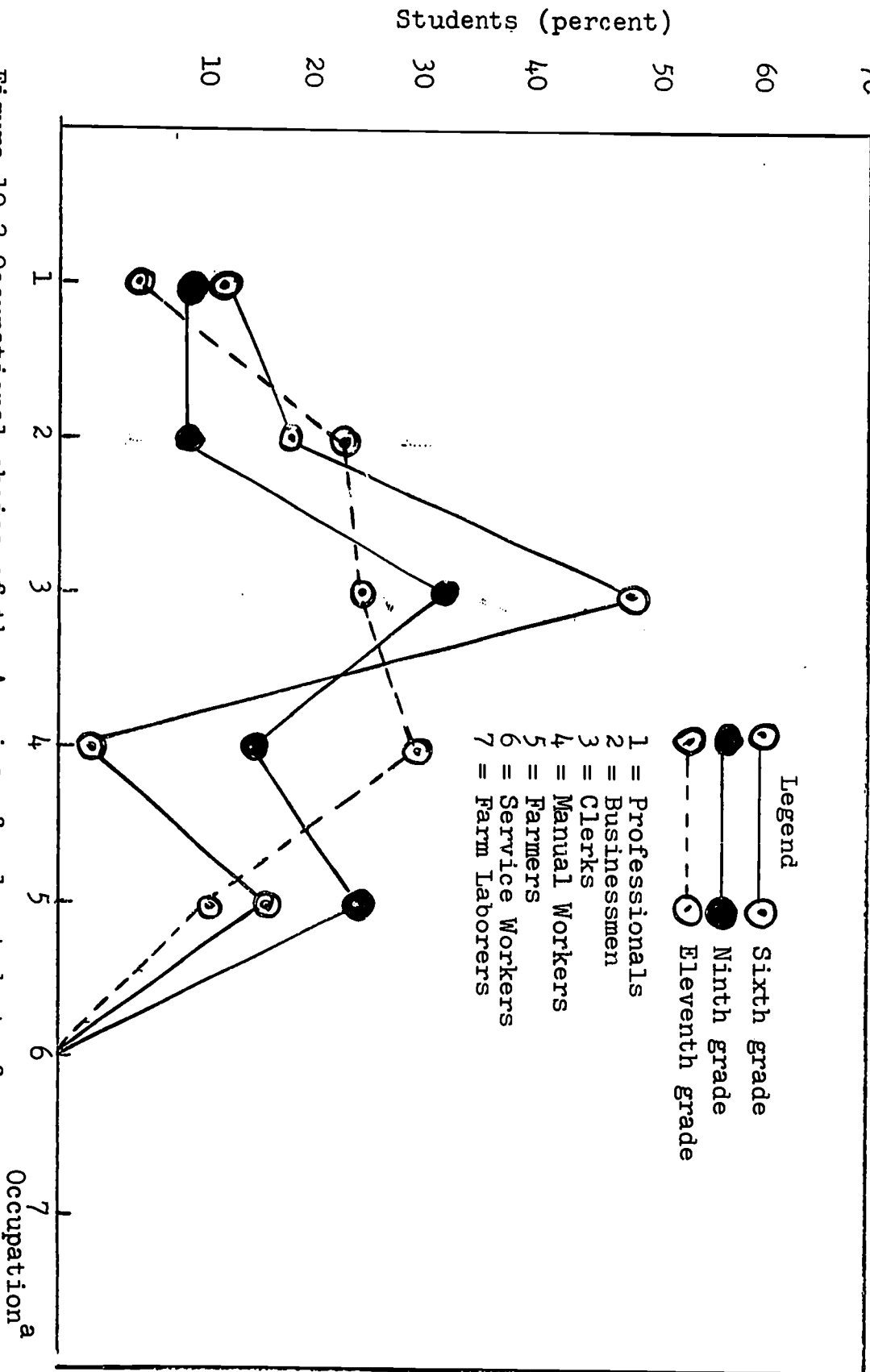
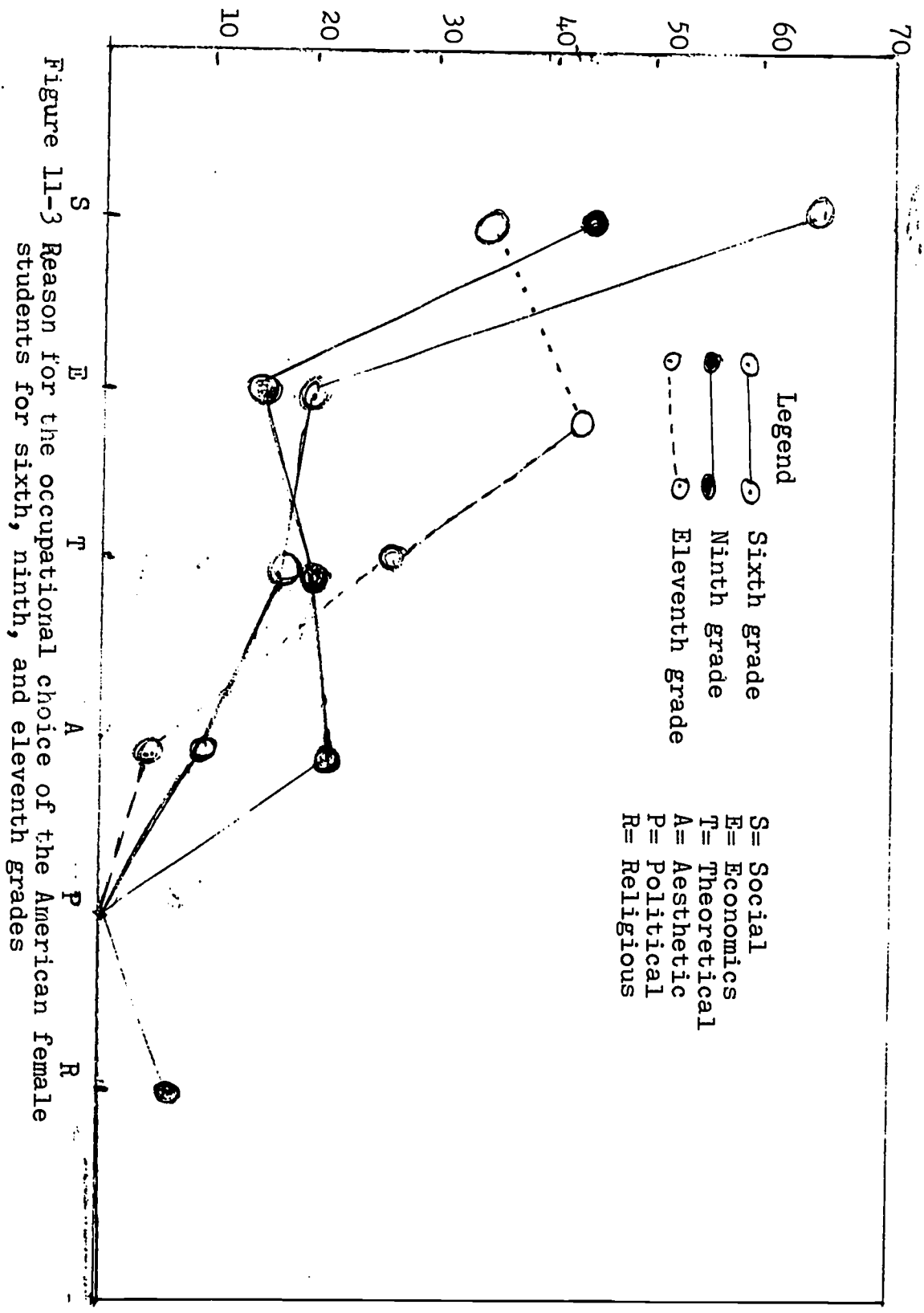


Figure 10-2 Occupational choice of the American female students for sixth, ninth, and eleventh grades. aSee Figure 9-1



S= Social
 E= Economics
 T= Theoretical
 A= Aesthetic
 P= Political
 R= Religious

Legend
 ○ Sixth grade
 ● Ninth grade
 ○ Eleventh grade

Chi-Square comparisons were made between the distributions of father's occupational categories among the 6th, 9th, and 11th grade levels in order to determine whether or not significant differences existed. It was found that the socio-economic status among the grade level was not significantly different. It may be concluded that socio-economic status of the girls is similar among all grade levels, and therefore girls in various sub-groups in the American Samples may be compared directly without making further adjustments for initial differences in socio-economic status.

Occupational Choices of the Female Students in the American Sample

The distributions of occupational classifications for girls can be seen in figure 10-2. It will be noted in this figure that occupations of 6th, 9th, and 11th grade girls fall most frequently in occupational classifications 3, 3, and 4 respectively. The patterns of occupational classifications of 6th and 9th grade girls is more or less similar to each other, but it is different when compared with 11th grade girls. At the 6th grade level, 14 percent of the girls selected occupations in category 1, while 9th and 11th grade girls in category 1 were reduced to 11 and 7 percent, respectively. As girls progress from the 6th to the 11th grade, their occupational choice patterns as reflected in figure 2, are characterized by some reduction at level 1 choices (professional) and a marked reduction at level 3 choices.

Chi-Square comparisons showed that girls at different grade levels are significantly different. Differences among the occupational patterns of the girls at the 6th, 9th, and 11th grade levels, however, showed some interesting changes that for the most part reflect adoption of more realistic occupational goals. From these results it may be concluded that girls of the different grade levels have significantly different occupational choices.

Reasons Given For Adopting A Particular Occupation By the Female Students in the American Sample

Figure 11-3 shows that the reasons given by the 6th, 9th, and 11th grade girls fall most frequently in the reason classification of social, social and economic respectively. The reasoning for 6th and 9th grade girls is similar, whereas the pattern of 11th grade girls is different. It may be stated that girls of elementary school give primarily social reasons, but as they move to the secondary school they tend to become economical in their reasons. It is apparent from those data that girls of the lower grade levels were not sufficiently mature to make life decisions; they were social at the 6th and 9th grade levels because their economic needs were fulfilled by their parents. At the 11th grade level they were old enough to work, and they realized the economic need, which gave them economic reasons for adopting a particular occupation.

The economic trend that girls of 11th grade have shown in making a decision of occupation is not to surpass others in wealth but simply to run a home, to have a few more clothes, to have more comforts of life and mainly to let the husband go to school and complete the education. It appears to the investigator that economic reasons to adopt a particular job is a temporary phase of their lives. As soon as the husband starts getting a good salary, girls usually quit being money minded and prefer to stay at home in order to serve children and husband in the best way they can.

Statistical analysis revealed significant differences at the 1 percent level. Therefore, it may be concluded that reasons given by female students to adopt a particular occupation at different grade levels were significantly different. This indicated that the value systems of the girls, as reflected by occupational choice, reasons, changes as they progress from lower to higher grade levels.

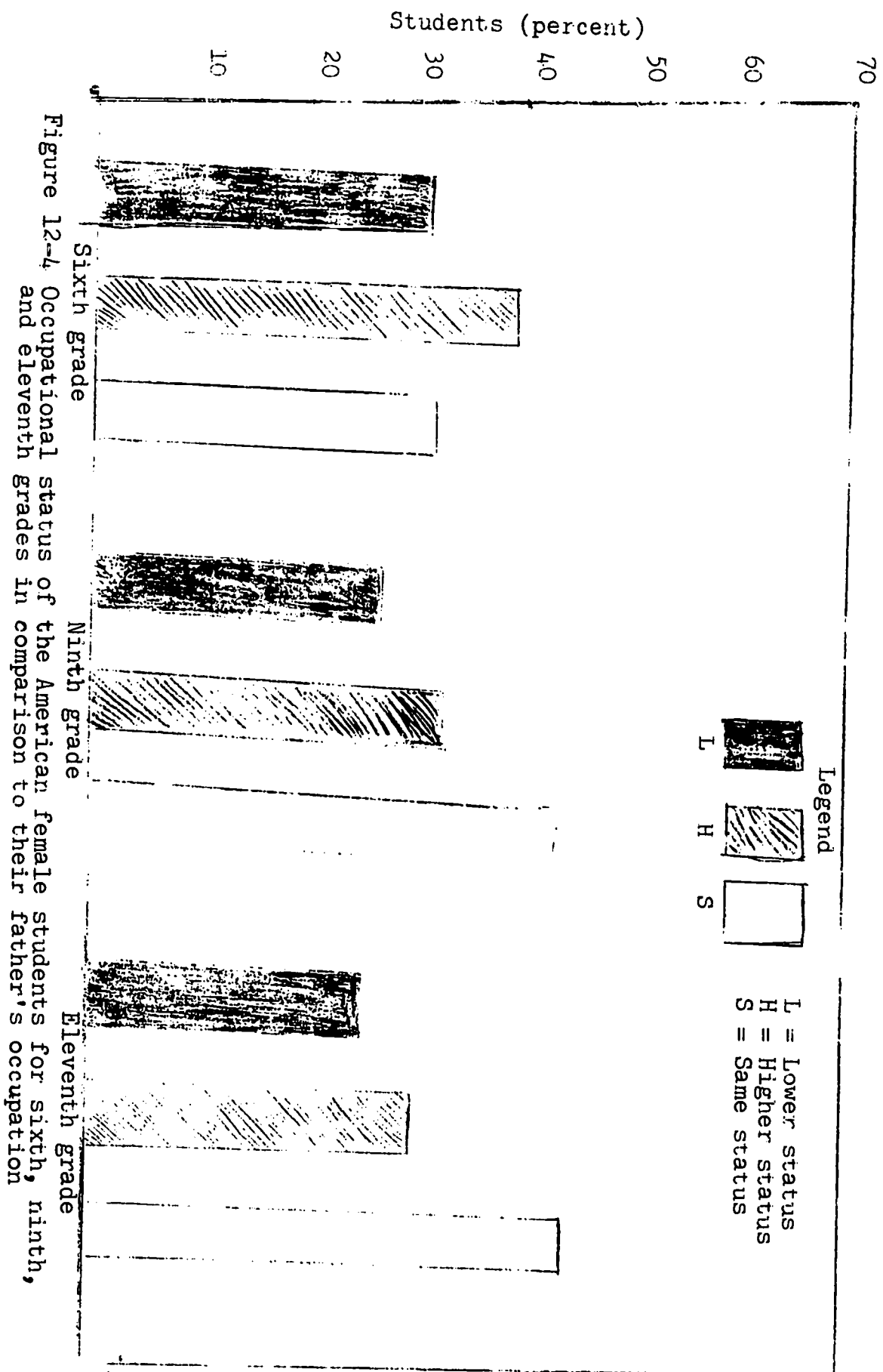
Occupational Status of the Female
Students as Compared to Father's Occupations
in the American Sample

The purpose of this data was to determine the differences between fathers and pupil's occupations. This was done to ascertain if girls normally follow their parents in selecting an occupation as their career. It is interesting to note in figure 12-4 at none of the grade levels did girls accept occupations of lower classifications than their fathers. As girls progress from the 6th through 11th grade, they increasingly followed their parents in choosing the same occupations. From these results, therefore, it may be concluded that the girls definitely showed a tendency to follow their parents in adopting an occupation as their career.

Father's Occupations of Female
Students in the Indian Sample

The purpose of compiling these data was to assess whether or not significant differences existed between the socio-economic status of pupils at different grade levels. According to the results obtained, occupations of most of the fathers of 6th, 9th, and 11th grade girls fall in occupational classifications of 1 at every grade level, figure 13-5. The occupational distribution pattern is similar at all grade levels.

The differences among the patterns of the father's occupations for female pupils at the 6th, 9th, and 11th grade level were not statistically significant. It may be concluded that the socio-economic status of girls is not significantly different among any of the grade levels and thus the girls in various subgroups in the Indian Sample may be directly compared without making adjustments for initial differences in socio-economic status.



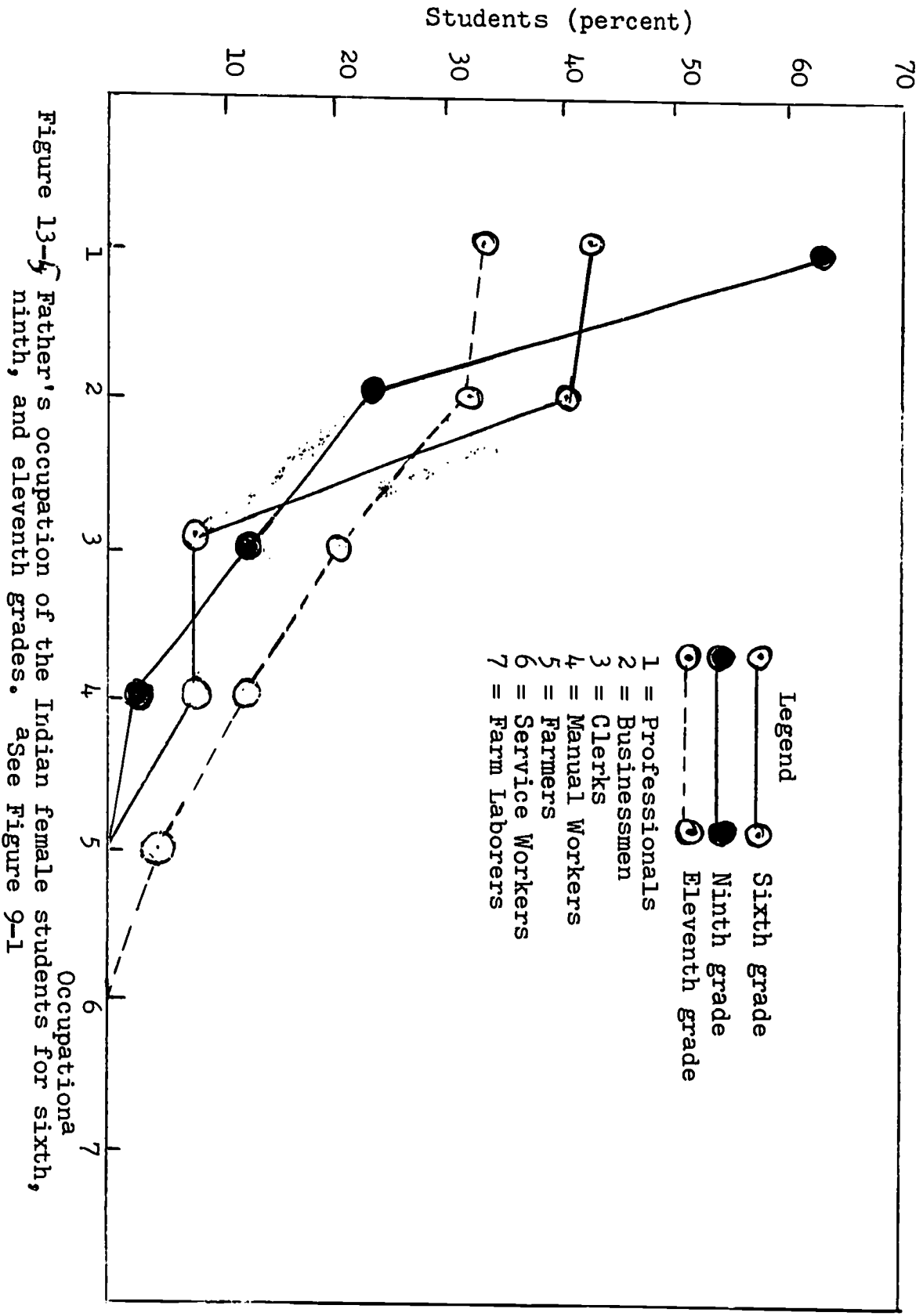


Figure 13-5 Father's occupation of the Indian female students for sixth, ninth, and eleventh grades. See Figure 9-1

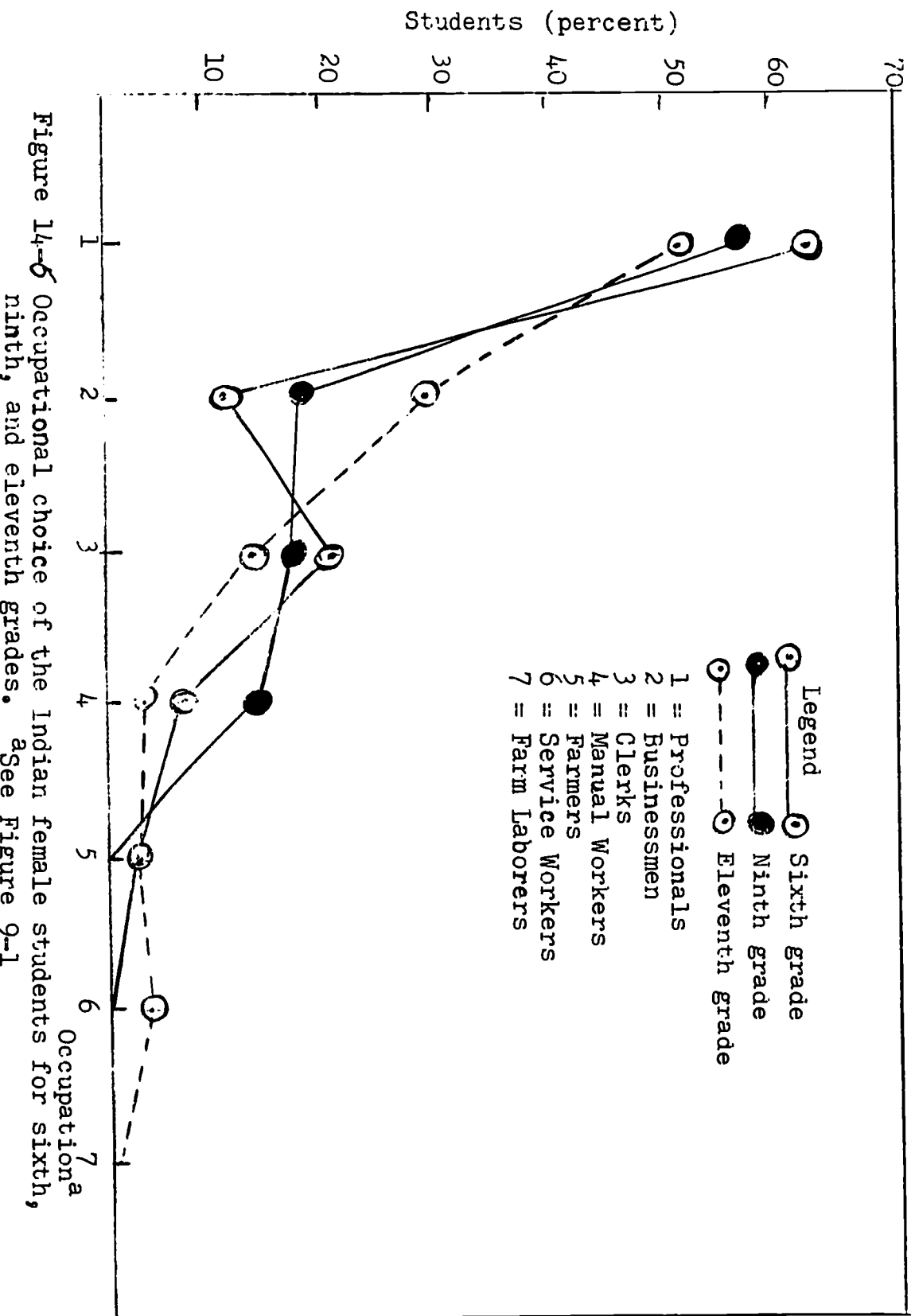


Figure 14-6 Occupational choice of the Indian female students for sixth, ninth, and eleventh grades. ^aSee Figure 9-1

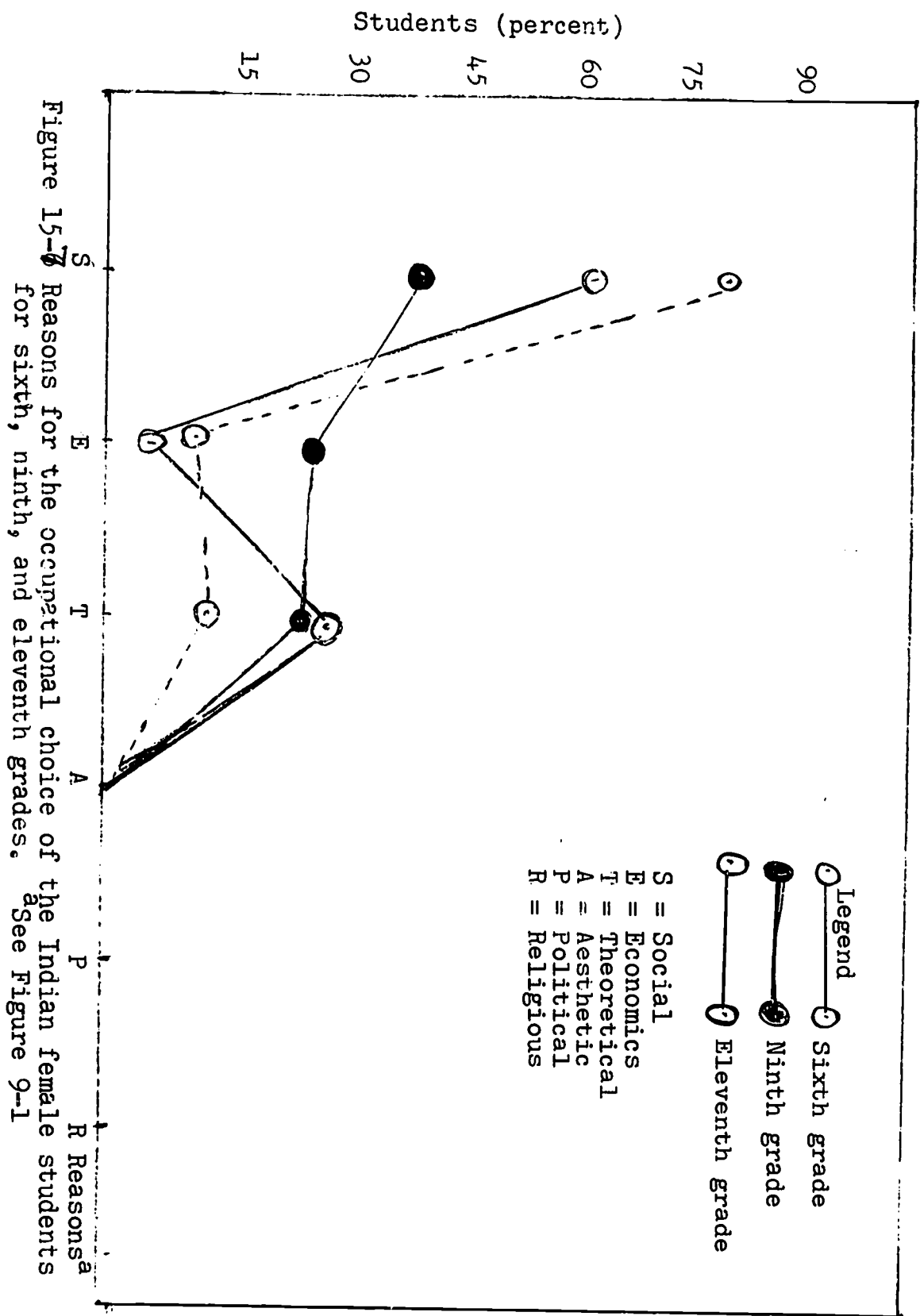
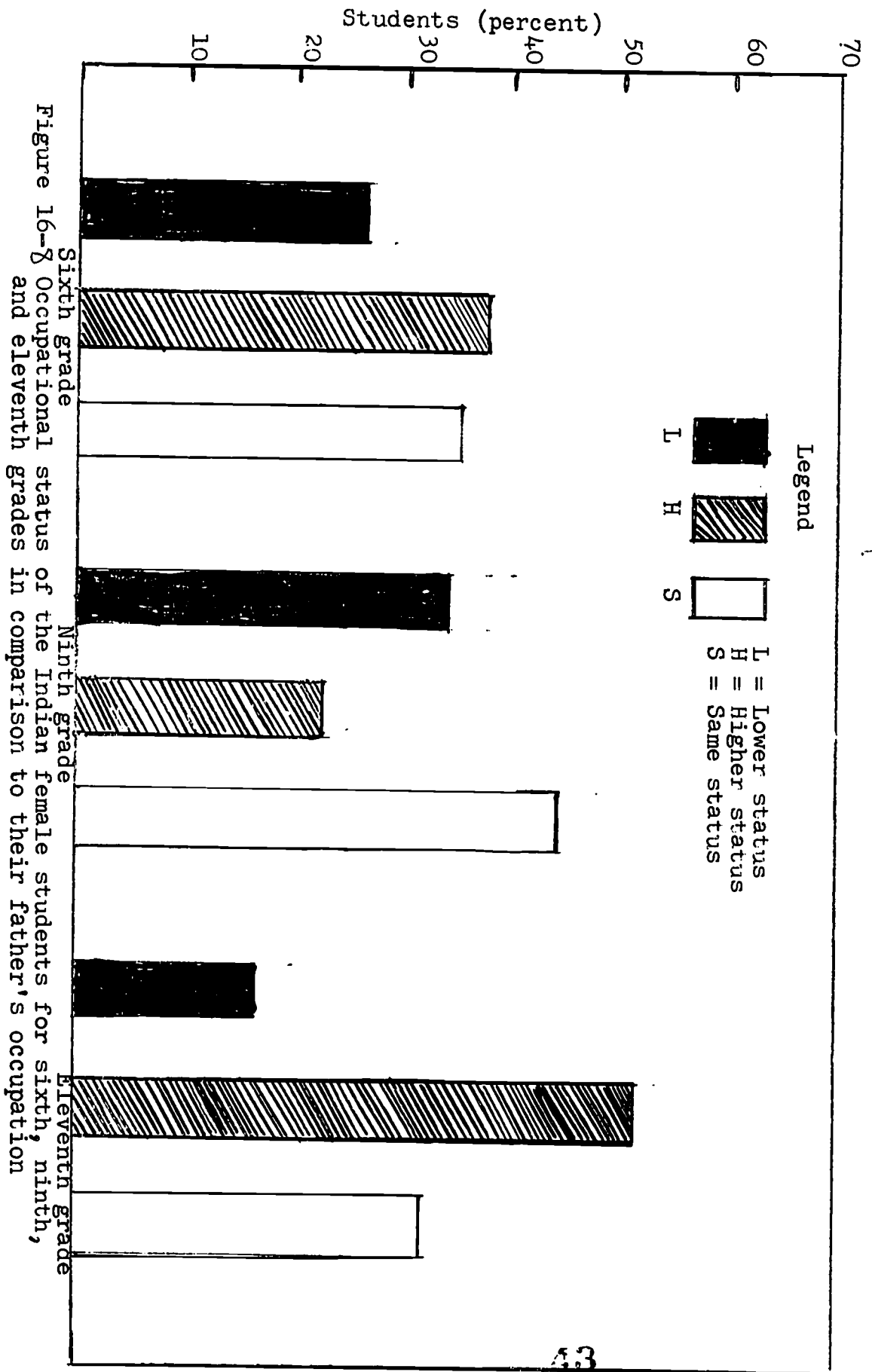


Figure 15-7 Reasons for the occupational choice of the Indian female students for sixth, ninth, and eleventh grades. See Figure 9-1



OCCUPATIONAL CHOICES OF FEMALE STUDENTS IN THE INDIAN SAMPLE

The distributions of occupational classifications for girls may be seen in fig. 14-6. It is apparent from this figure that occupational choices for girls at all grade levels fall most frequently in occupational classification 1.

The statistical analysis revealed that occupational choices for girls among the grade levels were not significantly different. It is interesting to note that girls throughout their school careers who progress from elementary to high school levels do not change their occupational choices. This may be due to the fact that girls are quite stable in their decisions when adopting occupations, particularly during their school careers. They appeared to be under the influence of their parents.

REASONS GIVEN FOR ADOPTING A PARTICULAR OCCUPATION BY THE FEMALE STUDENTS IN THE INDIAN SAMPLE

The distributions of the reasons classifications is presented in figure 15-7. It is evident from the figure that reasons for occupational choices for each of the 6th, 9th, and 11th grade girls fall most frequently in the reason classification of social. The pattern of reasons in all the three grade levels is quite similar. It is surprising that most of the girls give social reasons for their choice. As India is a poor country, it was expected that the girls trained under such circumstances would give economic reasons for selecting occupations. It seemed that as girls moved from primary to higher secondary schools they became more social in their reasonings. At the 11th grade level the maximum number of girls (33.2 percent) gave social reasons for adopting occupations.

A Chi-Square analysis provides evidence that the differences for the reasons given at the different grade levels were highly significant. Therefore, it may be concluded that girls of different grade levels differ significantly in the reason they gave for adopting a particular occupation. These differences may be due to advancement in age and better educational facilities.

OCCUPATIONAL STATUS OF THE FEMALE STUDENTS AS COMPARED TO FATHER'S OCCUPATIONS IN THE INDIAN SAMPLE

The purpose of these data was to determine if there were differences in the occupational choices of the girls in the Indian Sample and the occupational choices of their fathers. Figure 16-8 presents the distributions of the occupational categories of the pupils as compared to their fathers. According to this figure most girls followed their parents only at the 9th grade level, whereas at the 6th and 11th grade levels, the pupils selected higher occupations when compared to their

parents. It seems that as girls move from elementary to secondary school they accept higher occupations. This may be due to the fact that girls in India remain under the influence of their parents during their elementary school years; they follow their parents in every respect. As the girls move to the higher secondary school and advance with age, they accumulate knowledge, and become independent thinkers. Therefore, the conclusion can be drawn that Indian girls follow their parents at primary school levels and become independent, accepting higher occupational status only at advanced grade levels.

COMPARISONS OF AMERICAN AND INDIAN FEMALE STUDENTS
AS TO OCCUPATIONAL CHOICES AND REASONS FOR ADOPTING OCCUPATIONS

A Chi-Square analysis indicated that girls from 6th, 9th, and 11th grade levels in both the American and Indian Samples did not belong to the same socio-economic status. It was decided, therefore, to adopt the data from samples of both countries to comparable status. The data from 6th, 9th, and 11th grades from each country separately were combined at each comparable occupational category. The occupational categories studied in this manner were only 1, 2, 3, 4, and 5. The classifications 6 and 7 were not considered because of the small number of students falling into these classes.

Americans and Indian girls from 6th, 9th, and 11th grade levels were significantly different as to occupational choices. These differences may be due to the cultural, educational, political, and economical spheres of the two nations. It seems that American girls of 6th, 9th grade levels fall mostly in occupational classification 3 (clerks), while 11th grade girls fall frequently in classification 4 (manual workers). In contrast to girls in the American Sample, Indian girls of all grade levels fall most frequently in occupational classification 1 (professionals). The occupational distributions pattern for girls of the two nations may be seen in figures 2 and 6.

The investigator could see many differences in the social status of the girls in the two nations. In India the status of the girls is very low in the society, she appears to be dependent on her parents. After she is married, she will depend on her husband. She needs protection at home as well as on the roads. An Indian girl becomes an expensive burden for the entire family because of her "dowry". Dowry does not go to the young couple, but to the family members of the bridegroom, and the demand for dowry increases as the boys educational status increases. In case of American girls, the situation is quite different and equality prevails.

Statistical comparison was also made between American and Indian girls from 6th, 9th, and 11th grades as to the reasons for adopting a particular occupation. Statistical analysis indicated that the girls from both nations behaved significantly different when giving reasons for adopting a particular occupation. The reason pattern of girls from both countries may be seen in Figures 3 and 7. Therefore, it may be concluded that the significant differences between girls of the two nations are due to cultural and educational differences as well as the differences in the societies in which they live.

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USE OF COUNSELING IN RURAL HIGH SCHOOLS*

Anne Bennett Pratt
Auburn University

Introduction

High school counseling services in many rural areas of the U.S. are either totally unavailable or grossly inadequate. Yet, the educational and vocational needs of rural youth are as great, if not greater, than those of urban youth. The scope of counseling needs of rural young people was aptly summarized by Aller (1967) in remarks made at the National Outlook Conference on Rural Youth. He stated:

Rural areas need an improved system of information about employment opportunities and outlook; expanded job placement services and vocational counseling must include for each youth a realistic evaluation of his aptitudes in terms of their relevance to his occupational interests.

High school counseling is one mechanism through which greater awareness of occupational alternatives among youth may be achieved. Thus, this study attempts to analyze student use of counseling in terms of selected school and counseling program variables. Questions to which insights are sought include: To what extent are rural schools providing counseling services? What quality service is available? Which students use counseling services when available and how do student users of counseling evaluate the helpfulness of counseling.

Conceptual Framework and Relevant Research

Counseling is viewed as a process to help individuals toward overcoming obstacles to their personal growth and toward achieving optimum development of their personal resources (Patterson, 1966). Thus, it is

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a process whereby the individual may receive assistance in making his choices and in adjusting to the demands of society.

A search of the literature revealed few studies in which student use of counseling or evaluation of helpfulness was analyzed. Campbell and Dilley (1968) studied counselor helpfulness in relation to school size. They concluded that students in large schools received more encouragement from guidance counselors to enter college than did students in small schools. Differences among schools of varying size were partially attributed to the fact that counseling services in large schools were better developed than those in small schools.

Graff and Maclean (1970) investigated student evaluations of vocational counseling in relation to counselor training at Southern Illinois University. The counseling staff were differentiated into three training levels--doctorates, advanced trainees, and practicum staff. A large proportion of clients who were counseled by advanced trainees and doctoral level staff indicated they had received no help from counselors in becoming informed about vocational opportunities or learning how to make educational or vocational decisions. The researchers concluded that the doctoral level staff had a tendency to view vocational counseling as relatively dull and often delegated this task to the practicum student.

Several studies considered the relationship between student use of counseling and the evaluation of counselor helpfulness by sex, high school curriculum, and occupational goals. Brough (1968) examined selected background factors of ninth graders and their voluntary use of guidance services. A sample of three hundred and fifteen young people was divided into two groups consisting of those who had and had not made voluntary counseling appointments during the two preceding years. Prior to entering ninth grade, 70 percent of the female students but only 53 percent of the male students had made voluntary appointments with a counselor. Similarly, a study conducted at Harvard University (Purnell, 1969) revealed that more girls than boys mentioned guidance counselors as helpful in making their occupational plans.

Hartman (1969) sought to determine whether students in different high school curricula rated counselor helpfulness differently. A sample of 830 Iowa high school seniors was interviewed to determine the influence of counselors on educational and occupational plans. Students reported that counselors had more influence on the occupational plans of the college-bound youth than on those of the non-college bound youth.

This brief review of related research indicates that relatively little information exists on the role which the counselor plays in the formation of educational and occupational goals of youth. Thus the objective of this study is to gain insight into the use students make of counseling services in rural schools and an evaluation of the influence counseling has on the educational and occupational goals of students.

Design of Study

The sample area consisted of four counties in Northeast Alabama comprising the extreme southern portion of the Appalachian Mountain Region. This area is totally rural in character. Out-migration of youth seeking jobs is prevalent since nearby urban centers offer youth the best opportunity for non-agricultural employment.

All public high schools in the study area were identified in terms of the nature of the school system, (county or city) and racial composition. Two small, city systems and two small, Negro schools were included in the sample. The remaining schools in the study area were ranked by size of 12th grade class and one-half the schools were randomly selected.

Data was collected in two phases. First, during the spring of 1968, all seniors in attendance at each of the sample schools on the contact day were interviewed. The procedure involved administering questionnaires in individual classes or in special assemblies.

The second phase of data collection involved a questionnaire mailed to the principal of each high school shortly after completion of the student interviews. Data obtained were focused on various aspects of the counseling services provided and revealed that two schools offered no counseling other than that obtained informally from teachers. These two schools and attending students were eliminated from the study. The relevant student sample included 838 seniors attending 15 high schools.

Data used to determine student use of counseling were obtained by means of a question which asked the student to indicate whether he or she had received counseling outside of the classroom at any time during the current school year. Students were also asked to indicate the number of visits made to the counselor and to rate him or her as "very helpful, some help, no help" in their formation of educational or occupational goals.

The underlying hypothesis was that the use of counseling services and the student rating of their helpfulness is directly related to the caliber of the counseling provided and the goal orientations and background of the students. Specifically, it was anticipated that counseling would be sought most by high aspiring students from more socially deprived backgrounds.

Findings

Counseling Status

Eight of the 15 schools employed full-time guidance personnel. Of the remaining seven, four schools had teacher-counselors involved half-time or less with counseling activities. Three schools had counselors who devoted three-fourths time to counseling. In one of these latter schools counseling services were handled by three teachers, each devoting one-fourth time. In general, the larger schools (more than 100 seniors) employed full-time counselors who had both graduate and occupational counseling training. No instances of cooperative counseling programs between schools or on a county basis were reported at the time of this study.

It is noteworthy that principals reported a trend toward short course and workshop attendance by counseling personnel. Eight of the counselors had received additional training in counseling within the two-year period prior to the survey. Seven of these counselors had received special training in occupational counseling.

Voluntary counseling was found in most schools. Only three schools required individual or group counseling sessions on a regular basis. Whether or not to seek counseling help was a decision made by the individual student in the majority of schools.

Career oriented activities conducted by the schools were widely used and were commonly of three types. Job opportunity speakers were used to varying degrees by fourteen schools and field trips to business establishments by thirteen schools. Field trips to educational institutions such as trade schools, junior colleges and universities were used by ten schools. Ten of the schools used all three types of career activities in their program and all 15 had at least one career oriented activity.

Counseling Use

A total of 363 (44 per cent) of the students interviewed had not used any counseling services during the academic year. Moreover, only 19 per cent of the students had used counseling services on three or more occasions. Clearly, a large number of students in these rural schools were not utilizing the counseling services available to them. This finding suggests a need for concern about the nature of the counseling services available in rural schools and a need for information about the backgrounds of students who use or do not use counseling. Information relating to these considerations was sought by introducing

several characteristics of counseling situations and of students into the analysis.

Selected Characteristics

Characteristics of the school and counseling programs considered relevant included size of school, student referral system, counselor training, and time commitment. Data on each of these characteristics were provided by the high school principals. The student questionnaires provided information on sex, curriculum, education of father, and educational and occupational expectations.

School Size

Large high schools were defined as those with more than 100 students in the senior class. The number of twelfth graders in small schools ranged from 25 to 79 compared to a range of 110 to 155 in large schools.

Some minor difference was observed in the extent to which seniors attending small and large high schools used counseling services, Table 1. Only 53 per cent of the students in small schools had used counseling during their senior year compared to 59 per cent in large schools. Counselors in the larger high schools reached a larger segment of the student population and had more multiple contacts with the students counseled than did those in small schools.

However, quality of counseling services was a complicating factor directly associated with school size. The four largest schools had full-time counselors with graduate training, while the smaller schools had some form of part-time counseling arrangement. It is most likely that the slight differences observed are more a result of this latter factor than of size.

Counseling

Student Referral System

Responses obtained from principals revealed that 5 of the 15 schools followed a policy of requiring counseling sessions for all seniors. One other school highly recommended counseling but did not actually require seniors to participate in counseling activities. In spite of this requirement there was no school in which all seniors reported using the counseling services. Although in these schools students were made aware of the availability of counseling, there remained a large proportion who did not seek assistance. Comparison of student use of counseling

related to the specific referral system showed little difference in the proportion of students contacting or making multiple visits to the counselor.

Size of school was introduced to determine whether the results obtained were consistent for different size schools. In large schools two-thirds of the students had used counseling services where compulsory compared to only 56 per cent where completely voluntary. In small schools this trend was reversed. A slightly larger proportion of students used counseling when the services were on a voluntary basis than when compulsory.

It is interesting to speculate on reasons for this difference. Perhaps students in small schools knew the counselor on a more intimate basis than did students in large schools. This would be expected if the counselor performs other roles within the school structure. Often in small schools teachers or coaches are employed as counselors. In such cases, students would have prior contact with these individuals in different capacities which might lead to more informal voluntary counseling relationships.

Counselor Training

Another aspect of the counseling program which might be a factor in student use is the amount and nature of the counselor's specialized training. The logical expectation is that the better trained the counselor is the more and better services he can and will provide students. Information pertaining to the counselor's training was obtained from the school principal. It was found that the educational preparation of counselors differed considerably by size of school. The majority had some exposure to counseling through graduate courses, but counselors in five small schools had no graduate training in the field whereas all counselors in large schools had such training.

Contrary to expectation, graduate training in counseling had little relationship to student use. Since all four large schools had counselors with graduate training, the comparison was made only for small schools. It was found that slightly more students used counseling in small schools when the counselor had no graduate training than when he or she had graduate training. Although the magnitude of this difference was not large, it does indicate some cause for concern. Counselors with the more specialized training did not achieve a greater incidence of student use. One might ask whether the specialized counselor becomes "too professional" and tends to lose rapport with the students, or perhaps he becomes interested in more "challenging" adjustment problems rather than the educational or vocational concerns of the typical student? Additional research is needed concerning the counselor's role definition in contrast to student needs and their expectations of the counselor.

Counselor Time Commitment

It was observed that the greater the counselor's commitment of time to counseling activities the larger was the proportion of student users. Three time categories of half-time or less, three-quarter time, and full-time were considered. Student use of counseling increased from a low of 39 per cent when the counselor's commitment was half-time or less to a high of 60 per cent when it was a full-time commitment.

Interaction between size of school and the extent of the counselor's time commitment was also observed. When size of school was held constant, it was found that all of the large schools had full-time counselors, (a fact reported previously). Considering only small schools, it was revealed that the amount of student use of counseling was directly associated with variations in the counselor's time commitment. The data clearly indicate that when the counselor has a full-time commitment to counseling activities student use increases.

Students

Since a sizeable number (44 per cent) of the students contacted in the study had not used counseling during their senior year, further analysis was undertaken to provide insight into characteristics of student users and non-users of counseling services. Characteristics investigated included sex of student, current curriculum, education of father, and educational and occupational expectations.

Sex of Student

The sample of students comprising the study was almost equally divided between males and females. The two sexes revealed similar patterns of counseling use. Only slightly greater use was observed among boys than girls, Table 2. Also, boys were only somewhat more likely to have used counseling a multiple number of times during the senior year. Similar patterns were observed in both large and small schools.

Curriculum

Students indicated their high school curriculum as being either college preparatory, general, or vocational. One half of the students stated they were taking a general academic program, while the other half were enrolled equally in the college preparatory and vocational curriculums.

Counseling use was significantly associated with students in the college preparatory curriculum. This selectivity was particularly evident in the proportion of students experiencing multiple contacts with the counselor. Twenty-eight per cent of the college preparatory compared to only 17 per cent of the general and 8 per cent of the vocational students had used counseling three or more times during the senior year. Differences among the three groups of students were particularly evident in the larger schools. These data clearly indicated that many of the students enrolled in vocational programs are not receiving counseling help to the same extent as other students.

Education of Father

It is generally accepted that level of education is one indication of socio-economic class. Persons who attain high educational levels are usually employed in professional jobs and are aware of the importance of planning for educational and occupational pursuits. They usually encourage their children to seek assistance in planning a career. Thus, it was expected that the higher the father's education the greater the proportion of students who used counseling.

Each student indicated the highest grade of school completed by his or her father. Although over one-fourth of the students surveyed were not aware of the level of father's education and provided no information on this dimension a significant relationship was found between father's education and use of counseling among the remaining sample.

Only one-half of the students whose fathers had an eighth grade education or less had used counseling compared to almost three-fifths of the students whose fathers were high school graduates. Larger percentages of students whose fathers were either high school graduates or had post-high school training had used counseling once or twice.

Analysis of the data revealed that among students who used counseling three or more times the trend was reversed. A larger proportion of those students whose fathers had eleventh grade education or less had used counseling three or more times. This could possibly indicate that a small segment of youth from lower social class backgrounds do seek counseling as a substitute for parental guidance. On the other hand, however, an alternative explanation might be that students in lower socio-economic strata were spending more time involved in "adjustive" types of disciplinary counseling which often requires repeated counseling sessions.

Educational Expectations

Student expectations concerning educational goals were considered to be formulated through realistic concern for possible goal attainment.

Whereas an aspiration is a desire for a goal, expectations refer to an individual's estimation of his chances for probable attainment with reference to a particular goal (Kuvlesky and Bealer, 1966). It was found that one-half (50.7 per cent) of the students who had low educational expectations (high school) had not used counseling compared to 38 per cent of those with high expectations (four year college), Table 2.

A significant relationship was found between the educational expectations of these students and their use of counseling services. Students who expected a four year college degree or more were more likely to have used counseling services than were other youth. As the expected level of education increased, so did the number of times counseling was used. Students expecting their educational attainment to be limited to junior college, vocational, or high school training made less use of counseling than those who expected a four-year college degree. These results again emphasize the educational rather than occupational image students seem to have of high school counseling.

Occupational Expectations

The effect of occupational expectation on counseling use showed a pattern similar but less distinct than that observed for educational expectations, Table 2. Students who expected to become professionals used counseling to only a slightly greater extent than did youth who expected to become white or blue collar workers. Sixty per cent of the youth who expected to become professionals had used counseling services compared to 54 and 52 per cent of youth who expected to become white collar and blue collar workers, respectively. Although the data did not show significant differences among the groups, the pattern present suggested some tendency for the more professionally-oriented student to use the counselor's services more than youth not so inclined.

Counseling Helpfulness

Although the extent of counseling use among rural youth is valuable information, an equally important consideration of counseling usefulness is the evaluation youth make of the assistance received. These students clearly indicated they perceived the primary role of the counselor to be in areas of educational and occupational counseling. Most students who had used educational counseling rated it "helpful" and over one-third rated it "very helpful".

Occupational counseling was not generally viewed as "helpful" as educational counseling. Only one-fifth of the students rated occupational counseling "very helpful" and almost one-third rated it "no help" at all. These data suggest that counselors gave more emphasis to career planning of an educational rather than a vocational nature.

Helpfulness ratings were directly associated with the extent of counseling use during the senior year. The more often a student used counseling, the more likely he or she was to evaluate the benefits as very helpful.

Summary and Implications

The purpose of this study was to provide more understanding of counseling situations as they exist in a sample of Alabama high schools. The results obtained were in substantial agreement with those of other studies involving guidance counseling services.

Findings on counseling services which emerge from this study of rural youth in the Appalachian Region are summarized as follows:

1. A sizeable number of the students in rural schools are not utilizing counseling services. Students enrolled in the small rural high schools should be encouraged to use available services.
2. Students in a college preparatory curriculum who expect to attend college for four years and enjoy professional careers are receiving more attention than vocationally-oriented students. Counselors may be reinforcing high or unrealistic aspirations among high school students at a time when our society needs young adults with varied vocational skills.
3. More emphasis should be given to vocational counseling to bring it in parallel with educational counseling. This under-emphasis may be partially attributed to the content of graduate counselor training in psychological testing and personality adjustment rather than vocational and career planning preparation. This type training may reduce the rapport between the students and the counselor.

Table 1. Summary of Relationships Considered Between Frequency of Student Use of Counseling and Selected Counseling Characteristics.

Selected Counseling Characteristics	Frequency of Counseling Use			Total Number
	None	1 or 2 Times	3 Times or more	
	-----Per cent -----			
<u>All Schools</u>				
Size of School				
Large	40.8	38.3	20.4	449
Small	47.0	35.8	17.2	383
Counseling Referral System:				
Voluntary	43.7	39.5	16.8	313
Compulsory	43.5	41.2	15.3	519
<u>Size of School Constant</u>				
Counseling Referral System (large schools):				
Voluntary	43.8	41.9	14.3	313
Compulsory	33.8	48.5	17.7	136
Counseling Referral System (small schools):				
Voluntary	43.7	35.9	20.4	206
Compulsory	50.8	35.6	13.6	177
Training of Counselor (small schools):*				
Graduate	48.6	36.5	14.9	222
No Graduate	44.7	34.8	20.5	161
Counselor Time Commitment (small schools):**				
1/2 Time	59.4	30.4	10.2	69
3/4 Time	51.5	35.3	13.2	136
Full-Time	38.8	38.2	23.0	178

* All counselors in large schools had graduate training in counseling.

** All large schools had a full-time counselor on the faculty. The relationship shown for small schools was statistically significant by chi-square test with a probability of less than .01 ($\chi^2=13.37$ and 4 degrees of freedom).

Table 2. Summary of Relationships Considered Between Frequency of Student Use of Counseling and Selected Student Characteristics.

Selected Student Characteristics	Frequency of Counseling Use			Total
	None	1 or 2 Times	3 times or more	
				-----Per cent ----- Number
<u>All Schools</u>				
Sex:				
Males	39.5	41.0	19.5	425
Females	45.8	39.2	15.0	413
Curriculum:*				
College Prep	36.6	35.6	27.8	202
General	43.6	39.2	17.2	406
Vocational	50.5	33.7	7.6	196
Education of Father**				
High School, Business School, or College	39.1	47.7	13.2	220
9-11 grades	41.5	40.3	18.2	176
Eighth grade or less	50.5	31.6	17.9	212
Educational Expectation:*				
Four Year College	38.3	41.3	20.4	332
Jr. Col., Business or Voc. School	47.5	39.0	13.5	295
High School	50.7	37.4	11.9	211
Occupational Expectation:				
Professional	39.1	40.6	20.3	261
White Collar	46.7	39.2	15.1	199
Blue Collar	47.8	38.2	14.0	186

* Chi Square tested significant with a probability of less than .01
 (Curriculum) $X^2 = 15.69$ and 4 degrees of freedom.
 (Educational Expectation) $X^2 = 13.40$ and 4 degrees of freedom.

** Chi Square tested significant with a probability of less than .05
 $X^2 = 12.56$ and 4 degrees of freedom.

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MODELS OF THE OCCUPATIONAL
CHOICE PROCESS: RURAL-URBAN
VARIATIONS

J. Steven Picou*
The Ohio State University

George S. Tracy
Louisiana State University

Pedro F. Hernandez
Louisiana State University

ABSTRACT

Path analytic techniques are utilized to construct causal models for: (1) ideal occupational aspirations; (2) intended occupational aspirations; and (3) occupational expectations. Models are developed by residence for a sample of 3,245 high school seniors residing in the deep-south. The following predictor variables are included: father's occupation, family income, father's education, significant other influence, academic achievement orientation, and high school academic performance. The findings reveal that academic performance had the strongest independent effect on all dimensions of occupational choice considered. Slight variations by residence were noted for the effects of significant other influence and academic achievement orientation. These and other findings are evaluated with regard to future causal research in the area of occupational choice.

*for a copy of the complete paper please contact:

Dr. J. Steven Picou
The Center for Vocational and Technical Education
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210

SOCIOCULTURAL FACTORS AND THE LEVEL OF OCCUPATIONAL ASPIRATION
OF APPALACHIAN YOUTH*

By

Ram N. Singh

Marshall University

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Sociocultural Factors and the Level of Occupational Aspiration
of Appalachian Youth

The external economic control, the technological unemployment, the austere physical environment, relationship or kinship-oriented culture, and other still-nameless factors, spell the "Appalachian Problem." There is dissatisfaction with the welfare system and the lack of understanding and control over problems that are peculiar to this area. Federal programs are based generally on middle-class values, rather than understanding of Appalachian culture. Outsiders often feel that Appalachians do not want to "get ahead" and tend to distrust outsiders and resent the effects of intervention which corrodes their pride and sense of control over their own way of life.

Throughout their existence, the people of Southern Appalachia have been faced with unique hostilities of environment. Heritage, economics, and circumstances have led the mountaineer into his own way of life (Weller, 1966). His way of organizing his existence, his way of looking at things was satisfactory enough for the isolated agrarian life of the mountains in the past where he and his Celtic ancestors have lived, but does not adapt easily to the "world of work", a concept of middle-class America (Simpkins, 1968: 6-7). With the great difficulty in gaining control over his environment and accumulating wealth, the mountaineer has been shaped by the sheer realities of scratching a living out of the soil. A "closed door" society was developed that limited the range of relationship alternatives open to him. This was in contrast to the American "open door" society of almost limitless opportunity.

In light of his cultural heritage and limited scale of alternatives the mountaineer has turned his life toward his family and the people around him (Simpkins, 1963: 3-10). He is more person-oriented than object-oriented. The middle-class people have goals outside of themselves and their locality. They find easier to achieve these goals through the wider range of relationships open to them. The mountaineer, on the other hand, with constricted relationship alternatives, and little prospect of achieving outside goals, gives more emphasis to being accepted as a person within a group. Goals are attained in relation to other persons and are products of participation in primary groups. So the mountaineer: (1) does not make long range plans for his life; (2) tends to be relationship oriented rather than achievement oriented; (3) tends to be suspicious of people who treat him impersonally such as doctors, social workers, and government officials; (4) and tends to be ill at ease in urban environments (Weller, 1966).

It is not uncommon to find a child who has come for the first time from the haven of his "hallow" to the middle-class oriented environment of the consolidated school, frightened to the point of dropping out, weeping, wetting his pants or even in a virtual catatonic state. He may learn to keep his balance with a foot in the middle-class "camp" and a

foot in the Appalachian "camp", but the child raised in the Appalachian cultural environment may exhibit severe signs of culture shock upon first encountering the middle-class school which looks askance at his Appalachian orientations and goals.

This study attempts to determine the effects of relationship alternatives on the aspirations of Appalachian youths. It is assumed that the variables indicating wider range of relationship alternatives (Simpkins, 1963), will be associated with the higher level of occupational aspiration. Conversely, constricted range of relationship alternatives will be associated with lower level of occupational aspiration. The variables such as urban residence, high social status, high parental encouragement, low fatalism and religious fundamentalism would indicate a wide range of relationship alternatives available to Appalachian youths.

Relevant Research

Several researchers attempted to determine the relationships between socioeconomic variables and the level of occupational aspiration (LOA) and the level of educational aspiration (LEA). Sewell, Haller and Strauss (1948; 1957) found that LOA and LEA are positively associated with social class. They also discovered that farm youths more than urban youths underestimate the importance of education for occupational attainment. Similar findings were reported by Mulligan (1951), Reissman (1953), Allen (1955), Haller (1960), Clark (1967), Stout (1969) and Windham (1970).

Schwarzweiler's study (1960) noted that girls have lower level of occupational aspiration than boys. In comparing rural farm, rural non-farm, and urban youths, Youmans (1954) found a tendency for boys to aspire for occupations similar to their fathers. In contrast, Moreland (1960) discovered that children aspire to higher occupational and educational levels than those of their fathers. Furthermore, he noted that even though lower class children had lower educational aspirations, the level of occupational aspiration did not appear to differ significantly by social class.

A positive correlation was found between LOA and LEA and parents' ambitions for their children's success (Kahl, 1953). Unsatisfactory parent-child relations were associated with a high LOA in the children (Dynes, 1956). On the other hand, Kerckoff (1959) found that there is a lower need to achieve among children if a stable social structure such as family, is lacking. Although there is a difference between level of occupational aspiration and need to achieve, it is doubtful that youths aspiring high prestige occupations would have a lower need to achieve. Rhodes (1964) discovered that LOA varied directly with parental occupational level. Anomia was found to be the greatest in youths with high aspirations and a little chance to attain them.

Haller and Sewell (1957) found no significant differences between levels of non-farm occupational aspirations of farm and non-farm youths. Similar findings were reported by Buck and Bible (1960) in a ten-years longitudinal study of rural farm and non-farm boys in Pennsylvania.

Contrary to the above findings, Cowhig, Artis, Beegle and Goldsmith (1960) found that farm youths had the lowest level of occupational aspiration; open-country youths had the highest; and small town youths fell between these two groups. Similar relationship between level of occupational aspiration and residence was reported by other investigators (Schwarzweiler, 1960). However, the relationship between residence and LOA did not hold for girls. Empey (1956) also reported no significant differences in LOA of farm and non-farm girls. A greater proportion of farm boys aspired to professional occupations than farm girls (Scott and Lussier, 1963).

The level of occupational aspiration was found to be positively associated with the size of the community (Grigg and Middleton, 1960; Burchinal, 1961). Sewell and Orenstein's study of rural farm, small town, and urban youths confirmed the above finding. A significant positive correlation was reported between LOA and LEA for rural farm and rural non-farm youths (Lindstrom, 1964). Rural urban differences were more pronounced with reference to goals than to expectations (Kuvleski and Ohlendorf, 1966). High occupational aspirations of rural youths were more likely to be deflected to blue collar job expectations than urban youths.

Religious fundamentalism and fatalism have deep roots that affect the attitudes and values of the people of Appalachia (White, 1937; Ford, 1967). Ford studied approximately 1500 households from rural, urban and metropolitan areas of Appalachia and found that the fundamentalism was the strongest in rural areas. Fundamentalism was found to be inversely proportional to socioeconomic status and educational level (DeJong and Ford, 1965). Furthermore, Ford reported that "only a minority of Appalachian population--probably between a fourth and a third, although closer to a half in rural areas--seems to possess a strong sectarian spirit, even though two thirds could be classified as fundamentalists". Quinney (1964) related several factors with social status and religious fundamentalism. High social status and low religious fundamentalism were associated with political conservatism. Low social status and high religious fundamentalism were associated with political alienation. He also found a positive relationship between fatalism and fundamentalism and a negative relationship between fatalism and social class.

In studying rural families of Kentucky, Giffin (1953: 33-46) found that two-thirds of the families believed that their location is a good place to live and have no intention of leaving. They valued peace and quiet, the presence of relatives and friends, and home ownership. About forty percent of the respondents aspired to a college education for their children. They did not emphasize personal achievement and success and were too uncertain about the future.

Ford (1967) discovered that fatalism in Appalachia is a product of poverty. Fatalism was related to socioeconomic status regardless of residence area. The relationship was the same for LOA, although younger parents had higher LOA for their children than older parents. Sixty percent of rural parents wanted a college education for their children (Ford, 1967). The level of educational aspiration was positively associated to socioeconomic status. The optimistic attitudes of Appalachians toward

LOA and LEA appear inconsistent with their fatalistic attitudes. However, these attitudes may be interpreted as signs of decreasing isolationism of the Appalachian people and the diffusion of national values of progress and prosperity into the region.

Statement of Hypotheses

The major hypothesis of the present investigation is that the wider the range of relationship alternatives available to the youths, the higher will be their level of occupational aspiration. Urban residence, high social status, low fatalism, high parental encouragement and low fundamentalism would indicate a wider range of relationship alternatives and a higher level of occupational aspiration. More specifically, following hypotheses were tested in this study:

- H 1: There is no relationship between residence and the level of occupational aspiration.
- H 2: There is no relationship between social status and the level of occupational aspiration.
- H 3: There is no relationship between fatalism and the level of occupational aspiration.
- H 4: There is no relationship between parental encouragement and the level of occupational aspiration.
- H 5: There is no relationship between religious preference and the level of occupational aspiration.
- H 6: There is no relationship between religious fundamentalism and the level of occupational aspiration.

Data and Methods

Data were obtained from rural high schools in Lincoln County, West Virginia. The sample consists of 428 Protestant, white youths from 10th, 11th and 12th grades. The level of occupational aspiration was dependent variable in the present study. The level of occupational aspiration was measured by scores on the Occupational Aspiration Scale (Haller and Miller, 1963).

The Occupational Aspiration Scale (OAS) included eight questions and in each the subject is instructed to select one of the ten alternative occupations. The eight questions are designed to tap respondent's realistic and idealistic levels of aspirations in each of the two career periods, initial and mature. Each question simultaneously taps one level and one career period. This means that four questions exhaust all possible combinations. This number is doubled by repeating

each question once, to give the total of eight questions. Eighty appropriate occupations, taken from National Opinion Research Center Study (1947) of the prestige of 90 occupations, were distributed among eight questions, ten occupations per question. The highest prestige occupation is in question #1, the second highest in question #2, and so on down to the 80th in question #8. Thus, the alternatives for each question systematically span the entire range of occupational prestige. The minimum possible score was zero and the maximum possible score was 72. Scores ranging from 49-72 were classified high (scores above mean plus one standard deviation); 26-48, moderate (scores within one plus and one minus standard deviation of the mean); and below 25, low (scores below mean minus one standard deviation) levels of occupational aspirations.

The independent variables of the present investigation were: (i) residence, (ii) social status, (iii) fatalism, (iv) parental encouragement, (v) religious preference, and (vi) religious fundamentalism. According to residence, youths were classified into two groups: (i) rural farm--those who lived on the farm; (ii) rural non-farm--those who lived in open country but not on a farm and in a village under 2,500 population.

Social status, the second independent variable, was measured on the basis of occupation and education of the head of the household. The Occupational Scale consisted of seven positions ranging from higher executives and major professionals in the first position to unskilled employees in the seventh position. The seven positions of Educational Scale ranged from more than four years of college to less than seven years of schooling. Each score was computed by multiplying the scale score by seven for occupation and by four for education. These two scores were summed to give the social position to the head of the household. The range of the scores for each class was as follows:

<u>Class</u>	<u>Range of Scores</u>
I	11 - 17
II	18 - 31
III	32 - 47
IV	48 - 63
V	64 - 77

Due to small cell frequencies, Class I was omitted and Class II and III were combined. In this study, the respondents were classified into three classes: (i) Middle Class - scores ranging from 18 to 47; (ii) Working Class - scores ranging from 48 to 63; and, (iii) Lower Class - scores ranging from 64 to 77.

Fatalism, the third independent variable, was measured in terms of youth's responses of the following three questions: (i) "Most people do not really care what happens to the next fellow" (agree or disagree); (ii) "Nowadays a person has to live pretty much for today and let tomorrow take care of itself" (agree or disagree); and, (iii) "No matter how much or little you take care of yourself, you are going to die when your allotted time is up" (agree or disagree). A score of one was assigned to those who agreed with each statement and a score of zero to those who disagreed with each statement. The maximum possible score was three and the minimum possible score was zero. Youths with scores between zero and one were classified low and between two and three were classified high on fatalism scale.

The fourth independent variable, parental encouragement, was determined on the basis of respondent's feelings toward whether or not his father encouraged him to go to college. The respondents were classified into two groups: (i) Low Encouragement - if father did not encourage him to go to college or was undecided; and, (ii) High Encouragement - if father encouraged him to go to college.

Religious preference, the fifth independent variable, was measured in terms of the respondent's indication of religious preference. To measure religious fundamentalism, six questions were used. The scores of this scale ranged between 0 and 6. The respondents were classified into three categories on the basis of their scores: (i) Low - scores ranging from 0 to 1; (ii) Moderate - scores ranging from 2 to 3; and, (iii) High - scores ranging from 4 to 6.

The Chi-Square test was used to determine the relationships between level of occupational aspiration and residence, social status, fatalism, parental encouragement, religious preference and religious fundamentalism. The .05 level of significance was used to reject the hypotheses of this investigation.

Findings

Residence and Social Status

Table I shows a significant relationship between the level of occupational aspiration and residence. This relationship is significant at .001 level, with two degrees of freedom. Rural non-farm youths have proportionately higher level of occupational aspiration (18 percent) than rural farm youths (12 percent). The null hypothesis indicating no relationship between level of occupational aspiration and residence is rejected.

Social status is also significantly and positively associated with the level of occupational aspiration (Table II). The higher is the social status, the higher is the level of occupational aspiration. This relationship is significant at .001 level with 4 degrees of freedom. Youths from

TABLE I
OCCUPATIONAL ASPIRATION BY RESIDENCE

RESIDENCE	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
RURAL FARM	37	28	78	60	15	12	130	100
RURAL NON-FARM	37	13	198	69	51	18	286	100

$x^2 = 14.80$, significant at .001 level, with 2 degrees of freedom.

TABLE II
OCCUPATIONAL ASPIRATION BY SOCIAL STATUS

SOCIAL STATUS	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
LOW	25	17	118	78	7	5	150	100
MEDIUM	46	23	117	60	33	17	196	100
HIGH	6	8	47	57	29	38	82	100

$x^2 = 45.58$, significant at .001 level, with 4 degrees of freedom.

high status group have significantly higher level of occupational aspiration (38 percent) than youths from low status (5 percent).

Residence Controlling Social Status

Even after controlling social status, rural non-farm youths have significantly higher level of occupational aspiration than rural farm youths (Tables III, IV and V). The association between the level of occupational aspiration and residence is significant for Class I and III, but not for Class II. However, in Class II, rural non-farm youths have proportionately higher level of occupational aspiration than rural farm youths.

Fatalism and Parental Encouragement

Table VI exhibits a significant relationship between the level of occupational aspiration and fatalism. This relationship is significant at the .001 level, with 2 degrees of freedom. The higher is the level of fatalism, the lower is the level of occupational aspiration. Youths with low fatalism possess a higher level of occupational aspiration (29 percent) than youths with high fatalism (12 percent). The hypothesis indicating no relationship between the level of occupational aspiration and fatalism is rejected.

The level of occupational aspiration is significantly and positively associated with parental encouragement (Table VII). This association is significant at the .001 level, with 2 degrees of freedom. Youths with low parental encouragement have lower level of occupational aspiration (27 percent) than youths with higher parental encouragement (13 percent).

Religious Preference and Religious Fundamentalism

Table VIII shows a significant relationship between the level of occupational aspiration and religious preference at the .001 level, with 2 degrees of freedom. Youths with religious preference have significantly higher level of occupational aspiration than youths with no religious preference. However, religious fundamentalism did not reveal significant relationship with the level of occupational aspiration (Table IX). Thus, the hypothesis indicating no relationship between the level of occupational aspiration and religious fundamentalism is accepted.

TABLE III
 OCCUPATIONAL ASPIRATION BY
 RESIDENCE CONTROLLING SOCIAL STATUS (CLASS I)

RESIDENCE	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
RURAL FARM	5	25	11	55	4	20	20	100
RURAL NON-FARM	1	2	34	58	24	40	59	100

$x^2 = 12.49$, significant at .01 level, with 2 degrees of freedom.

TABLE IV
 OCCUPATIONAL ASPIRATION BY
 RESIDENCE CONTROLLING SOCIAL STATUS (CLASS II)

RESIDENCE	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
RURAL FARM	18	31	33	56	8	13	59	100
RURAL NON-FARM	26	21	81	65	18	14	125	100

$x^2 = 2.11$, non-significant at .05 level, with 2 degrees of freedom.

TABLE V
 OCCUPATIONAL ASPIRATION BY
 RESIDENCE CONTROLLING SOCIAL STATUS (CLASS III)

RESIDENCE	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
RURAL FARM	14	29	32	65	3	6	49	100
RURAL NON-FARM	10	10	83	82	8	8	101	100

$x^2 = 8.56$, significant at .05 level, with 2 degrees of freedom.

TABLE VI
 OCCUPATIONAL ASPIRATION BY FATALISM

FATALISM	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
LOW	11	12	55	59	27	29	93	100
HIGH	63	20	215	68	40	12	318	100

$x^2 = 15.28$, significant at .001 level, with 2 degrees of freedom.

TABLE VII
OCCUPATIONAL ASPIRATION BY PARENTAL ENCOURAGEMENT

PARENTAL ENCOURAGEMENT	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
LOW	40	27	96	65	11	8	147	100
HIGH	35	13	178	66	56	21	269	100

$\chi^2 = 21.13$, significant at .001 level, with 2 degrees of freedom.

TABLE VIII
OCCUPATIONAL ASPIRATION BY RELIGIOUS PREFERENCE

RELIGIOUS PREFERENCE	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
YES	37	13	195	67	58	20	290	100
NO	40	30	84	63	9	7	133	100

$\chi^2 = 25.29$, significant at .001 level, with 2 degrees of freedom.

TABLE IX
OCCUPATIONAL ASPIRATION BY RELIGIOUS FUNDAMENTALISM

RELIGIOUS FUNDAMENTALISM	OCCUPATIONAL ASPIRATION							
	Low		Moderate		High		Total	
	N	%	N	%	N	%	N	%
LOW	18	22	51	62	13	16	82	100
MODERATE	29	16	122	68	28	16	179	100
HIGH	28	19	101	67	22	14	151	100

$\chi^2 = 0.40$, non-significant at the .05 level, with 4 degrees of freedom.

Conclusion

The level of occupational aspiration is significantly associated with residence, social status, fatalism, parental encouragement and religious preference. However, religious fundamentalism does not reveal any relationship with the level of occupational aspiration. In general, the theory, that the wider the range of relationship alternatives available to youths, the higher will be their level of occupational aspiration, is confirmed by the findings of the present investigation.

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YOUTH PEER EFFECT ON SCHOLASTIC PERFORMANCE
AND THE DEVELOPMENT OF A PREDICTIVE INSTRUMENT OF ACHIEVEMENT*

by
Joseph M. Asaro**

ABSTRACT

Two separate studies use the same sample to measure peer influence in the classroom and to devise a predictive instrument of achievement. On the theme of peer dependency and the subsequent concern for acceptance, that part of the study hypothesizes that this can motivate students to achieve if the judgment of their peers is a factor in evaluation. Findings showed no significant difference between the group that performed for their peers and those that performed for the instructor. In the analysis of data the probability was considered that a condition of strong primary relationship peculiar to this sample may have operated to nullify the decisive striving for acceptance. In the second objective of the development of a predictive instrument, seven personality measurements were taken and together with three scholastic scores, a correlation was computed with the final examination. With a step-wise regression analysis, four of these ten variables were established to have significant predictability. Based on the significant variables a character profile was devised of the successful student and it was concluded that study habits and self-discipline were more valuable than content knowledge.

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** Department of Sociology, University of South Alabama, Mobile, Alabama.

YOUTH PEER EFFECT ON SCHOLASTIC PERFORMANCE
AND THE DEVELOPMENT OF A PREDICTIVE INSTRUMENT OF ACHIEVEMENT

by

Joseph M. Asaro*

INTRODUCTION

The influence of the peer group upon behavior has always been an important factor in social dynamics. In recent times, however, it seems to have taken on new dimensions. With the development of segmental social relations and values engendered by parochial motives there has been a gradual breakdown of intergroup communications. Emerging out of this is a diminishing of interactional alternatives with a consequent dominance of the peer group.

For many this is of no consequence as the degree of relationship to their peers is casual. For others, specifically the highly alienated, it can become a significant force for conforming behavior.¹ Those among the young who perceive themselves in conflict with the dominant culture are particularly vulnerable, finding satisfactions sufficient to justify obstinate loyalty. The peer group not only has become a haven of empathy and approval for their emerging life styles but has strengthened its position as an important testing ground for personality development. However, young people know they need the peer group and this increasing awareness of dependency has tended to make them hypersensitive to its demands. In the effort to acquire and maintain acceptance, approval-seeking becomes de rigueur. While this striving for identity and status tends to influence all phases of social interaction, its attainment can be painfully elusive and fleeting. In the classroom, this does not necessarily hold true. Within the context of academic affairs, the method of approval-seeking is clearly defined and available, and the reward is rapid and incontrovertible. With such formidable incentives the possibilities of getting valid relationships seem high.

OBJECTIVES

There are two main objectives of the study. The first seeks to investigate the effect on academic motivation of student performance under conditions of peer group evaluation. However, the sample is representative of a specific group of people—those who live together on the style of Goffman's total institution.² The students of the sample all live in the same dormitory and have almost the same study-work program, thus developing as close a primary relationship as constant proximity will allow. While no attempt was made to measure the degree of this relationship, its presence was accepted and became a consideration in evaluating the data.

* Department of Sociology, University of South Alabama, Mobile, Alabama.

¹ Laurence J. Gould; Conformity and Marginality: Two Faces of Alienation, Journal of Social Issues, Vol. XXV, No. 2, 1969, pp. 59-61.

² Irving Goffman, Asylums: Essays on the Social Situation of Mental Patients and Other Inmates, Garden City, New York: Doubleday, 1961.

The second attempts to develop a meaningful predictive instrument by the correlation of various personality characteristics and scholastic measurements with the final grade results. Of the personality tests available, those chosen attempt to record attitudinal postures that may affect scholastic performance. Functionality demanded that the tests be as few, as short, and as reliable as possible. Those chosen met the last two criteria and the statistical technique of step-wise regression analysis met the first. All of these tests have previously been used in a number of colleges and universities.

METHOD AND PROCEDURE

For the first phase, the experiment-control method was used. It was hypothesized that evaluation by the peer group would have a positive influence on academic achievement. Final examination scores of the two groups were compared for any significant influence by the independent variable of daily academic evaluation by one's peers for the experimental group.

The second phase dealt only with the experimental group and consisted of an initial recording of personality measurements and academic standing, and a correlation of these results with the final examination score. Seven personality tests were used, in addition to a pretest, an entrance score which is the total scholastic standing of each student up to the current term, and the student evaluation scores consisting of the scores earned by each girl from her classmates. The inclusion of this last variable, which is exclusively part of the experimental group, is the reason why only this group was used for the second phase.

The study was conducted with the nursing students of Introductory Sociology course taught at Jackson Memorial Hospital in Miami during the Winter, 1971 term. The students were all girls selected for the nursing program by a nursing school admissions committee using test results from a general knowledge examination, Florida Twelfth Grade Scores, high school averages and a National League of Nurses examination. This two-class sample represented the scholastic top half of the freshmen. Their superior cumulative grade point average justified the inclusion of this sociology course in their curriculum.

The assignment of students to the two classes was done by the school on an alternate alphabetical basis, each class getting approximately 28 students. By the time classes started, however, one class was down to 23 while the other held all of the original 28 students. The choice of the experimental group was done on the basis of which group was assigned the first period, with the second period class becoming the control group.

In the first period of both classes demographic data pertaining to name, age, sex and rank order of birth, were gathered on individual cards, a pretest given and the personality measurements were taken. Personality tests included the following:

1. Alienation. There are many meanings of this phenomenon, all related to a feeling of dissociation from society. Three aspects measured here are social isolation, powerlessness and normlessness.
2. Authoritarianism. Seeks to measure beliefs and attitudes that compulsively allow authority figures to serve as the source of direction to one's conduct.

3. Moral Values. A measure of self-guiding principles of justice and fairness in two areas:
- a) one's conduct in everyday affairs, called conventional morality.
 - b) judgment of the responsibility to public trust, called public ethics.
4. Anxiety. Measures the psychological components of:
- a) lack of self-sentiment development.
 - b) ego weakness.
 - c) suspiciousness, paranoid type insecurity.
 - d) guilt proness.
 - e) frustration tension, id pressure.

The first three tests were taken from the Appleton-Century Croft Sociology Series and used with the permission of the publishers. The anxiety test was purchased from the Institute for Personality and Ability Testing.

The experimental group was told that individual members were to have the responsibility of presenting the material according to an equitable schedule and the rest of the class could make comments or participate to demonstrate their involvement with the topic under discussion. Each student was assigned a number by which she would be identified throughout the term. Each was required to have her number clearly visible on the front of her desk-seat each time we met. The seating configuration was circular.

The same sociology textbook, Sociology by J. W. Vander Zanden, was used by both the experimental and the control group. Chapter assignments were identical in sequence. The amount of time spent on each chapter was held constant.

Each student graded every other student, including the "Lecturer" for the day, on their comprehension of the material. Grading was done on a rating of 1 to 5 for each student for a total of twenty-seven evaluations in a full class, with the grader excluding herself. Evaluations were recorded on IBM cards with special pencils. The cards were collected after each class.

In controlling for subjective influences on grading practices the grades were checked after each class for irregularities such as unjustified omissions. They were then compared with the judgmental evaluation of the instructor based on his observations of student performance. There was no evidence that personal feelings were a factor in evaluation.

To get the maximum effect of an awareness of peer-judgment dependency it was emphasized the first day and reinforced periodically throughout the term, that the cumulative ratings for each student contributed one-half the student's final grade in the course. This was originally set at a 3 to 1 ratio but after a couple of classes a committee formed and objected to having so much of the grade at the mercy of their peers. The whole class was solicited and this opinion was fairly unanimous so a 50-50 ratio was agreed upon as equitable. As the class progressed, they were occasionally sounded out as their re-assessment of this equal ratio and there were no dissenters.

Both the experimental class and the control class were held in the morning, with the control class meeting immediately after the experimental

class. Hence, any influence on the results that could be attributed to the time of day during which the classes met was minimized. In order to control for the deviation from studying time required for the students to evaluate each other in the experimental group, the control group was begun five minutes late.

The control class was conducted in a manner that in the instructor's judgment constitutes the basic lecture-discussion approach in classroom instruction.

ANALYSIS AND DISCUSSION OF RESULTS

The means of the cumulative final grades for the experimental group and control group were 7.1 and 6.1 respectively. They were based on a grading scale of 1 to 12. In the analysis of variance between the two groups, the F ratio computed to 1.3945 (Table 1). With a probability at the .05 level it is concluded that the instructional approach using peer evaluation as a motivating factor results in no significant difference in academic achievement as measured by final grades.

Although statistically insignificant, it is of interest that this scholastic relationship is found with two other measurements. The differential of 1 point between the experimental and control final means is identical to the differential between the two groups in their pretest means, 6.8 vs. 5.8. A similar slight differential is also found in the cumulative average scores which are based on the courses taken during the Fall 1970 term. Using a 4 point scale, the mean for the experimental group was 2.80 and that of the control group 2.62.

One may speculate that the cumulative characteristics that operated to give one group a higher scholastic mean before the experiment remained in effect during the experiment and kept them in the same degree of scholastic relationship at the end of the term. However, while the method of instruction did not have a negative influence on academic achievement, it failed to confirm the hypothesis of positive influence.

One factor that may have influenced the results is the non-classroom environment of the sample. The girls live in a somewhat cloistered milieu, sleeping in the same dormitory on hospital grounds, attending the same classes, actually living together every day except weekends. The few whose parents live in the area are able to get away, if they so prefer. Not many do.

With the family-like degree of intimate and constant exposure that would result with this close association, any attempt at pretense or self-consciousness would seem futile and unsustainable. This was borne out in the instructor's observation of classroom conduct. Many were unusually candid in expressing innermost feelings, generously laced with "dormitory" language. On a number of occasions students freely admitted they hadn't done their reading or discussed the subject material before coming to class. There were no signs of mortification or embarrassment when information proffered was contradicted or grossly in error. It is highly probable that this interactional attitude encouraged their taking each other for granted, at least in academic matters, and diminished any need to strive for recognition. If this is so, it would effectively function to nullify the theme of the hypothesis.

A converse theory holds that the prolonged and intimate contact of members within a group tends to heighten sensitivity to group norms. Crucial to this approach is the identity and especially the ranking of these norms in order to determine the relative influence on behavior. From pre-and post-class conversations with students and information gleaned from counseling sessions it is the judgment of the investigator that the students' sensitivities were far greater to social norms than academic norms. Further study seems indicated in this area.

The second phase of the experiment yielded more positive and useful results. The seven personality measurements, pretest, cumulative average scores and student evaluation scores were correlated with the final grade. By using the step-wise regression analysis the most efficient number of variables with optimum correlation proved to be four out of the ten: Cumulative average scores, powerlessness, conventional morality and authoritarianism. In the step-wise regression, step number 4 had a multiple r of .7154 with a standard deviation of 2.3066. Beyond this point the standard deviation began to increase while the rise in the coefficient was comparatively small.

CONCLUSIONS

It is significant to note that the one single variable with the highest correlation is a measure of scholastic ability, not of personality characteristics (Tables 2 and 3). What is probably more significant is that cumulative grades in a term heavy in non-social science courses such as anatomy, physiology, chemistry and nursing should be a more reliable predictor of success than knowledge of sociological concepts. There is a strong suggestion that intellectual ability and a mastery of study habits and self-discipline, that go to support it, overcomes any instructional manipulation (as the instructional factor) or initial disadvantage through lack of content knowledge.

Of the personality measurements, powerlessness and authoritarianism are negatively correlated with the final grade, while conventional morality is positively correlated. The profile of the successful student that develops from this juxtaposition of variables is of a conservative type with a sense of control over life's situations, rejecting uncritical submission to authority and valuing freedom of thought and action. However, her attitudes and behavior are generally influenced by rules of conduct sanctioned by general agreement.

LIMITATIONS AND RECOMMENDATIONS

Although this particular combination and arrangement of variables is predictive of academic success with this sample, it may not have similar efficacy with a different sample, say from a universe of typical community college freshmen. There were a number of conditions that made these students atypical. To begin with they were all of one sex. Only those meeting the nursing school standard of general knowledge were accepted by the school. Their specialized knowledge had to be demonstrated by scores in the National

League of Nurses examinations. The sample was further refined by performance in their first term. Those that scored below the 50th percentile in the cumulative grade point average were not assigned sociology the following term. All this operated to produce a special kind of sample and this fact is important in the overall assessment of the results. This is especially so if it is to be compared with students in an open registration college with a vast range of interests and abilities.

This is not to say that other variable combinations will not emerge to expose predictive combinations of more typical reliability. The three scholastic and seven personality measurements seem sufficiently varied yet pertinent to produce some meaningful results. It remains to be tried on a more representative sample.

TABLE 1

ANALYSIS OF VARIANCE BETWEEN AND WITHIN GROUPS

	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	12.0461	1	12.0461	1.3945
Within Groups	423.2866	49	8.6385	
Total	435.3325	50		

TABLE 2

VARIABLES IN REGRESSION EQUATION

VARIABLE	COEFFICIENT	STANDARD ERROR
(Constant	-0.18563)	
Pretest	0.10053	0.20918
Authoritarianism	-0.07094	0.07337
Conventional	0.08306	0.03966
Public	-0.07360	0.10273
Normlessness	0.07287	0.11259
Powerlessness	-0.34107	0.15746
Anxiety	0.21583	0.24625
Stu. Evaluation	0.84907	1.27851
Entrance Scores	3.74366	1.02196

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PART II

SOCIAL CHANGE IN RURAL AREAS

In his attempt to understand change in the social order, the Sociologist investigates the phenomenon of social change at various levels within that social order. The papers appearing in this section cover a wide range of levels within the social order of contemporary America.

Perhaps at the most general level would be the paper by Sill, et. al., where the concept of "scale" is explored for its utility in understanding social change at a systemic level. They attempt to demonstrate that the concept of "scale" is a viable and useful tool in viewing and evaluating social change at the local level.

Pinnock reviews the renewed commitment to human resource development on the part of many of the institutions within the social order. He is assessing the potential of several of these programs for the fostering of positive social change. Johnson is reporting on a pilot effort to introduce family planning services into a rural area of the South, an important social change for that area.

Ladewig and Edmondson discuss the effect of new resources on the rate and effectiveness of social change within the framework of a social agency charged with fostering social change. They find that the addition of para-professionals working in agriculture to the Extension staff is very effective if that para-professional is accepted and respected in the area he is to serve. Horton reviews the life cycle of a social change organization utilizing a typology based on organizational goals, organizational structure and the strategy of the organization for action.

In their separate papers, Singh and Bible identify various factors that influence various groups of individuals in their understanding and support of social change.

With the current emphasis on the development of non-metropolitan areas of the country, and the possibility of reversing the flow of migration, the concern over social change in rural areas will increase even more. The work represented by the authors of these papers supports the long history and tradition of the concern by the Rural Sociologist for social change.

The Appalachian Volunteers: Changes Within a Community Action
Organization and Their Relationships to External Response

Billy D. Horton
Department of Sociology
University of Kentucky

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Workers, John Marshall Hotel, Richmond, Virginia, February 13-16, 1972

Introduction and Brief History

The 1960's in Southern Appalachia, referred to recently as the "Decade of Reawakening" (Walls and Stephenson, 1972), saw the rise and demise of many action-oriented organizations aimed at solving some or all of the manifestations of poverty in the area. The Appalachian Volunteers (born circa 1964 -- died circa 1970), an organization active in the Appalachian portions of the states of Kentucky, West Virginia, Virginia, and to a somewhat lesser extent Tennessee, was one such organization. However, few of these organizations, including the Volunteers, were ever studied systematically over time. This study, using the case study technique, seeks to do just that: look at the changes that occurred within the organization and their relationship to specific factors external to the organization as they evolved during the life history of the organization.

The Appalachian Volunteers (AV's) as an organization was conceived out of the combined efforts of federal, state, and private interests in February, 1964. Under the sponsorship of the Council of Southern Mountains and with funding and material from both federal and private sources, the AV's undertook weekend and vacation projects utilizing students from colleges within or near the area to repair and renovate one-room schools in the more isolated areas of Eastern Kentucky. With increased funding from such federal agencies as the Office of Economic Opportunity (O.E.O.), the organization was able to involve itself in expanded summer projects during the first few years of its existence. For example during the summer of 1965 there were approximately 150 Volunteers scattered throughout Eastern Kentucky. Projects undertaken included renovation of schools and other facilities within the community as well as recreational, remedial, and curriculum enrichment programs. Such projects ususally centered around the one-room school, thought by many of the AV's to be the center of these isolated communities. Meanwhile the AV's also entered into contractual relationships with such federal organizations as Volunteers in Service to America (VISTA) and Peace Corps in associate training programs to further facilitate and expand the summer programs.

In May of 1966 the AV's broke away from the Council of Southern Mountains after the firing of three of their staff members and became an independent organization. At stake in the dispute were different interpretations of the degree of activism and specific approaches to be followed by the Volunteers. The Council placed great emphasis on broadly based cooperation whereas the AV's often deemed it necessary to engage in individualistic problem-based action without seeking the cooperation of all possibly interested parties. During the following summer as many as 500 Volunteers were in the hollows of central Appalachia. It was also at approximately this time that the organization began to engage

in community organization oriented toward recognizing needs and demanding solutions, in contrast to its earlier service orientation. More specifically it shifted from organization for self-help based on bootstrap ideology to political community organization.

This shift was to bring them into conflict with local and state political and poverty program officials as well as other vested interests. As a result of this new emphasis on political organization and confrontation around such issues as strip-mining, one of the AV fieldmen was arrested on sedition charges in Pike County, Kentucky during the summer of 1967. Even though the Kentucky sedition statute was later found to be unconstitutional, demands that the AV's be investigated and their funds cut off arose from many sectors of the local, state, and federal scene. For instance the Governor of Kentucky, ignoring the established O.E.O. appeals procedure, demanded an immediate cessation of funds. A Grand Jury hearing the following September concluded that persons within the organization were engaged in "communist" efforts to overthrow the established order in Pike County and likewise demanded a cancellation of funds and removal of the AV's from the state.

As a result of this furor, the AV's found themselves in 1968 facing funding cut-offs and a considerable reduction of further funding possibilities, particularly from the public sector. As funding contracts with federal agencies expired, they became increasingly difficult to renew. Solicitation of private funds could only partially offset the reduced funding from other sources. Finally in October and December of 1968, the Kentucky UnAmerican Activities Committee (KUAC), patterned after its counterpart in the U.S. House of Representatives, investigated the activities of the AV's and following the lead of the Governor and the earlier Grand Jury hearing, recommended that the organization's funds be cancelled and that they be removed from the state. Consequently the end of 1968 saw the organization in tough financial straits and operating with a vastly reduced staff.

Even though the AV's sought new funding from the O.E.O. during 1969, little was forthcoming. This was at least partially true because of an O.E.O. ruling that funds for projects within a state had to be approved by the governor of that state. The Governor of Kentucky was not so disposed in the case of the AV's. So as 1969 progressed, AV projects and staff were cut to the bone, due primarily to a drastic reduction in the availability of funds. Meanwhile the organization also began to look for ways of realizing its goals through other means or agencies. Cooperation had already begun with such groups as the Mountain Legal Rights Association (MLRA) and the Eastern Kentucky Welfare Rights Organization (EKWRO). Then in the spring of 1970 the AV's ceased to exist as an organization, but many of their concerns were still being pursued by MLRA and by the Appalachian Research and Defense Fund. So even though the organization ceased to be, many of its goals were still pursued through other channels.

The above historical review of the AV's is all too brief and by no means does justice to the range of organizational activities that was a part of their life history. However, such a brief introduction is

necessary to set the stage for the more detailed analysis that will be the subject of this paper. Before getting to that, though, we should first take a quick look at the methodology and theoretical background involved.

Method:

This particular research project was conceived in the fall of 1969, a time already late in the history of the AV's, as it had by then almost ceased to function as a viable organization. As a result perhaps the most ideal method of evaluating a social action agency, that of formulating evaluation procedures along with the goals of the organization, was not feasible. Instead most of the circumstances surrounding the existence and activities of the AV's had to be reconstructed in *ex post facto* fashion. This task was facilitated by the fact that the ebb and flow of organizational life normally leaves a documentary record which stands as tracks in the sands of time. Such unobtrusive data is usually rich with details from organizational life history and when used properly by the researcher yields unique possibilities for organizational analysis. For instance Selznick made use of such data to help create a classic study in the analysis of organizations. (Selznick, 1949).

In this instance it was eventually decided to use such unobtrusive types of data as the AV Constitution and By-Laws and its subsequent revisions, minutes of Board and Staff meetings, project evaluations and reports, and local newspaper accounts, supplemented by memos, letters, other evaluations, and informal interviews with ex-staff members and others familiar with the organization. Appropriate cross checking was incorporated in order to assure the validity of information obtained from the various sources. In fact this, along with the desire to have a richer and fuller picture of the activities of the AV's, was one of the primary reasons for using several sources, many of which yielded similar kinds of information. As Selznick has pointed out:

"A careful investigator can minimize error by such means as checking verbal statements against the documentary record, appraising the consistency of the information supplied to him, and avoiding reliance on a single source. On the other hand he will not restrict his data to that which is publicly acknowledged."
(Selznick, 1949)

Denzin has used the term triangulation to refer to the use of multiple methods or indicators, whether unobtrusive or obtrusive. (Denzin, 1970) Through the use of triangulation one can greatly diminish error and increase validity.

Theoretical Background:

Several theoretical or semi-theoretical schemas were considered as possible tools for conceptualizing organizational change in this particular case study. Briefly these approaches were: 1) in-put - output schema (ATTAC, 1967); 2) external-internal dichotomy; 3) social movements analogy (Edwards, 1927 and Sower and Anderson, 1965); 4) various

analyses of community action organizations (Warren, 1969; Zald, 1965; Green and Mayo, 1953; Walton, 1964; and Rein and Morris, 1969); 5) planned change models (Hoffer, 1958; Loomis, 1959; Beers, 1969; Photiadis, 1963; Sanders, 1958; Gallaher and Santopolo, 1967; and Beckhard, 1959). All of these approaches were considered potentially useful in the analysis of organizational change over time. However, most of them are limited by the narrowness of their approach and thus prove to be of limited value in the analysis of the "total" organization.

For instance the input-output schema and the internal-external dichotomy deal with organizational activities primarily in terms of action-reaction or stimulus-response. In doing so these approaches often deal with series of incidents in isolation rather than with the complex of organizational relationships. Also, the input-output schema usually restricts itself to those things which are quantifiable and ignores those things which either cannot be quantified or are not easily quantifiable.

The social movements analogy would be appealing were the scope of this study much broader than it actually is. However, given the limited scope of this study and the types of data available it would be very difficult to do justice to the concept of social movement. This author also has some reservations about applying the social movement analogy to a single organization. It would seem most appropriate in the consideration of several organizations within a particular time period.

Many of the planned change models, on the other hand, are too specific in scope. Several deal only with the agent-client relationship or the classical hired gun type of social change. However, during the history of the AV's there were times in which there was no agent-client relationship in the classical sense. This was particularly true during the latter stages of its history. Additionally most of the planned change models are premised on the assumption of the desirability of consensus. As a result such models are inadequate for the task of dealing with instances of confrontation as goal and/or strategy.

Three of the theoretical schemes are really quite similar. The first of these (Warren, 1965) deals with varying degrees of consensus and dissensus surrounding purposive community action. He focuses on the issues from the point of view of the change agent. Walton on the other hand deals with strategies of social change and the dilemmas which result from two particular strategies; power strategy and attitude change strategy. (Walton, 1965). Finally Rein and Morris develop a typology of goals, structure, and strategy changes and their interrelationships as well as their relationship to various external factors. As a consequence they come up with a typology consisting of integration and change goals, federated and simple structure, and cooperative and individual rationality strategy. Each of these dimensions may be thought of as a continuum. Warren's idea of consensus and Walton's focus on attitude change strategy are quite similar to Rein and Morris' integrative goals, federated structure, and cooperative rationality strategy. In like manner Warren's emphasis on dissensus and Walton's idea of power strategy closely resemble Rein and Morris' change goal, simple structure, and individual rationality strategy. The advantage of the Rein

and Morris typology is that it is much more inclusive of organizational phenomena than are either Warren or Walton. It also does not depend on a change agent relationship as is the case with Warren. For these and other reasons such as ability to conceptualize the organization in a total way, the goal, structure, and strategy typology was used.

The unobtrusive record of the AV organization as well as the interviews with those knowledgeable about the organization reveal that there were fairly clearly specificable goals, structures, and strategies at any one time during the life cycle of the group. What follows is a brief outline of the Rein and Morris typology as employed in this case study.

Relationships Between Goals, Structures, and Strategies

		Structure	
Strategies	Cooperative rationality	Federated 1 integration	Simple 2 ritualism
	Individual rationality	survival 3	change 4

Explanation:

Structures are of two varieties:

- 1) federated--an association of agencies or autonomous substructures
- 2) simple--homogeneous groups of like-minded individuals

Strategies:

- 1) cooperative rationality--comprises consensus, legitimacy, rationalism, avoidance of controversy, and a fusion of means and ends
- 2) individual rationality--specialized vested interests, focus on realism, chief commitment to own interests, no aversion to controversy

Goals:

- 1) integration--conforming to common values
- 2) change--achieving predetermined goals or objectives, quality of a social cause
- 3) ritualism--going through the paces, but accomplishing nothing
- 4) survival--focuses on own perpetuation (Rein and Morris, 1969)

The last two of these (ritualism and survival) are actually forms of goal displacement and will not be used as integral parts of the analysis, although they will come into play where deemed pertinent.

This particular schema (Rein and Morris) enables one to look at the changes taking place within an organization as it is related to goals, structure, and strategy as well as how each of these is in turn related to various other internal and external factors. Depending upon what is used as the reference point, one might think of this typology as a continuum

or as three separate continua. On one end of the continuum would be an organization with a federated structure, cooperative rationality strategy, and an integration or consensus goal while on the other end would be found an organization with a simple structure, an individual rationality strategy, and change goals. These two characterizations might be seen as the ideal types (the limiting cases) on each extreme. On the points of the continuum between the two extremes the relationship between goals, structures, and strategies would vary accordingly.

Before attempting to apply the Rein-Morris typology to the AV case, some further specification of types of goals, structures, and strategies and the criteria by which AV activities and pronouncements will be classified is necessary. The primary criterion upon which a goal will be categorized as integrative is whether it seems to be based upon conformity to common local or national values. An agency committed to integration goals often singles out a rather small number of relatively homogeneous standards that are reflective of the integrative goals of the larger community. On the other hand an agency exhibiting change goals is exemplified by commitment to specific, limited, and concrete goals. It is usually less concerned with the impact of the achievement per se. This partially results from their belief in the singular importance of their goals and the quality of a social cause that normally pervades the organization. The primary source of the goals of the AV's was the Constitution and By-Laws and its subsequent revisions as well as certain public documents and inter-organizational memos.

A second aspect of the AV organization's history to be considered is its strategies. Rein and Morris define strategy as a "settled course of action." (Rein and Morris, 1969) As such it usually involves a set of basic assumptions about a style of action thought to be most appropriate to accomplish the organization's desired aims. They distinguish strategy from tactics, the latter being more specific. In this study on-going projects (possibly conceived more specifically as tactics) served as primary reflections of strategy. There are basically two types of strategy in Rein and Morris' typology: cooperative rationality and individual rationality. The first of these is characterized by such things as a search for unity or consensus among the interests of possibly diverse groups and avoidance of goals that cannot be shared by all concerned. Much effort is exerted in the direction of achieving inter-organizational agreement. An added test of the strategy is whether or not internal integration is effectively achieved. Also, according to Rein and Morris, legitimation by the community is achieved by:

"the requirement that the set of goals must favor no special interest, must be non-controversial, and must be in the community's best interests." (Rein and Morris, 1969)

Often the participation and approval of community leaders is considered a prerequisite to such community legitimation.

Individual rationality reflects specialized interests and little aversion to controversy. As a consequence the organization will not be as concerned with the desires of other local groups or interests, particularly if they are not in agreement with their own vested interests. Results are often achieved by persuasion, coercion, or any other means

deemed suitable to promote the aims of the organization. This does not mean that the organization will not cooperate in some minimal way with other groups involved in similar enterprises or the same locality. As the above authors note:

"These coalitions are usually temporary, unstable, means-oriented alliances among groups with varying goals."
(Rein and Morris, 1969)

Another aspect of this strategy is reflected in the attempt to influence those who have the power to make decisions that might facilitate the achievement of organizational aims. In this study, specific projects were used in combination with official and non-official pronouncements and communications to get at the strategy current at any particular time period in the AV's history.

Lastly Rein and Morris posit two types of structure of community organizations: federated and simple. Federated structures are characterized by an association of autonomous substructures of agencies. These organizations are usually accountable primarily to themselves and only secondarily to the federation. However, this does not preclude the dominance of one of the federated agencies in possibly an umbrella like fashion. On the other hand, simple structures are conceived of as relatively homogeneous groupings of like-minded individuals or organizations that normally share common goals and/or values. The members are often accountable only to themselves. Their like-mindedness is based upon similar ideological beliefs and commitment to the goals and principles derived from these beliefs. Other organizations or individuals might still be included, although this is often done simply to obtain community sanction and to reduce criticism. The Constitution and By-Laws of the AV's served as the primary sources of information relevant to the determination of the structure of the organization at any point in time. However, other sources (e. g., memos, letters, interviews) were used to grasp the real motivations behind certain alliances and structural changes as well as to check the correspondence between publically revealed structural aims and what actually took place.

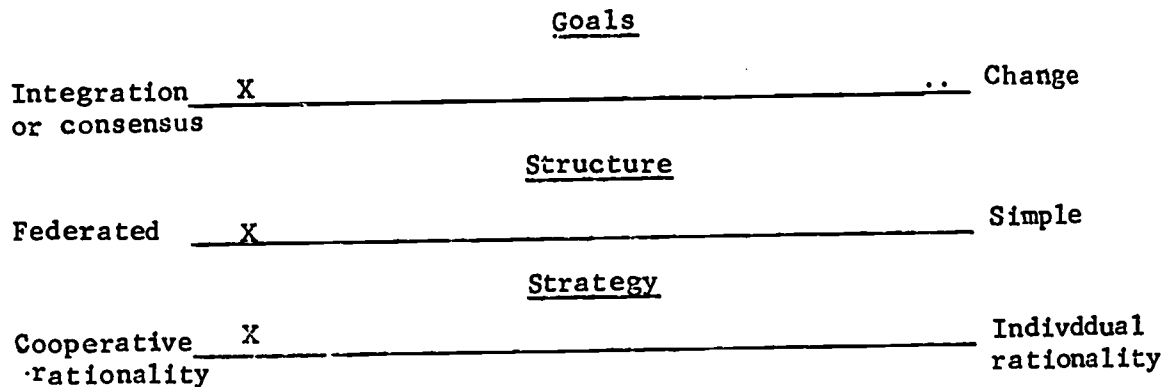
Application of Model to the AV Experience

With the above preparatory remarks, it now becomes appropriate to proceed with the analysis of the changes evident in the AV organization. If one looks closely at the goals, structures, and strategy of the AV's during 1964, the resulting picture resembles that depicted in Figure 1. If the three dimensions are thought of as continua, the goals, structure, and strategy cluster respectively on the integration, federated, and cooperative rationality poles. First the goals were primarily those of cooperation with other agencies, groups, and individuals in a program of self-help through citizen involvement. Involved here were two traditional aspects of American culture, self-help and citizen involvement, which seem to be basic components of the American ethic. The accompanying traditional virtues of voluntarism and sharing with one's fellow citizens might also be described as a commonly ascribed value. Also, in its early days, the organization showed little propensity for pursuing

single-minded, pre-determined objectives to the exclusion of common values or cooperation with other groups or individuals. It would appear then, based upon the available evidence, that the goals of the AV's during its first year of existence were of the integration variety.

Figure 1

Interrelationship Between Goals, Structure, and Strategy During 1964



During its first year the AV's were involved in an effort of formalizing their goals. The By-Laws adopted by the AV's in 1964 perhaps best illustrate the integrative nature of the organization's goals. The pertinent sections are as follows:

Article II - Purposes

"Appalachian Volunteers" - is a non-profit organization of educational institutions, their respective student bodies, and faculties, interested in performing in cooperation with other groups and citizens, needed services within Appalachian communities.

- A. To involve the citizens of the region in the process of meeting community needs: by providing capable and highly motivated people to assist in projects in areas such as health, education, recreation, and human welfare.
- B. To provide an organization through which students can assist their fellow citizens, and, at the same time, participate in valuable learning experiences.
- C. To relate existing programs to areas of unmet human need and to initiate programs which look to lasting solutions to the region's problems.
- D. To demonstrate to the region and the nation the importance and usefulness of a self-help component in programs aimed at improving conditions of life.

The emphases are mine and are used to indicate key points or phrases within these goals statements. Such emphases clearly indicate a desire

upon the part of the AV's to initiate a broad-based cooperative effort in the battle against the problems of poverty in the region.

Meanwhile, the AV's were making some attempts to cooperate with other agencies involved in the same or similar efforts. The staff functions were designated in part as: a) to make sure that the efforts of the AV's related to all existing and ongoing programs in the area--"the work of the volunteers must support and supplement, rather than supplant, existing ones"; and b) to seek out opportunities for volunteers to work in existing programs. The AV's were also at this time working under the sponsorship and jurisdiction of the Council of Southern Mountains and it was subsequently suggested that they work through a statewide development committee. At one time the organization cooperated with the Girl Scouts and at other times with various state agencies on particular projects. This was in keeping with the structure prescribed in the By-Laws. So in terms of its relationship with other organizations, the structure of the AV's in 1964 would approximate the federated type of the Rein and Morris typology. It was not so much that the AV's themselves were federated relationships.

Though specific projects were used in this study as indicators of strategy, each project was considered in the context of a constellation of events and actions surrounding it. If we observe the AV strategy in 1964, we find that projects were initiated only upon consultation with and in cooperation with other groups and officials representing target counties. Volunteers were sent into communities only after having been invited. Projects were explicitly nonpolitical and noncontroversial; most could be endorsed by all concerned. An explicit effort was made to promote unity; local officials and members of local and/or state agencies were solicited for advice and cooperation. The strategy of the AV's in 1964, then, most closely approximated the cooperative rationality type.

Rein and Morris maintain that certain strategies and structures are more conducive to change goals and others more conducive to goals of integration. At one point they note:

"Thus, a federated structure and cooperative rationality become essential for aims of integration, and structure, strategy, and goals reinforce each other." (Rein and Morris)

This seems to have been the case with the AV's in 1964--their goals were of the integrative type: their structure was federated; and their strategy was that of cooperative rationality. According to Rein and Morris, this should have enhanced the organization's chances of success. However, it is very difficult to talk in terms of success or failure as it was the organization's first year. Nevertheless their efforts seemed to have been received well by all concerned.

During most of 1965, the AV's were ostensibly operating under the same set of By-Laws as in the previous year. So the official, "on-paper" goals were basically unchanged as were most of the public and private pronouncements about goals made by those associated with the organization.

In the latter part of 1965, however, the By-Laws were revised. The phrase, "and other cooperating groups and citizens" was inserted in the introductory paragraph of Article II -Purposes, which then read:

"AV's is a non-profit organization of educational institutions, their respective student bodies and faculties, and other cooperating groups and citizens."

All this did was to make more explicit the intention of the AV's to cooperate with other groups and citizens. Goals specifically related to strategy also reflected the AV emphasis on cooperation with people and groups in self-help. Basically, then, the goals of the AV's in 1965 were oriented both generally and more specifically toward the characteristics designated integration by Rein and Morris. (Figure 2)

Figure 2

Interrelationship Between Goals, Structure, and Strategy During 1965

	<u>Goals</u>	
Integration or consensus	X	Change
	<u>Structure</u>	
Federated	X	Simple
	<u>Strategy</u>	
Cooperative rationality	X	Individual rationality

The above mentioned revision of the By-Laws adopted on December 5, 1964 was also important for the assessment of type of structure. The pertinent changes are given below:

Article III--Membership (shall now be of four types)

Add community

- B. Add three residents of communities where volunteer projects take place.
- C. Community membership is open to any community association working with the AV program.

Article IV--Change to spring meeting

Add: each institutional chapter shall be represented by two electors--one student chosen by the campus AV chapter and one resident of a community where student volunteers from that institution work, chosen by an advisory committee made up of community representatives. The advisory committee will be representative of all communities served by the AV chapters.

Article VI--Add: one community director
(Change "student representative" to "student director")

- A. Each institution will present one student representative and one community representative.

The primary change instituted by the above revision of the By-Laws was that of expanding membership. For now, in addition to institutional, individual, and supporting membership, there was a new category--the community membership. That membership was open to any community association working with the AV program. This inclusion of autonomous sub-structures or agencies was carried through to the Board of Directors, with a community representative being added. So at least in terms of its internal organization the AV's seem to have moved further toward becoming a truly federated structure during this year.

At first glance the AV program did not change very substantially during this year, even though the program was considerably expanded because of increased funding from O.E.O. The projects were little different in substance and orientation from those during the previous year and there was a continued effort to involve the local people in any projects undertaken by the organization. However, some new things did appear on the scene during 1965, particularly during the summer when the AV's were able to pursue the expanded program. In addition to the three major types of projects (renovational, recreational, and cultural enrichment), the volunteers began to organize community people so that they could recognize their problems, and community centers were developed. Efforts were made to educate the populace concerning such central issues in central Appalachia as mining practices and welfare policies. New emphases such as road improvement, hot lunch programs, and lessening of integration problems (in at least one instance) became a part of the AV repertoire.

These expanded activities marked the beginning of a trend away from "band-aid" or patchwork services. There are traces of a movement toward a "community orientation". Earlier the one-room school had been considered the focus of the local community problems, but now a shift away from this and from an orientation strictly to education was beginning. Opposition was expressed by some persons associated with the AV's to the closing and consolidation of one-room schools, because they provided the natural place around which the community could gather. However, as time went on, the AV's seemed to think more in terms of "community" and less in terms of one-room schools. This change had not progressed far enough by 1964 to greatly affect the major types of projects undertaken.

Again it should be noted that none of these projects are inherently either of the cooperative rationality strategy or the individual rationality strategy. That assessment can be made only after viewing other aspects of the AV experience during this year. First the AV's were still under the sponsorship of their parent agency--the Council of Southern Mountains--throughout the year and that parent agency was largely responsible for attracting the funding for the group's projects. The relationship between the organization and local county officials seemed to remain good throughout the year. For instance, when the volunteers went to Leslie County in June they met with the superintendent of schools,

another representative of the school system, the county judge, and the director and assistant director of the Leslie County CAP. "In this meeting they were welcomed on behalf of the people in Leslie County." (The Leslie County News, June 25, 1965) Although there were a few indications of lack of cooperation, most available evidence points to efforts to cooperate with and/or aid other segments of the community.

1966 was something of a transitional year for the AV's. Even though they broke with the umbrella agency that had given birth to them and given them sponsorship and aid, they adopted essentially the same By-Laws as had been previously operative. Under these By-Laws, the goal of the AV's was still to include a broad-based effort of students, citizens, and agencies to eliminate poverty. The idea of the program being people and/or people-oriented was emphasized in many ways. For instance, in a letter sent to prospective volunteers prior to the summer program, the following was given as the essence to the AV program:

"The AV approach is based on the innate dignity and worth of every human being: respect for his rights and opinions, belief in his capacity for creativity and responsibility."

The emphasis was still on working with the people in some semblance of equality, with a genuine respect for their ability to help solve their own problems. Thus there was a great degree of continuity from the previous two years as far as general goals were concerned. What seemed to be changing was the interpretation and implementation of these goals as they became more specific and localized or regionalized. On the whole, however, goals remained integrative in intention (Figure 3).

Figure 3

Interrelationship Between Goals, Structure, and Strategy During 1966

<u>Goals</u>		
Integration or consensus	X	Change
<u>Structure</u>		
Federated	X	Simple
<u>Strategy</u>		
Cooperative rationality	X	Individual rationality

What few structural changes that were made constituted an effort to achieve a higher degree of participation on the part of the target communities. A special attempt was made to have local communities choose representatives to the Board and to increase the participation of the poor in decision-making. This seems to have been in line with a September memo from Director Shriver of the O.E.O.:

"Community action is a democratic antidote to the dole--an antidote which offers an opportunity for a voice for each and a role for all. From the outset, the poverty program has been involved in countless endeavors to give life and meaning to the words 'maximum feasible participation' ".

Specific projects underway during this time suggest the transitional phase through which the organization was passing. The more traditional AV projects, such as school repair and renovation, recreation, and curriculum enrichment, were still being undertaken in many counties. On the other hand there seemed to be a definite tendency within the AV organization to move toward organizing the poor in opposition to those in power. One of the most successful community organization efforts occurred in Floyd County, Kentucky, with the Highway 979 Area Community Action Council, Inc. Representatives of this community and AV's or Vista's who worked with them were later to engage in several running "battles" with the power structure in the county. The AV change in attitude is perhaps most evident in an August, 1966 memo attributed to a staff member in their Bristol office:

"What the federal government does is to give all the money to the enemy those couthouse politicians." (Bristol Virginia-Tennessean, August, 1966)

At this time the AV's were not simply moving toward the community organization orientation, but were rapidly moving toward political involvement.

The shift in AV attitudes and action did not go unnoticed. Due to their different modes of dress, looks, and ideas, student volunteers became an easy target for irate and distrusting local officials and citizens. At about this time, the Rockcastle County developer for the Cumberland Valley O.E.O. group attacked the AV members and Vista's, depicting them as troublemakers and undesirables. One of the local poverty workers in Harlan County accused them of "teaching hatred for the existing power structure and for anyone in authority." (The Harlan Daily Enterprise December, 1966).

Although the AV's did often cooperate with local officials and agencies, as seemed to be consistent with their goals and structures, specific strategies employed at times mitigated against such cooperation and, in fact, offered an obvious potential for direct conflict with local agencies and officials. Figure 3 illustrates the inconsistency between strategy on the one hand and goals and structure on the other. Whereas goals and structure were still at the integrated and federated ends of the continua, respectively, AV strategy had moved somewhat considerably toward the individual rationality end of the strategy continuum. The gradual move toward political community organization (which would come to fruition in the following years) is an example of this. There was increased willingness to think in terms of political, social, and economic implications of poverty. Perhaps more importantly, the AV's more readily verbalized their feeling that the local power structure was the enemy. This switch to community organization in the political sense challenged the pervasive belief in local paternalistic pluralism characterized by the control and benevolence of local officials and power groups.

There was no major revision in the By-Laws during 1967, but it was obvious that some changes were taking place in the temper and direction of AV goals. New programs pushed more vigorously than ever the idea of community self-help and involvement. In reference to the AV program, the Quarterly Report issued in October noted that:

"The unique idea behind the AV program has been that it works toward the day when Appalachian communities, long controlled by paternalistic industries and paternalistic local governments, can manage their own affairs without technical assistance of other people." (Appalachian Volunteers, Inc. Quarterly Report, October, 1967)

Also, during the summer of 1967 some specific goals (such as the anti-strip-mining effort) were thought-out, predetermined specialized goals and certainly did not derive from consensus in the region. The general emphasis was still upon the people, but the way in which their self-fulfillment and realization was to be brought about had changed.

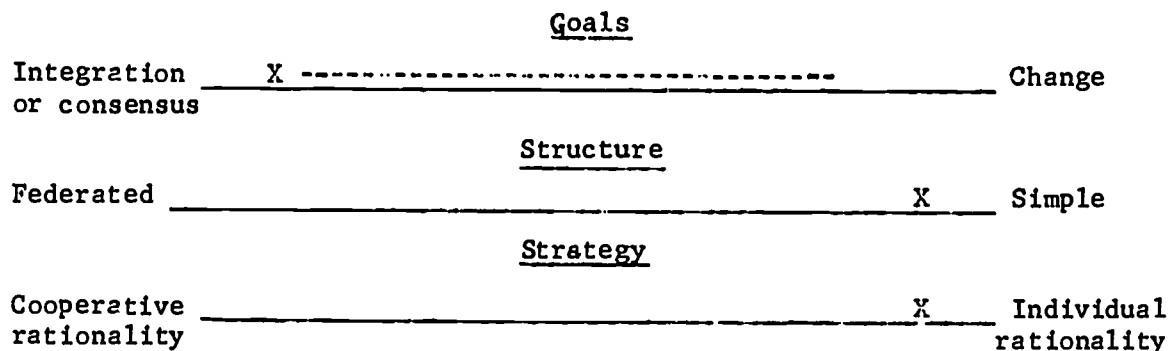
In the summer of 1967 a private corporation conducted an evaluation of the AV's more particularly of a training program in which the AV's were involved with VISTA. The evaluating agency encountered some difficulty in determining the goals of the AV's, particularly in any quantitatively identifiable sense. They noted the following in the earlier sections of their final report:

"Attempting to identify the objectives or goals of the AV's presented a special problem. We were advised that the goals stated in AV funding documents were formulated to meet O.E.O. requirements and the AV's had no goals other than to organize the "folks" to achieve their goals. As noted later in this report, we went through the process of discussion and analysis which permitted us to identify the AV goal as one of helping local residents increase their participation in the process of decision-making on matters which affected them." (An Analysis of the Vista Program and Appalachian Volunteers, Inc., 1967)

This assessment of the goal of the AV's at this time was probably a pretty good one sentence statement of the actual goal, even though it is stated mildly. Organizing people to participate in decision-making is essentially political organization as opposed to the earlier and more traditional organization for self-help. This new emphasis put the AV's on a collision course with the local consensus values in all their manifestations, such as local political machines, vested business interests, and other community action programs. Even though the organization began the year with integrative goals, basically no different from those of the previous three years, before the year was out these goals were interpreted in the light of an increasing belief in the rightness and priority of the cause of the poor as against a broad-based effort in which many segments of the community participated. So as the year progressed, the AV goals changed from the integrative type to the change type. (Figure 4).

Figure 4

Interrelationship Between Goals, Structure, and Strategy During 1967



Perhaps one of the most significant things relating to AV structure during 1967 was the realization that the structure as drawn up in the original By-Laws and following revisions was unwieldy. In August, 1967 the AV Board of Directors discussed ways of making itself less unwieldy and more responsive to its target groups. Essentially the results were to focus upon a more community-oriented and community-based membership. There was a corresponding de-emphasis on membership of college representatives. In addition there was no stipulation that these community representatives be members of any community agency or association. Thus they could simply be interested, concerned, or affected citizens; i.e., a group of like minded individuals rather than an organization of autonomous agencies. The AV structure was probably as simple as at any time in its history; being based on maximum participation of the poor rather than cooperative efforts with other organizations.

As far as strategy is concerned, the political activist orientation of the AV's dominated as the year wore on. A part of this change is illustrated by some of the topics for discussion and resolutions coming out of the AV winter meeting. The resolutions dealt with strip-mining, the development of community industries for and by the poor, education, tax relief for the poor, and poor representation on local and regional community action programs. A few of the more traditional concerns of the AV's, such as tutoring, recreation, and adult education were still in the picture, but these had been largely replaced by an emphasis upon community action and organization in the political and economic sense to solve and demand solutions to the problems of the area. The one-room school had disappeared as a focal point of AV activity, to be replaced by anti-strip-mining campaigns, development of community centers, cooperative economic ventures, craft projects, and welfare rights organizing. Weekend and vacation college student volunteers were replaced by hired paladins of both the local and non-local variety.

Such aims as doing away with strip-mining could not help but bring the organization into some type of collision with the most powerful vested interest in the area and the organization of welfare recipients was antithetical to the parental benevolence of the massive welfare system that had blanketed the area and indentured the poor. In their

relationship with local officials, there apparently were problems this year in several counties. However, perhaps the most crucial event during 1967, if not during the entire history of the organization, was the arrest during the summer of an AV staff member on charges of sedition in Pike County. This culminated several months of AV involvement in the anti-strip-mining campaign. The particular individual arrested had been involved specifically in this effort.

The incident became a part of the political arena due to the involvement of an aspirant politician in the prosecution of the case. This individual, the Commonwealth's Attorney of Pike County and then candidate for Lt. Governor, responded to criticism that politics was involved by saying that:

"It is far more important that we rid this state of Communists or their sympathizers than it is that I be elected Lt. Governor." (The Pike County News, August 17, 1967)

The AV's interpreted the events surrounding the arrest as a part of a "conspiracy" to get them out of Pike County. In fact most available evidence points to a concerted attempt on the part of the Commonwealth's Attorney, anti-poverty workers in the Big Sandy CAP (particularly the director), and mining interests to rid the county and state of the AV's.

In September a Pike County Grand Jury was convened and found that a "communist" effort was underway to overthrow the established order in Pike County. Most of the evidence was flimsy at best and consisted of such things as books by or about Marx and Mao seized from the AV staff member. Those books could have been bought at almost any bookstore. Apparently there had been concocted in Pike County an authentic "Red Scare", a most effective means of removing "undesirable elements" from the locality. An interesting observation is that the Commonwealth's Attorney, also a past president of the Independent Coal Operators Association, told the O.E.O. investigator that:

"His chief reason for bringing the charges was to drive the AV poverty workers out of the county and state."

In the long run his aim was to be realized, but not before a long period of controversy related to the AV's.

Regardless of where the specific blame lay, the effect of the publicity was to prove catastrophic to the total AV effort. Demands for cancellation of public funding came from several sources, including the Governor and Senators of the state. Also, local newspaper editors suddenly began editorial comments on the organization, something they had seldom done prior to 1967. Most of these were negative, although there was an occasional defense of the AV's. One of the most obvious effects of the events of 1967 was to make the AV's aware of the tenuous nature of their existence.

As a result there was a concerted attempt on the part of the organization to maintain a low profile in the early months of 1968. One staff memo during this time period warned, "We cannot afford another Pikeville."

Nevertheless the low profile did not end the controversy that dogged the organization the previous year. Funding was slow and there was continued criticism from various quarters. For instance, in April of 1968, the Floyd County, Kentucky CAP issued the following statement:

"The AV's have knowingly associated with communists and subversive elements in this and other states."

In an attempt to let things "cool off" and as a result of the diminished funding, emphasis was placed upon already established goals, programs, and groups. Community organization, begun in earnest in 1966, was still one of the primary concerns and activities, but something had happened to the enthusiastic aggressiveness of the organization. Perhaps this was a consequence of a new and real need for organizational survival. In spite of all this the AV's continued to be oriented toward some rather specific change goals. (Figure 5)

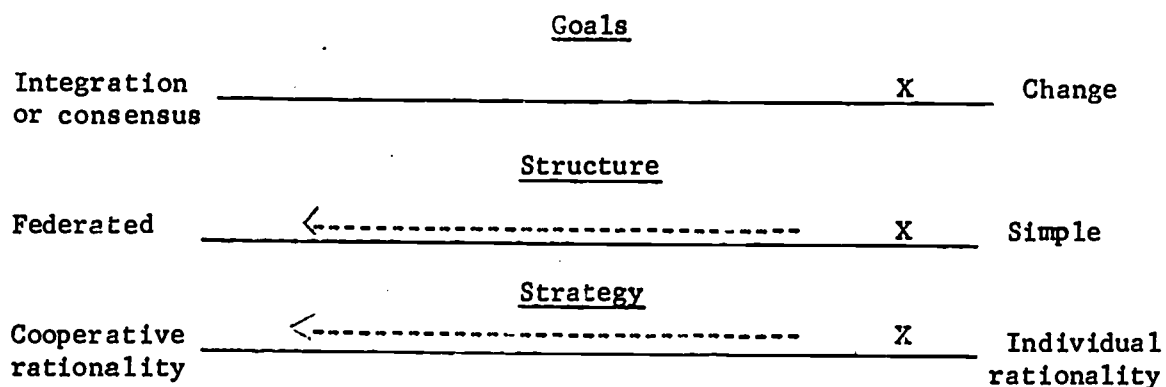
Early 1968 found the AV's still in something of a quandary about their membership structure and, more particularly, representation on the Board of Directors. An office memo in early 1968 in reference to community Board members noted:

"The only clear-cut uniform way in which we can allocate positions on the AV Board in counties which are served only partially by the AV program is by representation of 'organized' groups."

On the surface it appears that the organization was moving back toward some more or less federated type of structure. However, it should be noted that the groups to be represented were only those with which the AV's were working, not other autonomous groups or organizations. What was proposed by this reorganization, then, was a collection or association of somewhat likeminded and homogeneous groups under the AV umbrella. The Rein-Morris typology does not seem to specifically account for such combinations, unless we are to assume that it falls somewhere between the two poles of the structural continuum. Yet the above structural organization seems to more nearly approximate the simple type than the federated one. (Figure 5)

Figure 5

Interrelationships Between Goals, Structure, and Strategy During 1968



In terms of actual projects there seems to have been little change in AV strategy. The individual rationality type seems still to predominate. However, in accordance with a suggestion of an O.E.O. evaluation that the AV's make further attempts to cooperate with local officials, attempts were made to involve local officials and certain anti-poverty groups in the AV endeavors. In retrospect, this apparent move toward cooperative strategies appears to have been more of a practical survival move rather than any genuinely new direction for the AV's. Many of the activities in which they were engaging were still those which would not be conducive with either local officials or CAP's. In addition the stigma of the sedition charges caused even sympathetic CAP directors to be reticent about becoming involved with the organization.

During the year three new strategies had become important for the AV's. The first of these was the maintenance of a low profile, or avoiding trouble, of avoiding a repeat of the Pikeville incident. There was a feeling among some staff members that the organization could not stand another such incident and survive as an organization. A second strategy prevailed in the fall of 1968 in an attempt to avoid any semblance of cooperation with the Kentucky UnAmerican Activities Committee sent to Eastern Kentucky to investigate the activities of the AV's. The dominant feeling was that the Committee was simply on a witchhunt and would simply repeat the old charges previously brought against the organization. The findings of the Committee bore out these suspicions. A third concern was the necessity of soliciting funds to replace those being lost. Hence a greater amount of staff time was committed to the procurement of funds to insure the survival of the organization.

In 1969 there was little or no expansion of goals or projects. In fact, the activities of the organization had to be substantially reduced early in the year due to the funding crisis. However, there was still adherence to the basic goals of self-help (in the political sense), of organizing people to work on their behalf, and of providing them with the necessary information and resources to do so. The concentration of the group was for all practical purposes limited to two concerns--legal rights and welfare rights, although they continued to work with community action organizations with which they had been closely associated. The rights and development of the poor was a concern that still came before any attempts to achieve a consensus or to secure the aid and cooperation of local power groups. Goals of change were often translated into demands upon local officials. So again in 1969 change goals dominated the AV effort. (Figure 6)

For the portion of the year that the Board was active, it was made up of representatives from various multi-community groups with which the AV's were working. In the early part of the year at least thirteen organizations were represented on the Board. However, this federation of groups shared basically homogeneous interests and actually many of them had been founded by the AV's. Also, there was no demand that there be a consensus among the various groups represented on the Board; the groups themselves operated as more or less autonomous agencies. This arrangement would approximate the federated type of structure in the Rein-Morris typology. (Figure 6)

Few new projects were undertaken during early 1969 due to limited funding and limited staff. However, the group was by no means inactive, as it pursued certain strategies vigorously. These were often those with an inherent possibility for confrontation, as was the case in Floyd County in the summer. The issue involved a conflict with the school superintendent over the provision of free lunches for the children in certain

schools in the county. It culminated in a shoving match between the superintendent and some community representatives and later a court injunction to keep AV's and VISTA's off school property in the county. As Figure 6 illustrates, AV strategy was of the individual rationality type as evidenced by the willingness of the organization to pursue certain ends regardless of cooperation from either local officials or other agencies.

Figure 6

Interrelationship Between Goals, Structure, and Strategy During 1969

	<u>Goals</u>	
Integration or consensus	_____ X _____	Change
	<u>Structure</u>	
Federated	----- X -----	Simple
	<u>Strategy</u>	
Cooperative rationality	_____ X _____	Individual rationality

For all practical purposes, 1969 was the terminal year for the AV's, the final stages of a demise which may have begun two years earlier. During the last quarter of the year the organization began looking for ways to insure that its work would be carried on regardless of what happened to it as an organization. In the spring of 1970 the AV's were phased out. In its place came the Appalachian Research and Defense Fund, an organization composed of lawyers from the MLRA, a group of lawyers from West Virginia, persons closely associated with the welfare rights struggle, and others who had been associated with many of the AV causes. It was a quiet end to a tumultuous history. The words of one of the songs in the album, The Poverty War Is Dead, now rang perhaps a bit too clearly:

"The War on Poverty, it will soon be gone;
and the Appalachian Volunteers, they too will soon be gone."
(The Poverty War Is Dead, 1969)

Conclusion:

Much evidence has been omitted from the context of this paper due to limitations of length and time. Yet hopefully the bare outlines presented here offer some clues to the evolution of the organization. One could summarize that evolution by simply combining the yearly analyses based on the Rein-Morris typology. However, it might prove as useful and less repetitious to instead mention some of the main themes of the AV life history. As noted earlier in this paper, the AV's began by stressing certain values that were highly respected within the Appalachian subculture as well as in the society at large. Among these are self-help, voluntarism, and education as a means of improving one's life chances. The expansion of the program in 1966, made possible by a large O.E.O. grant, enabled the AV's to pay their summer "volunteers". In fact during the last two years of its activity, the AV's could not really be called a volunteer organization. So, during its brief history, the AV organization had moved full turn from an almost totally volunteer base to one that could not under any circumstances be called volunteer.

A second important change that took place in the AV's related to their educational orientation. Practically all of its programs during the first two years of its existence were centered around the one and two room schools in the central Appalachian region. Initial efforts were simply stop-gap measures aimed at making conditions in those schools bearable. However, by the summer of 1966 community organization had become the primary concern of the AV's. Although this did not preclude a focus on local schools, such a focus now took place in the larger context of community organization. The earlier efforts had as their premise that education was the way out and that educational facilities and opportunity could be improved through strategy of cooperation with local school and county officials. Later the organized community was to confront school officials to demand changes.

Finally, any discussion of the changes that took place within the AV's must consider the changing concept of community organization. For purposes of this discussion a distinction should be made between community organization in the sense of self-help and community organization that is explicitly political. Organization for self-help is based upon ways of improving one's lot that are directly accessible to the organized citizens. Such things as improving the appearance of the community and renovation of schools might fall under this category. Organization in the political sense is that organization which has as its purpose the creation of a vehicle suitable for making demands on those elements of the political, economic, and educational structure which hold in their power the ability to bring about changes which would affect the organized community. Organizing against strip-mining might be viewed as one form of this type of organization. During their organizational life history, the AV's moved from the first type of community organization to the second.

What caused the demise of the AV's? Having begun in 1964 with all the enthusiasm of an emerging social movement, it no longer existed as an ongoing organization at the end of the decade. Some point to the incidents of 1967 in Pike County and the hearings which followed the next year, saying that at least certain of the AV members and perhaps the organization itself had become too radical. Such an explanation is only a partial one and overly simple, and ignores the realities involved in attempting to bring about basic change and reformation. Certainly the AV's had changed drastically from their origins. Perhaps they had become too radical, but, one must ask, radical in whose opinion? There is little evidence that the poor with whom the AV's worked considered them to be undesirably "radical". On the other hand, many local officials and power figures who found themselves the targets of AV efforts often referred to them as "undesirables, troublemakers, or communists."

The argument might then proceed to say that, had the AV's remained nonradical or had they not gotten involved in the strip-mining controversy, they would still be a healthy on-going organization. This is a very dubious proposition because the issue was not simply strip-mining. This was merely a focal point. The issue was really whether poor people could or would be allowed to take a significant role in the determination of their own destinies. A powerless group cannot attain power without

in turn reducing the power and control of other groups, particularly those which have power over them. In spite of popular opinion, our political and economic structures are not based on maximum participation of all segments of the population, certainly not that of the poor. Thus conflict with the political structure and vested interests of Eastern Kentucky was an inevitable part of political participation and self-determination.

Rein and Morris argue that goals, structure, and strategy should be consistently related in order to insure the best chances of success in achieving the desired goals. For instance to achieve integration goals, an organization ought to have a federated structure and cooperative rationality strategy. However, when we talk of an organization with change goals, the consistency of the relationship between goals, strategy, and structure does not seem to be as important as certain external factors. In other words the consistency of the relationship is not as important as the comparative power of the organizations or forces contending for the change. A change organization that is demanding rather basic reformation of the social structure or political processes is likely to encounter powerful opposition in terms of the entrenched sources of power. For this reason the fortunes of the change-oriented organization in the political arena are dubious at best. The internal organization of goals, structure, and strategy might have had something to do with the fate of the AV's, but it is much more likely that the overpowering reaction of the political and other vested interests in Eastern Kentucky to the threat to their power that sealed the fate of the organization.

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MEASUREMENT IN NEIGHBORHOOD DEVELOPMENT:
An Effort at Exploring "Scale" as a Frame of Reference for Local Level
Development with Implications for Extension Evaluation and an
Invitation for Further Discussion*

By

Maurice L. Sill
O. Norman Simpkins
Richard O. Comfort

Department of Sociology and Anthropology
Marshall University
Huntington, West Virginia 25703

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MEASUREMENT IN NEIGHBORHOOD DEVELOPMENT:
Exploring "Scale" as a Frame of Reference for Local Level Development
With Implications for Extension Evaluation

There is a growing need for a holistic theoretical framework for neighborhood development. This statement could no doubt be extended to include other levels of decision-making. The neighborhood is chosen very deliberately in this article because of the centrality of the "hollow" to development in the Appalachia area. The experience reported on in this article relates to "hollows" in Kanawha County, West Virginia, and suggestions growing out of this experience will have first relevance to other Appalachian hollows for which neighborhood seems the most appropriate term; and if there is relevance beyond Appalachia, then it will most likely be at the neighborhood or community level. Given the neighborhood focus, what criteria are appropriate to measure development goals whether tangible or intangible, whether arising within the neighborhood level of decision-making or from outside?

Increasingly, development programs (Extension, OEO, others) are launched under the generic goal of increasing the options open to the "target population"--more alternatives. What does this mean when viewed from the inside looking out rather than the outside looking in--from the neighborhood perspective rather than the planner perspective--or perhaps one might say, from the perspective of Appalachian hill culture rather than American middle class life ways.

Despite these broad goals idealizing expanded alternatives, functional evaluation procedures of extension and OEO emphasize "contacts" (i.e., with individual farmers) or single purpose program goals (i.e., jobs provided, persons reached with a new health service, etc.). Such an evaluation stance has at least three discernable problems for the actors in the development scene:

1. The "felt need" or "inside-out" perspective of the neighborhood itself is not taken into account at the time of evaluation.
2. The program planner gets feedback, not in a full developmental context, but only in terms of his particular planning myopia.
3. The social scientist gets used to help to count things or describe static events rather than to look at process, or whole social entities, or to make comparative studies.

Every year it seems that more decision-making powers erode from Appalachian neighborhoods. In fact, these localities have less and less ability to look at themselves, to assess their health and strength.

Since Aaron Rapking's work¹ with the "Community Score Card," there has been no deliberate attempt by a development agency to assist a neighborhood to see itself (needs, resources) and to see itself whole. There seems a most urgent need for a holistic framework for development--a framework which will find wide usefulness and acceptance on the part of development workers, planners, trainers, evaluators and researchers.

The authors of this paper suggest the theory of scale as one possible way of viewing and evaluating local level development. Scale stands for the entire range and intensity of relationship alternatives open to any decision-making entity. It was used by Dr. O. Norman Simpkins in designing the neighborhood development aspects of the pioneer Action for Appalachian Youth Program begun in Kanawha County, W. Va., 1963-64. The program design provided for evaluation and a consequent test of scale. With the advent of OEO, AAY became the Community Action Program and the evaluation design was lost in successive reorganizations.

This paper (a) develops the theory of scale; (b) makes a case for the appropriateness of this theoretical framework for design and evaluation of neighborhood development; (c) relates scale to other systems of socio-economic indicators; and, (d) suggests possible directions for research.

Background and Description of "Scale"

The term scale is found in the work of Hobhouse² and refers to the number of persons in conscious relationship. He points out qualitative and quantitative changes in relationships as populations increase in size.³ Two students of Hobhouse, Monica Hunter and Godfrey Wilson, adopted this concept for use in their analysis of social change--a product of their many years in Africa as a husband and wife team. They expanded the concept to include not only range but intensity of relations and gave operational definition to five "correlates" of the intensity dimension in scale, namely (a) trade, (b) communication of fact, (c) technological development, (d) non-magicality, and (e) impersonality.

The Wilsons recognized the difficulty in defining and measuring intensity of relationship. They were, in fact, not addressing themselves to measurement as such. Using the concept of scale and these measures of intensity, they did rank the cultures with which they were familiar and added much meaning to their intra-cultural comparisons and analysis of social change.

¹An activity of the W. Va. Extension Service in its second and third decades.

²Hobhouse, L. T., Social Development, its Nature and Conditions, Holt, New York, 1924.

³Note certain similarity to the concept of "economies of scale."

When President Truman's "Point Four" program was announced, Dr. O. Norman Simpkins, in graduate school at the time, was given an assignment to design a "foreign aid" program. He made an assumption that there are four basic areas of effective relatedness required by man if he is to maximize his chances of survival on Earth:

- I. Control of the material environment. Because man is a biologically earth-bound creature, he must be provided food, shelter, clothing, etc.
- II. Autonomy among others. People must develop methods of getting along with other people. Patterns of relationship are needed and autonomy in the choice of interaction patterns.
- III. Variety of ideas. Man must be exposed to a range of symbolic ideas.
- IV. Autonomy of the self. Individuals must learn to live with themselves.

Simpkins started a quest for a more holistic theory which he discovered in the Wilsons' work. He took into account other theorists with which he was working at the time and expanded upon the scale correlates, adding "self-awareness".

First Expansion of the Correlates of Scale: The five original correlates as identified by:

The Wilsons'

- A. Trade
- B. Communication of fact
- C. Technological development
- D. Non-magicality
- E. Impersonality

Next Simpkins expanded these correlates of scale to the sixteen conceptually possible relationship alternatives between each of the four basic dimensions of scale--man's relation to himself, things, others, and ideas, as follows:

Expanded Correlates of Scale⁴

- I. Ecological Level (Control over the Material Environment)
 - A. Transportation Development - Energy Development
 - B. Occupational Specialization
 - C. Technological Development
 - D. Scientific Methodology (non-Magicality)

II. Sociological Level (Autonomy among People)

- A. Economic Cooperation (Trade)
- B. Social Mobility
- C. Impersonality
- D. Social Pressure (Influence)

III. Cultural Level (Variety of Ideas, Symbols, Values, Concepts)

- A. Communication of Facts
- B. Identification with others, both past, present, and future
- C. Intellectual Variety
- D. Artistic Variety

IV. Psychological Level (Autonomy of Self)

- A. Technical Skills
- B. Interpersonal Competence (Empathy)
- C. Symbolizing Ability (Intelligence)
- D. Self-awareness (Self-concept, Self-identity)

In this form the correlates were useful in design, training, and evaluation of neighborhood development in West Virginia in Kanawha County's Action for Appalachian Youth program.

Scale and the Neighborhood Development Section
of Action for Appalachian Youth

Simpkins and associates Jerry Moles and Mike Kearney next used scale as the rubric for design, training, and evaluation of the AAY. Using the concept of scale, it was possible to side-step the so-called antithetical points of view concerning the etiology of delinquent behavior. It was seen rather "as part of a syndrome of maladjustive behavior" most likely to occur "when there are appreciable 'unevenness', 'discrepancies', or 'differences' in scale of the entities involved in the total situation."⁵ The neighborhood development program was particularly focused on correcting these imbalances and increasing the scale of participant persons, families, factions, and neighborhoods. (See Appendix A). Scale was used as a basis of weekly in-service training.⁶

⁴Ref AAY Bluebook, Sec. V-B, p. 6-7.

⁵The Charleston Youth Community, Sec V-A, p. 3.

⁶This is the point at which the senior author of this paper, as Director of Neighborhood Development, 1963-64, became acquainted with scale.

Plans for evaluation were also built into the million dollar program which resulted from this proposal writing effort and the credibility which the scale theory achieved in the minds of the Technical Review Panel of the President's Committee on Juvenile Delinquency. However, in a rapid succession of leadership shifts associated with AAY's becoming the delegate agency for the Community Action Program, evaluation was dropped out of the program and Simpkins lost control of the evaluation part of this program.

However, leadership in neighborhood development kept scale in mind as a generic goal. The role of the neighborhood worker has shifted in definition with successive emphases of OEO, but some neighborhoods or "hollows" have had more than seven years of continuous contact with a professional neighborhood developer. This is rare in the U.S.A. Interviews with leaders, both professional and local, indicate a sufficient understanding of scale in the early days of this program to have allowed for its persisting influence in local level development plans and programs. Working as an anthropologist and using scale in much the same non-quantitative way in which the Wilsons used it, Kearney has shown, related to neighborhood workers roles and participation, changes in scale in the following neighborhoods in 1963-66: Peach Fork, Blue Belle Creek, and Chandlers Drive.⁷ Discussions with leaders more recently indicate continuing increase in scale. Despite some spotty baseline data, plans are being developed for a restudy in the summer of 1972 aimed at a more sharpened test of scale.

Goals of a Test of Scale

1. Develop indices for each of the sixteen correlates.
2. Relate the data produced to the baseline and the Kearney data.
3. Test for differences in scale between sample neighborhoods and selected neighborhoods where neighborhood development programs have not been carried out.

The Relevance of Scale to Appalachian Development Experience

Extension, which of all development agencies has given prominence to development based on "felt needs" itself needs a way to reinforce this program initiative at the individual and local levels of decision-making

⁷Kearney, Michael E., The Developmental History of a Social Action Program, Action for Appalachian Youth, Kanawha County, West Virginia, Master Thesis, Marshall University Library, Huntington, West Virginia, 1965.

without losing the ability to evaluate program impact even when these successes and failures are not tangible ones. A majority of the local level development agencies and the short-run experiments have given at least proposal writing attention to local level involvement in planning, felt-need approach and the expansion of options open to local level participants.

A preliminary survey reveals a lack of instruments available to measure from the local level perspective program intents such as expanded options or scale.

Reasons Suggested for Lack of Holistic Measurement Instruments:

- a. Many of the practitioners had neither the interest nor the skills to develop an evaluation system.
- b. Check lists of "accomplishments" seemed to satisfy both those guiding and those involved in development projects.
- c. There was an emphasis upon quantitative change rather than qualitative change.
- d. There has been a concern with micro changes rather than macro changes.
- e. Because many developmental programs are supported by public and private funds there has been a fear that failure might be documented rather than success.
- f. Most of the time and money has been taken up with getting the projects started and implemented with little energy or money left to evaluate them.
- g. The state of "gestalt" theory with relevance to local level decision-making is not sufficiently developed.

These reasons seem to apply to community development in general; including "Overseas projects", early American attempts, the more recent OEO sponsored programs, and to programs sponsored by the Cooperative Federal Extension Service.

Much of the attempt to evaluate has been handicapped by lack of concrete project goals, has emphasized the counting of objective accomplishments (a garden planted, a toilet built) rather than the subjective evaluations of those involved in the program, and have emphasized those things happening to individuals rather than to neighborhoods and communities.

Conclusion

The theory of scale provides not only program development and training guides for neighborhood development, but criteria for evaluation as well. The development worker, in consonance with the most basic goals of a democratic society, sets about to widen the range and intensity of relationship alternatives open to persons and groups with whom he works. Not only does this free the workers to be the responsive resource persons they were enjoined to be in their extension or development training, but their work enhances freedom of individuals and neighborhood groups by expanding alternatives open to them. Finally, scale provides a means of evaluating success and failure in terms of the expanded alternatives which the worker has sought to foster. Development, of course, remains multi-causal and research efforts to account for its variability will remain difficult, but scale does provide an alternative and more holistic way of viewing development and should facilitate evaluation and research.

APPENDIX A

Unevenness of Scale. Unevenness of scale in a community or society introduces stresses into the social organization and structure. If this condition exceeds tolerable limits, the condition of social disorganization exists with its resultant individual frustrations, disorganization, and maladjustment. This condition now exists in the hollow neighborhoods of Kanawha County. Over the past several decades, control over the material environment has increased drastically without corresponding increases in autonomy among people and variety of ideas. This has led to a general social and cultural breakdown of these neighborhoods somewhat similar to that which the Wilsons' observed in the native villages of Central Africa.

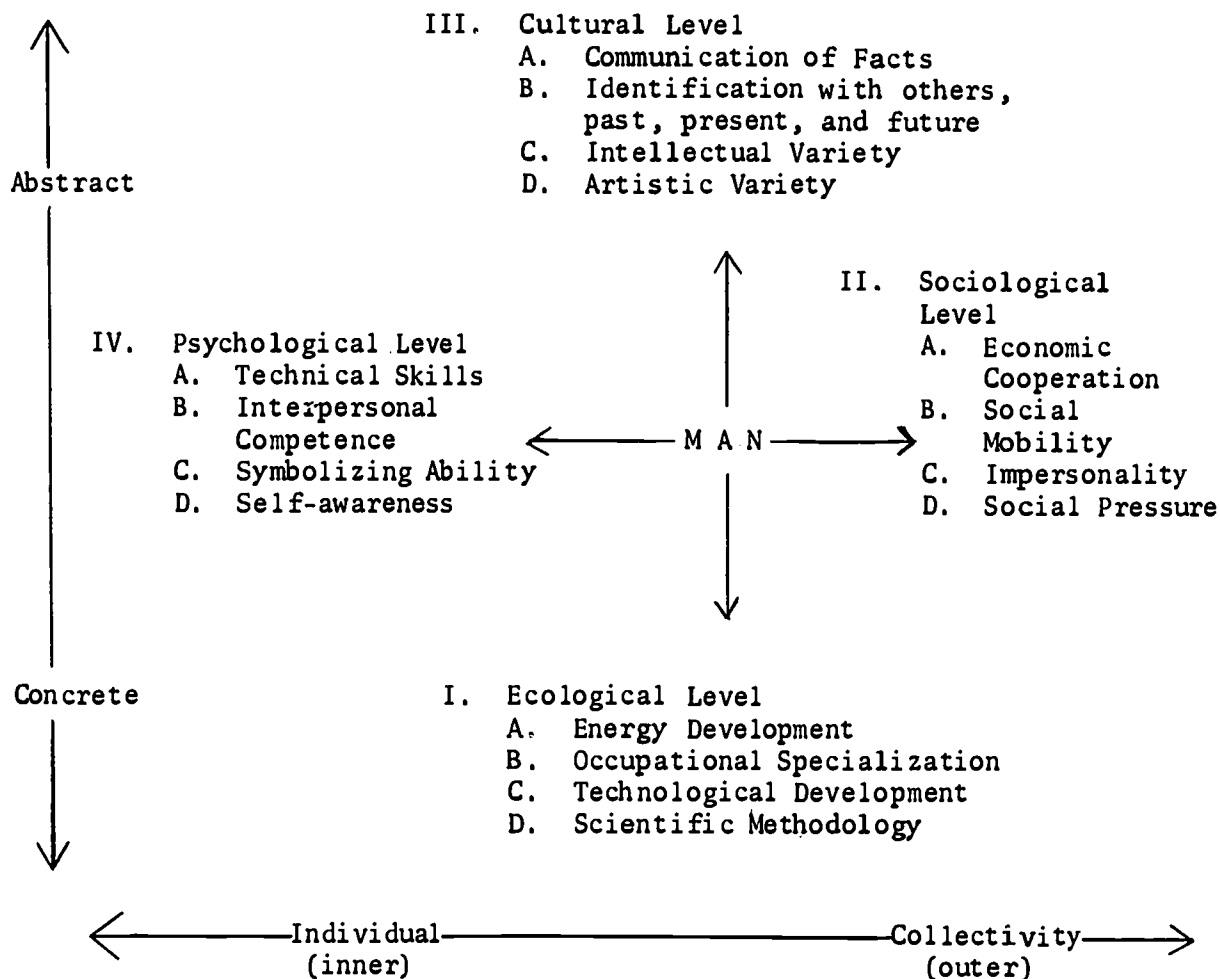
Discrepancies in Scale.* In a community which is fairly even in scale, whether it be large or small, different individuals will differ in scale. The range of these individuals' scales, however, will, for the most part, not exceed tolerable limits; hence such differences in scale on the part of individuals does not result in maladjustment that the community cannot control. If the differences in scale among individuals and groups in a single community is so great that it becomes intolerable, then interpersonal and intergroup conflict ensues which leads to further maladjustment and disorganization. This condition exists among the residents of the hollow neighborhoods and among the hollow folk who migrate either to metropolitan Charleston or to other cities. For example, if an individual moves into an urban area and remains for a time, his scale usually increases. If for some reason, he returns to a hollow neighborhood with a lower scale, his patterns of behavior and variety of ideas no longer mesh with that of the rural area and maladjustment results. When hollow folk move from rural areas (small scale situations) into urban areas (large scale situations), they find their old patterns of behavior and beliefs are in conflict or at least unrealistic in their new environment. The result is maladjustment in the city which, if it cannot be solved in a short period of time, causes a movement back to the small scale situation, or some type of problem behavior, or both.

Differences in Scale. In addition to unevenness of scale within each neighborhood with the resultant maladjustment and discrepancies in scale between individuals and neighborhoods, there is a third source of problems. This source is the differences in scale between the hollow neighborhoods and the urban centers, including Charleston. The limited variety of ideas in small scale hollow neighborhoods in relationship to large scale urban neighborhoods creates a void of communication and understanding between the rural and metropolitan areas of Kanawha County. If and when services instituted in the city reach out to the hollow neighborhoods, the differences in scale become quite apparent both in the unrealistic approaches taken by the "city folk" and in the equally unrealistic reactions of the hollow folk.

*Discrepancies in Scale and Differences in Scale are implicit in the Wilsons' analysis. They refer only to unevenness of scale.

APPENDIX B

The following is Dr. Simpkins' two-dimensional scheme of scale. Note that each correlate is interrelated with the others and note also that each "A" corresponds with "I". Each "B" corresponds with "II", each "C" with "III", and each "D" with "IV".



APPENDIX C

Copy of Household Survey for Obtaining Scale Base Line

Household Schedule

Hello, I am _____ from Charleston Youth Community. We are in the process of learning about services to kids. To do this we have to find a little out about some of the communities in the area. We would like you to help us with some questions about _____, if you don't mind.

(List occupations for all over 16 years of age.)

	NAME	AGE	SEX	OCCUPATION	NOW EMPLOYED	Last Year of School COMPLETED
1.	Head of Household					
2.	Relation to Head of Household					

3. Kitchen Check List

- a. Cook stove:
 - Wood or coal _____
 - Non-automatic gas or electric _____
 - Automatic gas or electric _____
- b. Washer-wringer type _____
 - Automatic washer _____
 - Automatic washer and dryer _____
- c. Refrigerator _____
 - Refrigerator-freezer _____
 - Refrigerator and freezer _____

4. Is house located on:
- _____ 4-lane limited access highway (within 1/2 mile)
- _____ 4-lane highway (paved)
- _____ 2-lane highway (paved)
- _____ 1-lane highway (paved)
- _____ Stabilized Road (gravel - all weather)
- _____ Non-stabilized road (unimproved, more than 1/2 mile in length)
- _____ Path (more than 1/4 mile in length)
5. Does family own:
- Cars (number) _____ Pickup trucks (number) _____
6. Not counting your family how many different people do you talk to during the course of an average week other than to just say hello?
- _____
7. In how many social gatherings, churches, schools, offices, houses, or restaurants in _____ (name of neighborhood) would you feel at home?
- _____ NONE _____ FEW _____ HALF _____ MOST _____ ALL
8. In how many social gatherings, churches colleges, schools, hotels, offices, houses, or restaurants in the county would you feel at home?
- _____ NONE _____ FEW _____ HALF _____ MOST _____ ALL
9. How would you rank your family's influence compared to the rest of the families in (name of neighborhood) _____?
- Greatest _____
- Average _____
- Least _____
10. What organization such as the church, PTA, circles, Little League, and so on do you and your family belong to?
- a. _____ f. _____
- b. _____ g. _____
- c. _____ h. _____
- d. _____ i. _____
- e. _____ j. _____
11. How many different groups of people do you and your family meet with regularly to hunt, play cards, sit at the store and talk, and so on? (Take the largest number) _____
12. How many people around here do you borrow or share things with, like tools, things from the garden, sugar, rides to town, and so on? _____

12

13. What part of the total neighborhood would this be?
_____ NONE _____ FEW _____ HALF _____ MOST _____ ALL

14. Where do you buy most of your groceries?
(Name and location of store) _____

15. What magazines, newspapers, bulletins, weekly readers, and other reading materials do you and your family read regularly?

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

16. How many people are you personally acquainted with? _____

17. Of this number, how many would you have over to your house or go over to theirs? _____

18. How many people in (Name of neighborhood) _____
are on the same level as you are?
_____ NONE _____ FEW _____ HALF _____ MOST _____ ALL

19. Not counting novels, how many books have you read in the past 12 months? _____

20. What are your favorite T.V. or radio programs? no radio no T.V.

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

This is a list of statements with which some people agree and some people disagree. We would like to get your opinion on these. If you agree, circle the "YES"; if you do not, circle the "NO".

- | | | |
|-----|----|---|
| Yes | No | 21. Certain lines in a person's hand foretell his future. |
| Yes | No | 22. You can tell something about a man's character by the shape of his head. |
| Yes | No | 23. The child is born with the instinct to know right from wrong. |
| Yes | No | 24. People with long, slender hands have artistic talents. |
| Yes | No | 25. Red-headed people have high tempers. |
| Yes | No | 26. A strong handshake shows a person has a good character. |
| Yes | No | 27. A very smart person has a high forehead. |
| Yes | No | 28. People in the south can stand hotter weather than people in the north. |
| Yes | No | 29. Very smart children are physically weaker than other children. |
| Yes | No | 30. A person who does not look you square in the eye is likely to be dishonest. |
| Yes | No | 31. People who display the flag are more patriotic than those who don't. |
| Yes | No | 32. The more education you get, the more conservative you become. |
| Yes | No | 33. Country people are easier to get along with than city people. |

Premarital Sex and Family Planning Attitudes:
A Report of a Pilot Study in a Rural
Georgia County ¹

Clara L. Johnson, Ph.D.

Adolescent pregnancy, especially among low-income non-white groups, is becoming a matter of increasing social concern. There is an abundance of data indicating that pregnancy in the young adolescent, especially under age 16, is associated with high incidence of toxemia, anemia, contracted pelvis, prolonged labor, and a high maternal death rate (Aznar and Bennett, 1961; Chase, 1962, Battaglia, *et al.*, 1963; Claman and Bell, 1964; Finnerty and Bepko, 1966; Gordis, *et al.*, 1968). Very young mothers are also risks with respect to giving birth to low-birth weight infants (Chase; Finnerty and Bepko; Gordis; Osofsky, *et al.*, 1968). The association between low-birth weights, high infant mortality and morbidity and the socioeconomic level and age of mothers has been well documented.

Pregnancy is the largest single reason why female students drop out of secondary school.² One out of every four American births is to a teenage mother, with approximately eight out of every nine babies born to teenage mothers being legitimate at birth. Yet, in spite of the current focus on the need for population control, together with the realization that there is a significant relationship between teenage parenthood (legitimate and illegitimate) and the incidence of poverty (Freedman and Coombs, 1966), our knowledge of the correlates of adolescent pregnancy is far too inadequate to serve as guides to effecting prevention. While there are many dimensions to the adolescent pregnancy phenomenon, this paper is restricted in its focus primarily to adult females' attitudes toward sexual and contracepting behavior

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²There remains considerable social resistance to pregnant girls remaining in or returning to public schools. Yet, it cannot be argued that continued education is a vital key to the prevention of social and economic dependency. Consider, then the drain on financial and manpower resources to educate and train such young girls, especially in programs which are separate and distinct from existing educational systems (Alt, 1967; Anderson, *et al.*, 1966; Herzog, 1967).

for single-never-pregnant teenage girls.

Theoretically, there can be little doubt that socialization within the family may be a partial explanation of teenagers' sexual attitudes and behaviors. Ehrmann (1959) suggests that girls are likely to behave sexually in terms of the standards they have learned and subsequently set for themselves. Evidence from a study by Bumpass (1957) indicates that fertility attitudes form early in life and are relatively consistent over time. Curiously enough, however, few attempts have been made to study adult females' attitudes toward premarital sex and family planning for unmarried teenage girls.

A basic assumption of this study was that an understanding of premarital sexual attitudes and behaviors may prove revealing for understanding the adolescent pregnancy phenomenon. This assumption appears especially cogent when one considers the fact that almost half of legitimate births to married teenagers represent probable premarital conception.

Much of what has been publicly discussed and written about illegitimacy especially among low-income blacks, suggests that unwed motherhood is an accepted way of life. The fallacy in this position, as Vincent (1961) points out, has been the failure of proponents to view sexual attitudes and behavior as distinct researchable questions from that of the consequence, illegitimacy. Vincent holds that illegitimacy is related not only to norms governing the phenomenon but to norms and attitudes governing premarital sexual behavior. Thus, out-of-wedlock pregnancy may be viewed negatively by a group who, at the same time, holds permissive attitudes toward premarital sex. Vincent's hypothesis of normative contradictions is supported in works by Furstenberg (1970) and Christensen (1960).

While Vincent's conceptualization more clearly defines research questions relevant to the adolescent pregnancy phenomenon, there are two basic questions to which Vincent's position does not address itself: (1) what are the attitudinal differences, if any, within a particular cultural group by age levels, and (2) how does role position relate to attitudes toward premarital sexual behavior?

Research tends to suggest that for any cultural group in the United States, attitudes toward premarital sex are not consistent across age levels, i. e., there are generational differences. Bell and Buerkle (1961), in a study with 217 white coeds and their mothers, found that it was parents who largely disapproved of premarital sex and defined the act as deviant behavior. In a study with 134 unmarried young mothers and a sample of their parents-- white middle and lower classes and Negro lower class-- Shapiro (1967) found that parents were less approving of premarital sex than were the unwed mothers. In relation to racial differences, Shapiro notes that "Negro parents were much more inclined than their white counterparts to show strong disapproval of premarital sexual activity (p. 56)."

The results of a national poll of white adults to the question of giving information and making birth-control pills available to teenage girls showed that while less than 37 percent of any category of adult respondents have favorable attitudes, men tend to be more favorable than women. In general, higher status and younger persons were more favorable than lower status and older persons (Blake, 1969).

Results from these studies imply that premarital sex attitudes become more conservative with the advancement of age. Another implication which may be drawn is that the differences result partially from the role position of the respondent. Based on the results of a national study of group differences toward premarital sex, Reiss (1967) explicated this point. Reiss (1970: 81) reported that "Parents with older children are significantly lower on acceptance of premarital coitus than parents of the same age with no children or very young children. A single person of the same age as these parents is the most likely to accept premarital coitus... it seems that role position, rather than age or generation, is the key factor. The parental role demands one take responsibility for someone else, and the risks of premarital coitus are anxiety-provoking to a parent responsible for such consequences."

Contemporary attitudes toward sexual matters are rapidly changing throughout society at the same time that more effective contraceptive methods are becoming increasingly accessible, especially to low-income groups. These kinds of changes lead one to ask some very basic questions. Is premarital sex sanctioned for the single-never-pregnant teenage girl? What are attitudes toward family planning for this population of girls? Are Attitudes permissive toward illegitimate pregnancy for teenage girls? How are these factors related to age and role position? These are some of the questions to which the present paper addresses itself.

The Study Population

A questionnaire, covering attitudes toward premarital sex and family planning, was administered by public health nurses to fifty-one (51) AFDC clients who attended a family planning day at a rural Georgia County public health department. The activities of the day were jointly planned and carried out by the local public health and welfare departments. Only the data from the black AFDC population (N=50) are presented in this paper.

The study population was homogeneous in terms of race and socioeconomic status. In terms of age, 15 of the respondents were 19 years of age or under. Nineteen were in the age bracket of 20 to 29; 13 were between 30 and 39; and only three were above 40. In relation to marital status, 18 were single; 16 were currently married; and 16 were classified as separated (two widows included)

The following discussion involves findings from this group that relate to attitudes toward premarital sex and family planning for single-never-pregnant teenage girls. Readers are requested to take note of the major limitations of the study. First, the findings have relevance only to the particular study population; the results cannot be taken as representative of low-income black groups. Second, the racial and socioeconomic homogeneity of the group does not permit cross-cultural-group and cross-social-level comparative analyses. Third, the size of the sample limited severely the statistical analyses possible.

The Results

Analysis of the responses to the statement, "I believe it is alright for unmarried, never-pregnant-teenagers to have sex providing they take precautions (use protection) against pregnancy" showed statistically significant differences by age and marital status of the respondents. The proportion of respondents who approved of premarital sex was 0.68 (Table 1, page 9). In the age category, 29 and under, the proportion approving was 0.85; for respondents aged 30 and above, the proportion approving was 0.31. By marital status, the proportions approving were 0.94, 0.75, and 0.31 for single, separated, and married respondents, respectively (attitude and age, with age dichotomized at 30 and above: $\chi^2 = 18.1$, $df = 1$, $p < .001$; attitude and marital status: $\chi^2 = 16.8$, $df = 2$, $p < .001$). These results appear to support the assumption of a direct relationship between conservative premarital sex attitudes and age. However, a closer look at Table 1 seems to suggest that sufficient control on marital status might render the relationship between age and premarital sex attitudes not statistically significant. According to Table 2 (page 10), the relationship between attitudes and age for married respondents was not statistically significant (χ^2 with Yate's correction = 0.9, $df = 1$; $\phi = .237$). For non-married respondents, the relationship was statistically significant at the .001 level (χ^2 with Yate's correction = 14.7, $df = 1$, $\phi = .657$). On the other hand, an analysis of the responses for separated respondents--excluding never-married--showed no statistically significant difference (χ^2 with Yate's correction = 1.23, $df = 1$, $\phi = .278$). This observation needs further study with larger samples which would permit sufficient statistical analyses.

The results of this sample were further observed by taking a descriptive notation of the data. Table 3 (page 11) allows us to note the attitudinal disposition of the respondents by age, marital status, and parenthood status, i.e., role position.² A comparison of respondents, who were matched on several variables relevant to their teenage daughters and several person-related variables, indicates that the key variable influencing attitude toward premarital sex for single-never-pregnant teenagers appears to be parental marital status. Of the four closely matched pairs, all married respondents disapproved of premarital sex, while the separated respondents expressed approval. One pair of separated parents expressed disapproval of premarital sex. The one noticeable difference between this pair of respondents and the four closely matched pairs is that the former's daughters were teenage mothers.³ While it must be emphasized

²Only those respondents with teenage daughters have been included since the general picture of responses was presented in Table 1.

³This pair of respondents responded like the mothers of unwed mothers in Shapiro's study. Could it be that premarital sex attitudes are affected more by the actual pregnancy of one's own daughter than by the probability of pregnancy?

that these findings can, in no way, be considered conclusive nor representative for any "cultural" group, they give rise to an hypothesis postulating a relationship between premarital sex attitudes and parental own sexual behavior, especially if we can assume that marital status speaks to the issue. To further determine the effect, if any, of parental role position on the expressed attitudes toward premarital sex, comparisons of ever-married respondents with and without teenage daughters (Table 4 page 12) were made which showed no statistically significant difference ($\chi^2=3.0$, $df=1$; n.s.). It is necessary, however, to point out that the small number of cases did not allow for the possible effect of respondents' marital status nor the pregnancy status of the teenage daughters.

Having determined for this group a pattern, based on marital status of the respondent, to attitudes toward premarital sex for single-never-pregnant teenagers, the concern then becomes adolescent pregnancy. Comparison of the responses to the statement, "I believe it is alright for unmarried never-pregnant teenagers to have sex without taking precautions (using protection) against pregnancy" revealed that all respondents disapproved. Thus, if we can take this statement as an indicant of attitude toward illegitimacy, we can assume that while certain marital categories of the respondents approved of premarital sex for single-never-pregnant teenagers, none were in approval of illegitimacy.

With this apparent contradiction in the normative system centered around the illegitimacy phenomenon (Vincent, 1961) for single and separated respondents, our next focal point needs to be that of respondents' attitudes toward family planning for single-never-pregnant teenage girls. Analysis of the responses (Table 5, page 13) to the question, "in general, how do you feel about family planning for unmarried, never-pregnant-teenage girls?" showed no statistically significant differences by age and marital status of the respondents. Forty-six (92 percent) expressed approval.

Of secondary interests to the present paper is a brief discussion of respondents' attitudes toward family planning for themselves, and their perception of their sexual partners' attitudes. The findings in relation to family planning attitudes support those of previous studies in that these black AFDC recipients, from a rural Georgia County, expressed positive attitudes toward family planning

When respondents and sexual partners' attitudes, as reported by the respondents, are compared simultaneously (Table 6 page 14), the latter are somewhat less enthusiastic about family planning than the respondents. While 94 percent of the respondents expressed approval, sexual partners' approval, as reported by the respondents, was less than 50 percent. Eighteen percent of the respondents viewed their sexual partners as disapproving of family planning, and 34 percent reported they did not know how the sexual partner felt; they had not discussed the matter with him. When marital status of the respondents was considered, wives reported that husbands approved. On the other hand, single and separated respondents reported a high percentage of disapproval by partner and "don't know how he feels." The relationship as shown in Table 7 (page 15), between marital status of respondent and perceived attitudes of

sexual partners toward family planning is statistically significant ($\chi^2 = 15.1$; $df = 4$; $p < .01$).

Discussions and Conclusions

For this group of black AFDC recipients, Vincent's hypothesis of normative contradiction holds for single and separated respondents in their permissive attitudes of premarital sex for unmarried teenage girls and negative attitudes toward illegitimacy for this population. On the other hand, the married respondents generally disapproved of both premarital sex and illegitimacy for single-never-pregnant teenage girls. The results of this pilot study seem to suggest that premarital sex attitudes, for this population of girls, are more related to the sexual behavior of the respondent than to age or role position, e.g., parent role. Separated respondents, even those with single-never-pregnant teenage daughters, generally approved of premarital sex for unmarried teenage girls. The respondents in the sample showed no divergence by age, marital status, or role position in their attitudes toward family planning for themselves or single-never-pregnant teenagers. In relation to respondents' perception of their sexual partners' attitudes toward family planning, marital status again appears to be the key factor. The results of this study reveal that married respondents perceived their husbands as approving,⁴ while single and separated respondents generally reported disapproval or a lack of communication with the sex partner.

Conclusions: The responses of these AFDC clients lead to the following speculations which hopefully will serve to generate hypotheses for further study, and suggest ways to deal more effectively with different groups in need of family planning counseling and services:

1. If sex attitudes can be viewed partially as a function of or lack of restrictions placed on one's own sexual behavior -- premarital,

⁴Of the too few studies which deal with males' attitudes toward family planning, that of B. D. Misra, "Correlates of Males' Attitudes Toward Family Planning" in Donald Bogue, Sociological Contributions to Family Planning Research (Chicago: University of Chicago Press, 1967), appears to be one of the better ones. But here, too, as with others, the referent population is the married segment. What of the singles and those not presently in a married relationship? The attitudes of this segment of the male population would appear to hold many answers to affecting the high birth rates among the young, the single, and separated females. For, indeed, if attitudes of the sexual partners are in conflict or are not communicated, then preventive measures will conceivably be blocked. Thus it would appear especially necessary to know to what degree concurrence in attitudes exist.

marital, extramarital -(Reiss, 1960:233), and if one could assume further that the restrictive boundaries of marriage are not applicable to single and separated females, then it would be logical to assume that such sexually active females would have relatively permissive sexual attitudes. To expand this discussion, let us assume further that a teenage daughter's sexual standards are being shaped within the environs of a separated, sexually-active female parent. Taking this assumption, in conjunction with the above points, we may hypothesize: (a) a relationship between mothers' and daughters' sex attitudes, and (b) a relationship between mothers' sexual behavior (as related to the consequences and restrictions of marital status) and daughters' sex attitudes and behaviors. Then, if a female's place in the sexual interaction process (premarital, marital, extramarital) not only affects sex attitudes and perceptions but the opportunities for expression, the implications that emerge so clearly here appear to have relevance for other groups in other places. Could not the implications regarding parental sex attitudes and opportunities for sexual expression, as well as teenagers' internalization of sexual standards, apply as well to women and girls in middle income brackets as to those of meager means? If there is any validity to the above assumptions, it would appear fruitful to attempt to understand adolescent sexual attitudes and behavior from the standpoint of parental attitudes and behavior across "cultural" groups and socio-economic levels.

2. The findings in this study revealed that single and separated respondents approved of premarital sex, and disapproved of illegitimacy. This finding leads to the conclusion that for groups characterized by these normative contradictions, illegitimacy rates will decrease as effective contraceptive methods become accessible to them. Suffice it to say that if single and separated low-income groups can be spared unwanted births, the population problem as well as welfare rolls will be affected.
3. The perceptions of the single and separated respondents of the sexual partners' attitudes toward family planning raised some interesting questions. It is possible that single and separated respondents' perception of sexual partners' attitudes toward family planning do not adequately represent the males actual attitudes. Thus, if no real opposing views exist, it would seem that efforts to open communication lines between the sexes are indicated. This would appear especially necessary in relation to the adolescent population since teens are generally influenced by their perceptions of peer attitudes. On the other hand, if there is conflict between sexual partners on the issue of family planning, efforts need to be geared toward educating unmarried males. In any event, schools, social

welfare agencies, public health departments, and other community resources can design programs to meet the informational and educational needs implied in these findings.

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12/14/71

Table 1

Proportion of Respondents Approving of Premarital Sex for Unmarried Teenage Girls, by Age and Marital Status

Age	Proportion Approving				Number Respondents in Class			
	Total	Marital Status			Total	Marital Status		
		R's	Single	Separated		Married	R's	Single	Separated	Married
All Ages	0.68	0.94	0.75	0.31	50	18	16	16
19 and under	.87	.91	1.00	-	15	11	3	1
20-29	.84	1.00	1.00	.50	19	7	6	6
sub-total	.85	.94	1.00	.43	34	18	9	7
30-39	.31	n.a.	.50	.22	13	-	4	9
40-49	.33	n.a.	.33	n.a.	3	-	3	-
sub-total	.31	n.a.	.43	.22	16	-	7	9

Relationships: Attitudes and Marital Status: $\chi^2 = 16.8$; $df = 2$; $p < .001$.
 Attitudes and Age: $\chi^2 = 18.1$; $df = 1$ (age categories were dichotomized at 30 and above); $p < .001$.

Table 2

Relationship Between Attitudes toward Premarital Sex and Age of Respondents, With Marital Status Controlled

Age	Attitudes Toward Premarital Sex								Chi squares Significance Level Phi Coefficients
	Marital Status								
	Married		Non-Married		Separated				
	Approve	Disapprove	Approve	Disapprove	Approve	Disapprove			
Under 30	3	4	26	1	9	0		.090 n.s.	
	2	7	3	4	3	4			
30 and above								.237	
			14.7 .001		1.23 n.s.			.657	

Table 3

Comparison of Attitudes of Parents with Single Teen-Age Daughters on Matching Variables to the Statement: "I believe it is alright for unmarried never-pregnant teen-agers to have sex providing they take precautions (use protection) against pregnancy."

Pair number	Age of Daughter	Daughter's grade in school	Daughter's pregnancy status	Parent age	Parent marital status	Parent employment status	Attitudinal response
1	16 16	11 11	never pregnant "	33 30	separated married	unempl unempl	yes no
2	13 13	6 7	" "	30 28	married separated	empl empl	no yes
3	14 16	7 11	" "	45 35	widowed married	unempl unempl	yes no
4	13 13	8 8	" "	30 29	married separated	unempl unempl	no yes
5	19	Drop-out	Has a baby, nct now pregnant	41	separated	unempl	no
	19	"	"	44	widowed	unempl	no
6	16 13	10 8	never pregnant "	37 30	separated separated	unempl unempl	no no

Table 4

Attitudes of Ever-Married Respondents
Toward Premarital Sex for Unmarried
Teenage Girls, By Respondents'
own Motherhood Status

Do you have a Teenage daughter?	Attitudes Toward Premarital Sex		Total
	Approve	Disapprove	
Yes	4	8	12
No	13	7	20
Total	17	15	32

$\chi^2 = 3.0$; $df = 1$; n.s.

Table 5

Proportion of Respondents Approving of Family Planning for Unmarried Teenage Girls by Age and Marital Status

Age	Proportion Approving			Number Respondents in Class				
	Total	Marital Status		Total	Marital Status			
		Single	Separated		Married	Single	Separated	Married
All ages	.92	1.00	.94	.81	50	18	16	16
19 and under	.93	1.00	.66	1.00	15	11	3	1
20-29	.95	1.00	1.00	.83	19	7	6	6
sub-total	.94	1.00	.89	.86	34	18	9	7
30-39	.85	n.a.	1.00	.78	13	-	4	9
40-49	1.00	n.a.	1.00	n.a.	3	-	3	-
sub-total	.85	n.a.	1.00	.78	16	-	7	9

Relationships:

Attitudes and Marital Status: $\chi^2 = 3.7$; $df = 2$; n.s.
 Attitudes and Age: $\chi^2 = 1.6$; $df = 1$ (age categories were dichotomized at 30); n.s.

Table 6

Percent Distribution of Sexual Partners' and Respondents' Attitudes Toward Family Planning

Attitudes toward family planning	Respondents		Sexual Partners	
	No.	%	No.	%
Approve	47	94.0	24	48.0
Disapprove	2	4.0	9	18.0
Doesn't feel strongly either way	1	2.0	-	-
Don't know how they feel - have not discussed	-	-	17	34.0
Total	50	100.0	50	100.0

Table 7

Sexual Partners' Attitudes Toward Family Planning By Respondents' Marital Status

Marital Status	Attitudes Toward Family Planning			
	Approve	Disapprove	Don't know	Total
	No.	No.	No.	
Single	6	4	8	18
Married	14	1	1	16
Separated	4	4	8	16
Total	24	9	17	50
N				
%	48.0	18.0	34.0	100.0

$\chi^2 = 15.1; df = 4; p < .01.$

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NEW DIMENSIONS IN HUMAN RESOURCES DEVELOPMENT

Presented

by

**Theo. James Pinnock, Ph. D.
Director, Human Resources Development Center
Tuskegee Institute, Alabama 36088**

Presented

to

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INTRODUCTION

A new note is appearing in American educational thought—Adults must continue to learn; learning, like breathing, is a requirement of living. The assumption that learning is a lifelong process is based on a new fact of life—the accelerating pace of social change. For the first time in the history of civilization, the time span of drastic cultural change has been telescoped into less than the life span of an individual. The current generation of mature adults now represents the first generation faced with managing a culture different in kind than the one originally transmitted to them. The consequence of this new fact of life is such that a "well-educated youth" of today is an obsolete man of tomorrow.

Obsolescence occurs visibly in regard to knowledge, and daily, men become useless entities in society in terms of skills that were once valuable. The set of facts the present adult generation learned about nature, the human personality, the arts, and the ordering of human affairs has today been supplanted by a more complete and extensive set.

More knowledge has been discovered during the lifetime of the present adult population than existed at the time of his birth. Furthermore, knowledge becomes obsolete in essence. By the time the third world (African Nations) develops the atomic weapons or scientific population control for example, they still will be operating in the horse and buggy days in relationship to the western world. Knowledge is not like a mathematical constant; it is forever changing and challenging itself in the process. Learned truths (such as matter is mass) become untruths in the light of advanced learning where

matter is now defined as mass energy.

In regard to skills, obsolescence is even more apparent. Technological changes require adults and youths to continuously adapt to new methods of work, new vocations, and new and more sophisticated methods of learning. Such other everyday skills as those involved in child-rearing, food preparation, transportation, health, maintenance and leisure time activities are constantly being modified.

We are in danger of becoming obsolete in other ways which are less visible, but even more tragic. The increasing necessity for a mobile population coincident with concentrated living in cities requires adults to learn new patterns, values, senses of belonging, and new ways of achieving personal identity repeatedly within a single life-time. Such traditional havens of stability as homes, churches, schools, governments, businesses, and voluntary organizations are in constant flux, striving continually toward greater productivity and compatibility with modern living conditions.

The consequence of this sudden turn in the tide of civilization is clear: A society that makes its educational investment almost entirely in children and youth is on the way to becoming obsolete and is reducing its chances of survival. Therefore, there is new emphasis on the education of adults in America. This is why adult education is shifting rapidly from a marginal to a central concern for many educational statesmen and this is why legislators and educational policy-makers recognize that society now has as great a stake in the continued learning of adults as it ever had in the education of children.

Conceptualization of Human Resources Development

All over America today, Human Resources Development Departments and/or Agencies are emerging. Most of them

have specific objectives to recruit and train staff; others are meandering in the dark as to what is the meaning of human resources development. Narrowly conceived, it is an adult and continuing education process designed to help alleviate some of the adult problems of today with the hope that the future will be more rewarding for all. Unfortunately, this approach will only help us at best to remain static, and more than likely, this approach will help us retrogress in relativity to technological changes and the changing life styles which are certain to come in the future. From my point of view, and based on our experiences over the last twenty-five years, human resources development programs must be addressed to the problems of the future, while at the same time, using every means to ameliorate the problems of the present. To this end, the scope of a viable human resources development program is indescribable and probably is outside the realms of the imaginations of the traditionalists. Our youths are being brought up within a traditional system with absolutely no knowledge or idea of what this society will be like twenty-five years from now. Our leaders, political and educational, have demonstrated little innovation except in the area of warfare and defense, if you will, and our universities have not mandated any radical changes in their curricula over the last twenty-five years. Our social engineers must now create an atmosphere where much of their efforts are directed towards the future and not towards the present. I can envision the day when an M.D. will never need to get up from his desk to diagnose the most serious illness of a patient, but will be able to pinpoint the problem only from pressing a button at his desk and get the computer readout; I can envision the day when there will be no need for teachers and college professors except in the field of programmed learning, and I can further envision the day when recreation and the techniques of using leisure time will be one of America's top priorities.

In the 1930's and 1940's, when America was striving to become an industrial giant, little, if any thought was given to the problem of air pollution or environmental quality. Yet, we were warned by the Roman writer, Seneca, in 61 A.D. when he wrote:

"As soon as I had gotten out of the heavy air of Rome and from the stink of the smoky chimney thereof, which, being stirred, poured forth whatever pestilent vapors and soot they had held enclosed in them, I felt an alteration of my disposition."

It is obvious that we did not listen, and now we are paying the consequences.

When rural America, or rather agricultural America became automated, little, if any thought was given to the urban or ghetto problems that would arise as a result of rural or urban migration. Must we continue to make the same mistakes or must we sit down, regardless of how difficult it is, and plan for the future generation? At least we owe society that much, and in my judgment, mankind is indebted to a world which he has done much to destroy ecologically, socially, economically, and racially. The mistakes that have been made by man must be corrected by man. If this premise is accepted, then we must tackle the task of human resources development in a different and new light.

We must begin to look at the human being well before he comes into this society; we must look at the potential fathers and mothers and begin to program their experiences which will, in effect, dictate to a large extent, the experiences of their offsprings. If we assume that poverty tends to beget poverty, drug addicts tend to beget drug addicts, criminals tend to beget criminals, then we must also assume that excellence and

dignity tend to beget excellence and dignity. Where then do we begin in erasing the negative or undesirable characteristics of people in our society is the crucial question to which institutions in the business of human resources development must address themselves. From my point of view, a series of experiences must be programmed for the newborn, the parents and the teachers. These new experiences should take into consideration what the future is likely to be. We have on the drawing board now, programmed learning for two year olds; we want to reduce it to one year olds. When a child gets to age four, we should be able to predict within tolerable errors, what he is likely to accomplish best in life. If we continue in the field of adult education, and I dare say, we must, then we must look at the adult as a raw product in terms of behavior; and as a result of our effort, we should produce a finished product in terms of behavioral outcomes. The process of educating adults (not children) should be no different from the processes on an industrial production line.

During the 1960's, colleges all over this country were confronted with student uprisings or riots, drug addiction, flight from the dormitories, disregard for religion and its morality, and almost complete disregard for adult authority. Human resources development, as is being conceptualized, was absent. The implementation of a comprehensive concept must, of necessity, take various forms and must involve many different agencies including the decision makers at the federal level.

Certainly, we should have implicit faith in our youth who are in fact charged with the responsibility of transmitting our culture from this generation to the next. It is extremely difficult to admit that we know what our culture is today. It is not one of

violence; it is not one of drug addiction; it is not one of infidelity and immorality; it is not one of poverty and insensitivity to human needs; and hopefully, it is not one in which our democratic institutions are weakening. Our culture, I suppose, is in part, a combination of all those undesirable characteristics and in my judgment, educational institutions have the greatest stake in seeing that our culture is brought back in line with what a true democracy should be.

It seems clear that we must look at our society and begin to realistically reorder our priorities. The next twenty-five years should be a period of investment in people and a leveling off of materialistic investment. Rural America needs rebuilding in several ways which could make life more rewarding for all. The many implications are clear—a concentrated effort to rebuild rural America would probably result in the decentralization of current industries, an improvement in environmental living in urban America, a reverse migration from urban to rural America and soon we would effectuate within our capitalistic system a modified redistribution of the nation's wealth. Concomitant with all of this is the fact that our rural educational institutions—day care and headstart centers, elementary and high schools, and most certainly our colleges—would become more sophisticated and relevant to community needs. Rebuilding rural America is a national job that should interest local, state, and Federal governments as well as universities and colleges throughout the nation. Rural poverty is lonely and harsh; its remedies are elusive; under the circumstances, there is space for the wildest imaginations of institutions of higher education. Institutions should endeavor to develop new careers specifically designed for rural America. New careers is housing, health, nutrition, education,

environmental quality, consumer economics, management, and business are but a few areas to which institutions can address themselves.

To keep this democracy working, we must certainly forget the negatives of the past and commit ourselves to the betterment of the present and plan for the future. As we look to the future, we must assume that we will be living in a peaceful world and that our priorities will continuously be changing and the future and its life styles may be somewhat elusive. To this end, institutions which are currently suffering from imaginative sterility need to take a hard and long look at themselves to determine where and how best they can serve society.

The University and its Role in Human Resources Development.

An educational institution's most intrinsic value should be its commitment to the development and growth of all mankind. However, social and economic problems have not had the attention of the society, and particularly, the institutions that could have done something about them before the 1960's. A decade is a short time in which to change entrenched traditions, especially if new models of operation must be developed. In many instances, rural, as well as urban problems, have defied the expertise of most well-meaning practitioners and theoreticians. This being the case, much of our effort in the area of human resources development should be directed toward developing demonstrable models that can be accepted and adopted in treating social and economic ills. It should now be assumed that established institutions are sufficiently flexible

and committed to adjust their operational styles, add new dimensions to their original objectives and face up to the challenges concomitant with the new demands of this period.

There is no place in America today for conservative institutions of higher learning; in the circumstances, developing programs that are action oriented should be a major function of institutions of higher learning. Using Tuskegee Institute (my own institution) as an example, I should like to discuss briefly some of the programs the Human Resources Development Center is currently operating.

Institute of Policy, Politics and People - This program is designed to work with elected officials, the electorate, potential voters and agencies. The American Constitution is for all; understanding it and living by its content are essential.

Public Administrators Seminars - The changing South has ushered in many advantages heretofore not involving Negroes and poor Caucasians. As many of these persons move into offices with responsibility, they have to be trained and made aware of their administrative functions.

Human and Forest Resource Development - Jobs for the poor are mandatory if they are to emerge out of their misery, but training supersedes employment. To this end, this program is designed to train seventy (70) men—twenty (20) forestry aides, twenty (20) bulldozer operators, and thirty (30) housebuilders. The term "housebuilder" is used to indicate that they are trained in all aspects of construction, carpentry, electricity, plumbing, etc.

Bullock County Diversified Factory Training Program - In the Black Belt of Alabama, like many other areas, the poor are trying to lift themselves up by their own bootstraps and imagination. They cannot always do it alone. In Bullock County, they developed a factory to produce chicken coops, pallets, and housing parts. They had to be trained in the skills of production, cost analysis, marketing, industrial behavior and administration. The factory is now in production and the future for those who are employed is encouraging. Clearly involved in this type of program are both training and continued technical assistance which can be most effective if carried out by an institution of higher learning with commitment and understanding of the basic problems.

Lowndes County Handbag Factory Technical Assistance Program - Lowndes County is the poorest county in the State, but its people are determined to make it on their own. The cities offer no hope for them, not unlike millions more in rural America. Overcoming every imaginable hurdle, they have successfully put together a handbag factory and have gotten some contracts, but without the supporting arm of Tuskegee Institute, they probably would never have received an SBA Loan. Technical assistance to these groups must continue within the foreseeable future if they are to survive as viable non-profit organizations.

Mid-Alabama Adult and Vocational Education Demonstration Center - This program is designed to train, refer and place an estimated 1,000 illiterates and functionally illiterates annually. Additionally, it is designed to produce a minimum of twenty (20)

persons annually with a Master's degree in Adult Education. Several federal and state agencies will be involved in the process, but as of now, it is very rewarding to note the cooperation being given by Litton Ship Systems which is one of the largest employers on the Gulf Coast. This program emphasizes a very important function of the Human Resources Development Center; cooperative efforts between the Center which is the extension arm of Tuskegee Institute; the School of Education, an academic unit of Tuskegee Institute; a federal agency, HEW-OE; and a private industry, Litton Ship Systems.

Training New Careerists in Rehabilitation - This program, over five years, will produce one hundred sub-professionals to work in the Social Rehabilitation Services in Alabama and Georgia. A success factor is built in because the agencies will hire the individuals first, after which they will be trained by Tuskegee Institute (major contractor) and Auburn University (sub-contractor).

Emergency School Assistance Program - Institutions of higher learning are always interested in finding new ways of solving old problems. This is an experimental program designed to work with six selected community groups from Mobile, in the extreme southern portion of the State, to Pulaski in the northern section in dealing with desegregation problems in public schools.

Talent Search - The continued strength of our nation lies in how well we identify and train our available talent. Since it is a truism that no race, no nation, no ethnic group, no socio-economic group

holds a monopoly on talent, this program is, therefore, designed to identify among the very poorest—those youths who wish to proceed in preparing themselves to become responsible and contributing citizens to society.

Project Pride - This program synchronizes with Talent Search in that it serves to assist Talent Search and other disadvantaged students get adjusted to college life through a program of counseling and remediation. Professional counselors, student aides, regular staff personnel, and instructors of Tuskegee Institute operate this program.

Comprehensive Training Program for Rural Law Enforcement Officers - The law enforcement officer of today must be a highly sophisticated individual in terms of training. His tasks are complex and numerous, therefore, in-service training to maintain and improve efficiency is highly desirable.

Rural Self-Help Housing Project - If life could be made more accommodating in rural America, the probabilities are that the pressures and frustrations of the ghetto would, over a period of time, be reduced. Poor housing and unemployment in rural America are two of the contributing factors to out-migration. To this end, the self-help housing project now operational in several other counties is designed to ameliorate, in part, the problems of poor housing and unemployment.

Turnkey III Training Program - Essentially, this program is designed to train the poor primarily in urban areas how to live in their new homes. The training in all cases consists of both pre and post-occupancy phases,

and the law requires that all potential purchasers be trained.

Training Program for Gas Station Operators and Managers - Successful businessmen know that their achievements have never come about by chance. It is the quality of the service and of the product that counts. Tuskegee Institute is not questioning, at this point, the quality of the product, but certainly there is a need for improving significantly the quality of the service. Most important, however, is the fact that several of the trainees will end up owning their own operation.

Nurses' Aide Training Program - Tuskegee Institute with its School of Nursing and a hospital, is always in need of qualified nurses' aides. This holds true for several other hospitals, nursing homes, etc. in the area. The first group of trainees (15) were guaranteed jobs at the John A. Andrew Memorial Hospital and it is hoped that other hospitals will also give Tuskegee Institute the opportunity to train the disadvantaged for service in their hospitals.

Veterinary Mobile Clinic - In 1936, Thomas Monroe Campbell, the first Negro County Extension Agent in Alabama published a book entitled "The Moveable School Goes to the Negro Farmer." It gave a detailed description of how Booker T. Washington took education and service to the people. The concept and the model live on at Tuskegee Institute. One example is that the School of Veterinary Medicine, recognizing the need of the poor farmer with his few cattle and swine

delivers veterinary service in the rural areas to the poor.

Seasonally Employed Agricultural Workers Program - The small farmer can no longer survive on the income made from farming; therefore, he must find ways and means to supplement his income, and he needs to be trained in other skills in order to become employable. Well over two thousand persons have already benefited from this particular program.

Rural Development Research - While the Human Resources Development Center is highly action-oriented it recognizes that research is absolutely necessary in determining what action is to be taken. For this reason, the Rural Development Project will seek to determine, for example family housing requirements and needs on the basis of selected family characteristics such as age, economics, size, stage in the family cycle, health, occupation, and ethnic background.

National Center for the Training of Educational Resource Agents to Serve Rural Minorities - This program was developed jointly by Tuskegee Institute (major contractor), University of North Dakota, New Mexico State University, and the National Federation for the Improvement of Rural Education. Its purpose was to develop a model to train persons in the area of problem-solving, development and diffusion. The model as was developed, is currently being used by several universities and colleges across the country.

Guyana Ranch Management and Livestock Production Program - This program provides the opportunity for owner-operators, managers, and cattle fieldmen to study

the many phases of cattle production. It involves practical experience in the main operational procedures, including all phases of livestock production—poultry, swine, and dairy cattle, as well as beef cattle—animal nutrition, animal breeding, livestock and farm management, meat processing, pasture and forage production, agricultural extension, and animal health. In addition, sufficient theory required to make the practices meaningful is provided. This program is designed specifically for persons who plan to be directly involved in animal production or ranch management, either as owners or operators, for the Government of Guyana or for other private owners. It is supported jointly by the Government of Guyana and the United States Agency for International Development. Since its inception in 1968, this program has successfully trained twenty-four (24) participants. Fifteen (15) new participants arrived August 1, 1971 and for the first time, this group includes females, two of whom are currently enrolled.

There are several other programs that are either operational or in the developmental stages, such as the Poultry Project in Senegal and Mali, the Nutrition Project as it relates to the recipients of food stamps and surplus food, a Model Transportation Project for the urban poor, Headstart Teacher Training, Infant Health Care, etc. The foregoing listing serves to illustrate the range of Tuskegee Institute's involvement in outreach programs; however, it should not be construed that our imaginations have become sterile.

Universities and other institutions of higher learning must recognize that the major contribution they have to make in improving the quality of rural life is to achieve an appropriate rural-urban balance

in the distribution of economic opportunity and population. This responsibility is challenging and requires the imaginations of the most aggressive individuals within the university. Programmatic parameters as established by some of the more conservative institutions of higher learning must now give way to the more liberal institutions that are beginning to show some real concern for the plight of minorities and poor Caucasians.

Summary

Human resources development in America today is probably the most difficult task facing our nation. However, it is imperative in this period of economic stress and strain that a sincere effort be made in meeting the needs of all people. There have been circumstances in this country in which educational goals have been defined and redefined. You may recall that in the period following World War I, the people of this country turned their attention to reshaping educational goals. Prior to that period, an elementary education was generally held to be reasonable preparation for effective citizenship. It must be admitted that now we are in a period when great cultural changes are taking place. This is a period in which human needs and aspirations call for more creative thought and action, broader and deeper knowledge of human nature, and a greater understanding of the needs of the developing nations. It is a period in which our cities are decaying morally, physically, and ecologically and it is a period in which underprivileged people are demanding their rights.

As a result of many of these pressures, most Americans are concerned with the revitalization of rural life. Answers to these and other pressing problems may be long in coming, but we must start now in creating opportunities for all people to accomplish at least economic efficiency as well as civic responsibility. This, I think, is our task.

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FACTORS RELATED TO COMMUNITY LEADERS'
ENVIRONMENTAL CONCERNS ABOUT A RIVER
VALLEY DEVELOPMENT PROJECT*

By
R. N. Singh
East Texas State University

Introduction

A voluminous literature has developed on the environmental problems and issues in American society for the last 4 to 5 years. Specialized as well as interdisciplinary research involving physical and social scientists have been initiated in the area of the environmental impacts of government or semi-government projects intending physical alterations since the passage of the National Environmental Policy Act of 1969.

The role of sociologists in the "environmental movement" has also tended to increase during the past two years.¹ However, most of the sociological researchers have stayed at a general level in dealing with the environmental issues. One of the major reasons for this has been a relative inability of sociologists to quantify frequently used general concepts such as "social environment," "environmental impact," "ecosystem," "eco-catastrophe," and the like. While some of these terms do have symbolic meanings, they are less useful in delineating the exact nature and scope of environmental problems from a sociological point of view. There is a serious need to refine and operationalize relevant concepts in order to utilize them in understanding and solving concrete problems in empirical settings.

*Research reported herein was conducted under an interdisciplinary project entitled, "An Environmental Inventory and Survey of the Sulphur River Basin," East Texas State University, Summer 1971. The author worked as principal investigator of the sociological aspect of the environmental inventory. The research was supported by funds provided by the U.S. Army Corps of Engineers in accordance with provisions of Contract No. DACW 29-71-C-0230.

¹For critical discussions on the scope of sociological research in the area of environmental movement, see Denton Morrison *et al.* "The Environmental Movement: Some Preliminary Observations," in W. Burch, N. Cheek and L. Taylor (eds.), Social Behavior, Natural Resources and the Environment (New York: Harper and Row, 1971); Ronald Faich and R. P. Gale, "The Environmental Movement: From Recreation to Politics," Pacific Sociological Review, Vol. 14 (July 1971), pp. 270-287; and Rex R. Campbell and J. L. Wade (eds.), Society and Environment: The Coming Collision (Boston: Allyn & Bacon, Inc., 1972, forthcoming).

One research area that needs special and immediate attention of sociologists concerns the environmental impacts of the public projects that are intended to change or develop economic and other resources. There is a need to develop systematic methodology and procedures through which socio-cultural aspects of the environmental impacts of such projects could be measured and assessed in a more accurate fashion than has previously been done. The study on which the present paper is based was intended to be a step in that direction. The study employed symbolic (mainly attitudinal) types of measures in dealing with the environmental impacts of a proposed watershed development project. The inclusion of attitudinal measures alone did limit the scope of this study. However, symbolic measures are justified on the ground that people's own perceptions, aspirations, and values constitute a significant dimension of the social environment.

The universe of inquiry in the present study consisted of thirteen counties of the Sulphur River Basin in east Texas area. The overall research project consisted of an interdisciplinary team of physical and social scientists. The environmental survey of the basin was initiated as a result of the following series of events: congressional authorization for the construction of the Cooper Reservoir and Channels in 1955, the enactment of the National Environmental Policy Act of 1969, and a federal injunction to stop work on that project in 1970 on the basis of the absence of an environmental statement of the project in accordance with that act. The present paper presents some of the findings of the sociological aspect of the environmental survey. The objectives of this paper are:

- a. To analyze the ecological concerns of the community leaders in the whole Sulphur River Basin and the residents of the impact area of the Cooper Reservoir toward the proposed Cooper Reservoir Project.
- b. To assess the effect of selected factors on the degrees of favorability or unfavorability of respondents' attitudes toward the proposed project.

Methodology

Two types of respondents were selected. The first type included all the community as well as soil and water management voluntary leaders in 12 counties of the Sulphur River Basin. The second type of respondents consisted of the residents of the impact area of the Cooper Reservoir Project. The procedures of selection for both of these are outlined below.

The leaders of all major communities in the Sulphur River Basin were selected through a snow-ball or chain-referral technique. Thus, those community leaders who were named by two or more of the respondents were included in the sample. In addition to the community leaders, the names of those community residents who occupied leadership positions on the Soil Conservation or any other water management Board of Directors were included in the sample.

The Cooper Reservoir impact area included the southwest of Delta, northwest of Hopkins, and northeast of Hunt Counties. It was the area that had been considered to be under direct economic impact of the proposed project. A five per cent sample of all the residents of this area was selected through systematic random sampling procedures.

A research team consisting of a sociologist and two graduate assistants from the Department of Sociology and Anthropology of ETSU conducted the interviews of respondents. In all, 269 community and water management leaders and 84 residents of the impact area were interviewed by the investigators. The loss of sample was nine per cent and four per cent respectively. Over-all, the response pattern was highly encouraging. The main field work was completed between June 2, 1971, and July 21, 1971.

The data were analyzed with the help of an IBM digital computer. Guttman scaling procedures were used in developing the attitudinal scale. The scale's coefficient of reproducibility being .899 was almost at the level of acceptance. The favorable and unfavorable attitudinal responses toward Cooper Reservoir Project were cross-tabulated with several variables. Gamma and Z values were used to determine the strength of association and the test of significance of each relationship respectively. In addition, Coleman's multivariate analysis was used to analyze the proportional effect of each independent variable on the dependent variable while the other independent variables are controlled.² It also measures the composite effect of all the independent variables on the dependent variable and the proportion of unexplained variation which Coleman labels as "random shock."

Environmental Concerns of the Respondents

The respondents were asked to comment on the environmental (or ecological) effects of the Cooper Project. Most of the respondents (over 80%), however, did not comment on this at all. A majority of these individuals showed their inability to comprehend the environmental consequences of a water resources development program. The terms "environmental" or "ecology" seemed to have connotations foreign to them. A majority of those who did comment on the environmental impact of the project talked about the favorable aspects of the impact, such as (1) flood control, (2) soil and water conservation, (3) increase in water supply in the area, (4) increase in scope of water recreation, (5) encouragement to the growth of industries, and (6) increase in the scope of business of surrounding towns.

Very few respondents commented on the negative impact of the project on the area's environment. Some of the arguments given in this respect were: (1) there would be an increase in population growth in the area resulting in congestion and people pollution; (2) the simplicity of rural surroundings would be destroyed by the economic growth resulting from the project; (3) certain kinds of animals would be destroyed; (4) archaeological resources of the reservoir area would be destroyed; and (5) increase in the rate of urbanization in the area would result in city-life evils, such as problem of law and order.

²See James S. Coleman, Introduction to Mathematical Sociology (Glencoe: The Free Press, 1964).

Effect of Selected Factors on the
Attitudes toward the Project

This section is concerned with identifying the effect of selected factors on the favorability and unfavorability of attitudes of respondents toward the Cooper Reservoir Project. This is expected to explain to some extent as to why some respondents had different types of attitudes toward the project.

Knowledge of the Project

The data in Table 1 show that the degree of the respondents' knowledge of the Cooper Project was significantly related to their attitudes toward the same project. Thus, those respondents who were well informed about the project were more favorable to it than those whose knowledge of it was less accurate. This shows that those respondents who were critical of the project were also, in fact, ignorant about its objectives, organization, and scope of benefits.

Perceived Benefits and Losses

The data in Table 2 show that most of those respondents who perceived the Cooper Project to be beneficial to themselves as well as to the area were also favorable to it. On the other hand, those who considered the project as less beneficial, or were not sure about its benefits, were unfavorable to it. Similarly, the data in Table 3 show that most of those respondents who thought that the project might hurt them in some way were also unfavorable to it. This indicates that the respondents were very calculative of the expected benefits and losses of the project while expressing their attitudes toward it.

Attitudes toward Local Community

Data in Table 4 show that the respondents' attitudes toward their local community were significantly correlated with their attitudes toward the Cooper Project. Thus, those respondents who were favorable to their own communities were more likely to favor the project. On the other hand, those individuals who were alienated from their communities tended to be unfavorable to the project.

Personal Factors

The data on most of the socio-economic characteristics of the respondents revealed that only a few of these showed a pattern of variations sufficient to account for the difference in attitudes toward the project. The data on age indicated that relatively older people (over 45 years) were more likely to favor the project as compared with the younger ones. The respondents with higher level of education were also more likely to favor the project as compared with those who had less than 11 years of schooling. However, the type of occupation did not make any difference in terms of attitudes of the respondents toward the project. Of course, the persons who had lived in their communities all their lives were more likely to be favorable to the project as compared with those who had migrated from outside. Finally, the respondents who owned more than 1,000 acres of land were more likely to be favorable to the project as compared with those who owned fewer acres.

TABLE I
RELATIONSHIP BETWEEN RESPONDENTS' ATTITUDES TOWARD COOPER
RESERVOIR PROJECT AND THEIR KNOWLEDGE OF THE PROJECT*

Attitudes Toward Cooper Reservoir	Degree of Knowledge of Project				Total Number
	Very Accurate Knowledge %	Somewhat Accurate %	Inaccurate %	No Knowledge %	
Favorable	76	74	43	38	224
Unfavorable	24	26	57	62	129
Total Number	106	134	14	99	353

*Gamma = .5361; z = 5.14; p < .001

TABLE 2
RELATIONSHIP BETWEEN RESPONDENTS' ATTITUDES TOWARD COOPER RESERVOIR
PROJECT AND THEIR PERCEIVED BENEFITS OF THE PROJECT*

Attitudes Toward Cooper Reservoir	Project Benefits				Total Number
	Many Benefits %	Some Benefits %	No Benefits %	No Response %	
Favorable	80	74	17	21	224
Unfavorable	20	26	83	79	129
Total Number	93	181	12	67	353

*Gamma = .7548; z = 6.97; p < .001

TABLE 3

RELATIONSHIP BETWEEN RESPONDENTS' ATTITUDES TOWARD
COOPER RESERVOIR PROJECT AND THEIR PERCEPTION
OF HOW THE PROJECT MIGHT HURT*

Attitudes Toward Cooper Reservoir	How the Project Might Hurt				Total Number
	Many Ways %	Some Ways %	Won't Hurt %	No Response %	
Favorable	0	25	76	22	224
Unfavorable	100	75	24	88	129
Total Number	3	16	270	64	353

*Gamma - .4429; z = 3.82; p < .001

TABLE 4

RELATIONSHIP BETWEEN RESPONDENTS' ATTITUDES TOWARD
COOPER RESERVOIR PROJECT AND THEIR ATTITUDES
TOWARD THEIR LOCAL COMMUNITY*

Attitudes Toward Cooper Reservoir	Attitudes Toward the Local Community		Total Number
	Favorable %	Unfavorable %	
Favorable	78	33	224
Unfavorable	22	67	129
Total Number	231	122	353

*Gamma = .3647; z = 2.56; p < .01

From the above analysis it may be concluded that four variables were found to be significant in explaining the differential attitudes of respondents toward the project. Overall, respondents who had unfavorable attitudes were more likely to (1) be uninformed about the project's goals and organization, (2) perceived the project to be of least benefit to their personal interests, (3) perceived the project to be a damaging factor to their own economic gains, and (4) expressed negative attitudes toward their own communities.

We used multivariate analysis to know which of the above stated factors was more significant than the others in explaining differential attitudes. Data in Table 5 show that knowledge of the project explained maximum amount of variation when other factors were controlled. Also, perceived benefits of the project effected respondents' attitudes more significantly as compared to the perceived loss from the project.

Discussion

The purpose of the research presented here was to delineate the attitudes of community leaders and residents toward the environmental consequences of a proposed watershed development project. The effect of a selected set of factors on the differential attitudes of respondents was also assessed.

The analysis presented in the paper has been concerned only with the attitudinal measures of the environmental impact of a development project. Additional analysis is needed to delineate the environmental impact of a project on people by using more objective types of indices than attitudinal. Also, longitudinal research designs may be employed in order (1) to know the extent of environment impacts of projects intending economic growth of an area, and (2) to identify relevant factors related to the different types of impacts.

TABLE 5
 COMPARISON OF EFFECT ESTIMATES OF
 SELECTED FACTORS ON THE RESPONDENTS' ATTITUDES
 TOWARD THE PROJECT

Variable	Effect Estimate	Z-value	Statistical Significance
Degree of Knowledge of the Project	.359	3.13	$p < .001$
Perceived Benefits of the Project	.286	2.55	$p < .01$
Perceived Loss from the Project	.101	1.12	$p > .05$
Attitudes Toward Local Community	.043	.63	$p > .05$
Composite Effect	.789		
Random Shock	.211		
Total Effect	1.000		

An Interim Evaluation of the Effectiveness
of Nonprofessionals in Cooperative Extension Education
for Low Income Farmers

Howard W. Ladewig

Vance W. Edmondson

Agricultural Economics and Rural Sociology
Texas A&M University

Prepared for Presentation at the 1972 Annual Meeting
of the Association of Southern Agricultural Workers,
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Purpose of the Report

The general purpose of this report is to provide an interim evaluation of a pilot program being conducted by the Texas Agricultural Extension Service of Texas A&M University which utilized nonprofessionals in cooperative Extension education for low income farm operators. The program is currently in its second year of operation and will be continued for at least one more year. The specific objective of this study was to determine the effectiveness of nonprofessionals in Extension education in developing the capacity of low income farmers to take advantage of income opportunities available to them.¹

The term "nonprofessional" which has been utilized in many educational programs to describe persons employed as Program Aides is somewhat misleading because the term applies more to formal levels of educational attainment than ability or knowledge displayed by the individual being employed. That is, Program Aides may not have the formal education required to be employed as professionals in educational work, but they do possess the field experience and knowledge to an extent that they serve as a valuable source of information in an educational program.

It is suggested that the terms "nonprofessional" and "Program Aide" are not interchangeable. Therefore, this report will refer to those persons employed by the Texas Agricultural Extension Service in a program assistant category as "Program Aides."

Source of Funds

Program Aides have proven to be quite successful in the fields of public health and nutrition, however, there appears to be a lack of research evidence to support the use of Program Aides in Extension education. Because of this apparent lack of available research and because of the growing interest in the use of Program Aides, Extension Service, USDA provided a research grant of special needs funds to the Texas Agricultural Extension Service to help support an evaluation of Program Aides in cooperative Extension education. The Texas Agricultural Extension Service, in turn, requested the Department of Agricultural Economics and Rural Sociology at Texas A&M University to conduct the evaluation.

¹For a detailed discussion of this study see: Howard Ladewig & Vance Edmondson, A Preliminary Examination of the Utilization of Program Aides in Cooperative Extension Education for Low Income Farmers, Unpublished Report, Department of Agricultural Economics & Rural Sociology, Texas A&M University, February, 1972.

Background of the Program

Agriculture in the United States has developed as rapidly as any comparable activity in recorded history and is perhaps more highly mechanized than in any nation of the world today. This rapid development has been achieved largely through the diffusion process whereby new farm technology developed by agricultural research scientists is communicated to farm operators.

Cooperative Extension has fulfilled an important role in assisting farm operators to adopt new technology and to increase production and efficiency. However, a review of research findings indicated that persons with low incomes, small farms, and low educational attainment utilize the services offered by government agricultural agencies such as Cooperative Extension much less than do persons with higher incomes, larger farms, and higher educational attainment. One of the results of small farm operators' lack of utilization of services offered by government agricultural agencies is that many of these farm families are not staying abreast of new technology and, therefore, have become inefficient in their farming operations.

The United States Department of Agriculture--National Association of State Universities and Land Grant Colleges (USDA-NASULGC) Study Committee on Cooperative Extension (1968) said that, in serving the poor, Extension is faced with the problem of providing sufficient incentive to encourage participation by individuals and groups who in the past have not been highly motivated toward or who have been denied the educational process--formal or informal. This Study Committee reported that lack of motivation in many instances has been due to a lack of knowledge about the opportunities to participate. Further, Extension has both a challenge and an opportunity in providing more adequate information to nonparticipants about its programs and their benefits--a goal which will require more intensive personal contact by Extension agents.

Because of the uniqueness of the Extension organization and the services it renders, a tremendous demand has already been placed on Extension agents by persons who recognize a need for these services. To provide additional services to an expanded audience on an individual basis will not only require additional manpower but may also call for a new type of Extension agent.

In order to resolve this dilemma and to meet its obligation of providing educational assistance to low income farmers, the Texas Agricultural Extension Service organized a pilot program entitled the "Intensified Farm Planning Program."

This program utilized local farmers as Program Aides in cooperative Extension education for low income farm operators. The specific objectives of the Texas-IFPP were as follows:

1. To demonstrate the effectiveness of the Program Aide in working with small farm operators on an intensive basis to bring about change in production agriculture and management practices.
2. To provide county staffs an opportunity to field test program procedures, teaching methods, and techniques which could be drawn upon to strengthen an educational program designed to provide assistance to operators of small farm units.

Characteristics of Counties

Ten counties were selected to participate in this pilot program. The selected counties, identified in Figure 1, are Lamar, Red River, Cherokee, Freestone, Falls, Milam, Lee, Washington, Guadalupe, and Starr.

(Figure 1 About Here)

Due to the unavailability of the 1969 Census of Agriculture at the time of writing this report, the 1964 Census of Agriculture for Texas was used to provide comparisons of socioeconomic data on the ten counties selected and the state as a whole. This comparison, presented in Table 1, showed that the average size farm for the ten county area was not only smaller than the state average, but was also of less value per acre. The mean income from the sale of farm products for the State as a whole was nearly two-and-one-half times higher than the mean farm income for the participating counties. It was encouraging to note, however, that the percentage of farmers reporting off-farm work and the average age of farmers were almost identical within the Texas-IFPP counties compared to the state average.

(Table 1 About Here)

Selection of Program Aides

Eleven agricultural Program Aides were selected in March, 1969, to serve in the ten counties on a pilot basis in the Texas-IFPP. Nine counties employed full-time aides (40 hour work week) and one county employed two Program Aides on one-half time basis (20 hour work week).

Characteristics of the Aides at the time of selection are presented in Table 2. The median age of the group was 41.5 and the range was from 24 to 59. All had some agricultural experience and one was a college graduate.

(Table 2 About Here)

Selection of Cooperating Farm Operators

Farms selected to participate in the Texas-IFPP were to be representative of small farms of that area and were to be composed primarily of persons who were not active participants of ongoing Extension education programs. First priority was given to those farm operators who grossed less than \$5,000 per year from their farming operations.

A total of 224 farm operators were initially designated as cooperators in the Texas-IFPP. This number was arrived at with some difficulty because of the willingness of Program Aides to provide assistance to persons not officially classified as being participants in the Texas-IFPP. That is, there were persons who were not selected to be in the program but who requested specific assistance from the Program Aides.

As can be seen from the selected socioeconomic data of the target audience which are presented in Table 3, the average age of the cooperating farmers at the beginning of the program was 54 years. The average farm size was 121 acres of which 100 acres were utilized for pasture land and 19 acres for cultivation. The mean income from the sale of farm products for the participants in 1968 was \$1,828. In comparison with data presented in Table 1, the cooperators participating in the Texas-IFPP were about the same age as nonparticipants but had much smaller operations than the average for the ten county area as calculated in 1964. In addition, participants cooperating in the program earned nearly forty-two percent less than nonparticipants from the sale of farm products. There was also a larger percentage of cooperators who reported off-farm work.

(Table 3 About Here)

Research Methods

The Texas-IFPP was initiated in April, 1969, and the evaluation team was selected in January, 1970. This time difference did have some influence on the direction taken in the evaluation.

Collection of Data

Several procedures were utilized for the collection of information to be used in the evaluation of the Texas-IFPP. First, bench mark

information was collected on each cooperator at the time of his entry into the program. The year 1968 was defined as the bench mark year. Second, during the second year of the program a questionnaire was administered to each cooperator to obtain similar types of information as was collected in the bench mark year. Third, field interviews were conducted to record personal observations of the cooperating farm operators. Further discussion of techniques used in personal interviews will be presented in the analysis section.

In order to visit as many cooperators as possible, the interviewing team planned an initial visit and two follow-up visits for those not contacted on previous visits. This procedure enabled the research team to interview seventy percent of the farm operators cooperating in the Texas-IFPP. An analysis of bench mark data which had been collected on each of the 224 cooperators at the time of entry into the program satisfied the research team that responses provided from those interviewed were not likely to be different from those who were not interviewed.

Model for Evaluation

A major purpose of the Texas Intensified Farm Planning Program was to demonstrate the effectiveness of Program Aides in working with small farm operators on an intensive basis to bring about changes in production agriculture and management practices. Local farmers were hired as Program Aides to provide educational assistance to farm operators in the lower income strata. This approach was based on the assumption that farmers who live in the community and are themselves in the lower income strata should have more effective communication with low income farmers than professional agricultural Extension agents and, therefore, may be more successful in bringing about recommended changes.

A model was constructed to help provide guidance in the evaluation and was based on selected processes performed by Program Aides. It was postulated that through personal visits selected processes performed by Program Aides could hasten the socioeconomic development of those cooperators participating in the program. These processes were defined as follows:

1. Influence changes in perceptions--if Program Aides are effective in communicating with cooperating farm operators about educational assistance provided by Extension Service, farm operators should have a positive increase in perceptions toward the service and assistance programs offered by the Extension Service.
2. Increase acceptance of educational assistance--this is expected to be one result of the strengthened perceptions of cooperators and would include participation in formal ongoing programs of Extension Service; acceptance of services of USDA agencies such

as A.S.C.S.,¹ F.H.A.,² and S.C.S.;³ and a willingness to accept information provided by Program Aides during farm visits.

3. Encourage changes in production methods and techniques--it is assumed that educational activities would be logically planned for each cooperator and that no recommendations be made which could not be logically accepted and implemented by cooperating farm operators. Thus, increased acceptance of educational assistance was expected to result in adoption of recommended practices and procedures in production, marketing, and utilization of services of available USDA agencies.
4. Increase gross income--adoption of recommended practices and procedures should, under normal production conditions, reflect increases in income from the sale of farm products.
5. Create awareness of opportunities for changes in level of living--increases in income and awareness of opportunities for improvement should permit farm operators who are not presently satisfied with level of living standards to increase these standards.

A visual presentation of this model is presented in Figure 2. The influential factor in each process is the effectiveness of the communications transmitted between Program Aides and the cooperators. It was assumed that all productive practices and procedures recommended by Program Aides were economically feasible for cooperating farm operators to adopt.

(Figure 2 About Here)

¹A.S.C.S. represents Agricultural Stabilization and Conservation Service. *Purpose: (1) Restrict food surpluses, (2) maintain farm prices, (3) pay farmers to adopt soil conserving practices.

²F.H.A. represents Farmers Home Administration. *Purpose: Provide loans and farm management to low income farmers.

³S.C.S. represents Soil Conservation Service. *Purpose: Provide technical assistance and secure the adoption of soil conservation practices.

*Source of purposes: Everett M. Rogers, Social Change in Rural Society, New York: Appleton-Century-Crofts, Inc. (1960), p. 287.

Analysis

One of the primary purposes of personal visits by Program Aides was to create awareness of the different types of assistance available to cooperators participating in the Texas-IFPP. An increased awareness of different types of assistance available which could contribute to the socioeconomic development of cooperators was expected to strengthen the perceptions of cooperators toward services offered by the Extension Service.

Changes in Perceptions

The measurement of perceptions of cooperators participating in the Texas-IFPP toward the services offered by the Texas Agricultural Extension Service was accomplished through the use of a self-anchoring scale. As described by Kilpatrick and Cantril (1960), a self-anchoring scale is one in which each cooperator is asked to describe, in terms of his own perceptions, goals, and values, the top and bottom, or anchoring points, of the dimension on which scale measurement is desired, and then to employ this self-defined continuum as a measuring device.

For this evaluation, each cooperator was first asked to describe the type of assistance provided to him by the Extension Service. Then each cooperator was asked to describe the most effective type of assistance provided by the Extension Service. Finally, he was asked to describe the least effective type of assistance provided by the Extension Service. After having described his views of the Extension Service, a non-verbal scale (ten-point ladder scale, Figure 3) was handed to the cooperator and he was told that the most effective and least effective types of assistance provided by the Extension Service which he has just described were the end points of the scale, with the most effective at the top and the least effective at the bottom.

(Figure 3 About Here)

The various descriptions of the types of assistance provided by the Extension Service are presented in Table 4. Nearly seventy percent said that Extension Service represents a place to get information of a general nature. That is, the cooperators in this category could not recall having previously utilized the assistance of the Extension Service on a regular basis for information pertaining to any specific production problems. However, the cooperators in this category believed that they could call on Extension Service for information to resolve specific production problems when the need arose. Nearly

eleven percent said that the Extension Service represented a source of information about types of assistance offered by various state and federal governmental agencies. Six percent utilized Extension Service on a regular basis for information and about five percent admitted no contact with the Extension Service.

(Table 4 About Here)

The distribution of responses of the most effective types of assistance provided by Extension Service is presented in Table 5. Nearly one-third of the cooperators believed that providing personal advice was the most effective assistance Extension Service could provide in helping farmers, nearly one-fourth said that information about enrollment in governmental assistance programs was most effective, and about one-sixth of the cooperators ranked farm visits as the most effective type of assistance offered by Extension Service. Only three percent believed group meetings were most effective.

(Table 5 About Here)

Of the least effective types of assistance Extension Service could provide, refusal to provide requested information was ranked first by over one-half of the cooperators, Table 6. About one-fifth of the cooperators did not wish to respond to the question. Ten percent of the cooperators stated that Extension Service did not offer any assistance that could be classified as being most ineffective because those who provided ineffective assistance would have their employment terminated. About ten percent believed that termination of farm visits would be the least effective type of assistance Extension Service could provide.

(Table 6 About Here)

Each cooperator was then asked to indicate on the ladder-scale how effective the types of assistance provided by the Extension Service were to him at the present time. The number provided by the cooperator was recorded. Two additional questions were asked and their numbers recorded: "How effective was the assistance provided to you by Extension Service five years ago?" and "How effective will the assistance provided to you by Extension Service be five years from now?"

With respect to placement on the ladder-scale of the effectiveness of the Extension Service, the ratings are presented in Table 7. One-fourth of the cooperators interviewed rated the assistance provided by

Extension Service five years ago higher than eight on a ten-point scale. In contrast, nearly twice as many cooperators (47 percent) rated Extension's assistance below two for the same time period. After one year in Texas-IFPP (the present time period), one-half of those interviewed rated Extension assistance above eight out of a possible ten while only about one-tenth rated Extension assistance below two. In reference to future expectations, nearly three-fourths of those interviewed expected the assistance provided five years hence to be above eight while less than three percent expected future assistance to be below two on a ten-point scale.

(Table 7 About Here)

Acceptance of Educational Assistance

Measurement of acceptance of formal educational assistance was obtained by determining the number of cooperators (1) who participated in educational programs conducted by the Extension Service, and (2) who utilized the services of selected USDA agencies. Measurement of attendance at Extension meetings excluded those who could not attend formal programs because of prior commitments or those who attended on-going Extension Service programs where attendance records were not kept.

As can best be determined, five different types of educational programs were conducted in the ten county area for cooperators in the Texas-IFPP in 1970 for which attendance records were kept. Similar types of programs have been conducted in previous years in the ten county area but may or may not have been designed for low income audiences. Table 8 is presented to show the attendance of cooperators at meetings where attendance records were kept. No official attendance records were available for 1968, therefore, cooperators and Program Aides were asked to recall if they attended meetings for that year. The 1970 attendance figures indicated that an average of 23 percent of the cooperators attended each of the group meetings. This would tend to suggest that properly designed programs could attract lower income audiences.

(Table 8 About Here)

The acceptance of services of selected USDA agencies as a result of recommendations of Program Aides was determined by the number of cooperators who utilized these services. As indicated in Table 9, participation in programs increased significantly for all three agencies. There was also considerable evidence in many of the counties of a cooperative effort by various governmental agencies to provide services

to the cooperators participating in this program. A major reason which may have encouraged inter-agency cooperation was the flexibility of the Program Aide's role. That is, the Program Aide could present information about services of any agency to cooperators which permitted the Program Aide to serve as a coordinator which, in turn, increased opportunities for inter-agency cooperation.

(Table 9 About Here)

Changes in Production

An increase in acceptance of educational assistance by cooperating farm operators was expected to be accompanied by an increase in the number of cooperators who adopted recommended farm practices. Thus, this section of the evaluation is concerned with changes in production practices.

Practices included were selected after conferences with specialists in various fields. An examination of collected data revealed that cooperators produced the following enterprises: beef cattle, swine, corn, cotton, grain sorghum, peanuts, watermelons, peas, cucumbers, potatoes, tomatoes, and cantaloupe. In order to make comparisons, data are presented only for enterprises that cooperators had for both 1968 and 1970. Thus, methods to be compared will be for corn, beef cattle, and truck crops.¹

Corn Production

Thirty-four percent of the cooperators planted corn, most of which was fed to on-farm livestock. As indicated in Table 10, the average yield per farm increased by over fifty percent while the average acreage in corn was reduced by eighteen percent. One reason for the decrease in acreage in 1970 may be that inclement weather at planting time delayed planting dates and reduced the amount of time permitted for planting. In reference to production practices, there were sizable increases in the proportions following recommendations for land preparation, variety planted, seed planting rates, and fertilizer application. These increases may help account for the fifty-two percent increase in yield.

¹Because so many different vegetables were planted in such small quantities by cooperators in both 1968 and 1970, these vegetables were combined into one enterprise, truck crops, so that a more meaningful analysis could be obtained.

(Table 10 About Here)

There was a slight decrease in the number who followed recommendations for weed control. One explanation for this is that the inclement weather which may have reduced corn acreages may have also increased soil moisture and thus enabled grasses and weeds to become established and more difficult to control.

Truck Crop Production

Forty percent of the cooperators planted truck crops in 1968 and 1970. However, acreage and yields for 1968 could not be adequately determined and were excluded from consideration in Table 11.

(Table 11 About Here)

As indicated in Table 11, increases in proportions occurred for each of the selected practices from 1968 to 1970. However, it was noted that nearly one-half the cooperators followed recommendations in 1968. There was evidence to indicate that some were skeptical about adopting recommendations before a more permanent type of vegetable market was established. Hence, any future changes in proportions who adopt recommendations in a given time period may be smaller if a dependable vegetable market is not established.

Livestock Production

Over ninety percent of the cooperators had beef cattle operations in 1968 and 1970. As indicated in Table 12, there was a nine percent increase in calf-crop production and a seventy-seven percent increase in the number of acres in improved pastureland. In reference to production methods, there were significant increases in the number following recommendations in 1970 as compared to 1968.

(Table 12 About Here)

One reason for the sizable increase in numbers following recommendations could be because nearly three-fourths of the cooperators did not follow any of the recommended practices in 1968. Although significant increases in numbers following recommendations did occur from 1968 to 1970, it is cautioned that over one-half of the cooperators have not adopted recommended practices.

Changes in Gross Farm Income

Farm income was divided into two general categories, income from sale of livestock and from sale of crops. Sources for livestock income were cow-calf production and swine production, while the sources for crops were tomatoes, grain sorghum, cotton, peas, cucumbers, peanuts, watermelons, potatoes, cantaloupes, and corn. Farm incomes presented in Table 13 indicated that, as a group, cooperators' income from sale of livestock increased by over \$55,000 from 1968 to 1970 for an increase of about twenty-four percent per cooperator. Income from the sale of crops, on the other hand, decreased by \$5,000 or 3.5 percent per cooperator. However, it should be pointed out that acreage devoted to corn production was considerably less in 1970 than 1968 and that this may be true for other crops as well. In addition, inconsistent prices received for vegetables may have reduced crop incomes.

(Table 13 About Here)

Level of Living

The final process to be examined was change in level of living of farm operators participating in the Texas-IFPP. Table 14 represents a level of living check list of items generally considered to be essential for most families. Nearly everyone in the program (99 percent) had electricity in 1968, but only about one-half of the participants had running water piped into the home or had telephones. One reason for the lower proportion of participants not having running water piped into the home may be due to the large investment required for drilling water wells in some of the counties.

(Table 14 About Here)

In comparing changes between 1968 and 1970 the data in Table 14 indicated an increase of nearly nineteen percent in the number of cooperators who had cold running water piped into the home and an increase of nearly twenty-five percent in the number having hot running water in the home. The number having telephones increased by about seven percent. It is suggested that the increase in the number of cooperators having running water piped into the home may be related to the increase in cooperators receiving home improvement loans granted by F.H.A. as indicated in Table 9.

Summary and Conclusions

The Texas Intensified Farm Planning Program was initiated on a pilot basis by the Texas Agricultural Extension Service in April, 1969. Ten counties and 224 farm operators were originally selected to participate in the Texas-IFPP. However, there is evidence which indicates that the program is serving a much larger audience. Reliable information is not available at this time to include all those who have been served by this program, therefore, this evaluation was based on data collected from only the 224 farm operators who were officially designated as cooperators in the Texas-IFPP.

The purpose of this report was to provide an interim evaluation of the effectiveness of the utilization of local farmers employed as Program Aides in Cooperative Extension education for low income farm operators. An evaluation model was constructed to guide the evaluation efforts in measuring the effectiveness of Program Aides. This model was based on selected processes performed by the Program Aides.

The findings of this study indicated that Program Aides made a significant contribution to the socioeconomic development of program participants. Therefore, it was concluded that local farmers can be effective in working as Program Aides in Cooperative Extension education for farm operators in the lower income strata.

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FIGURE 2. Selected Program Aide Processes for Socioeconomic Development of Cooperators Participating in Texas-IFPP.

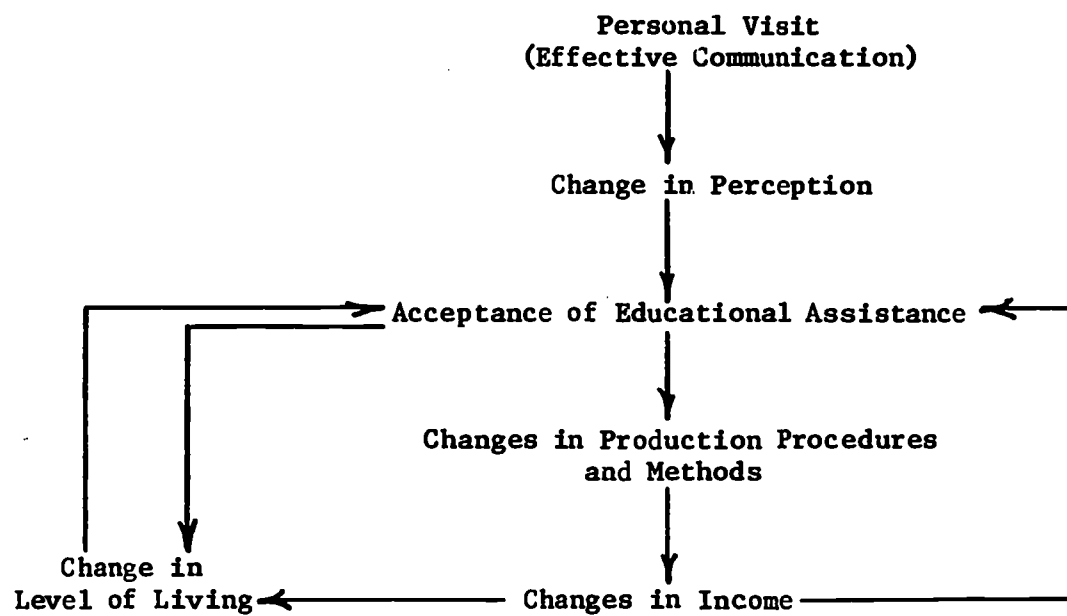


FIGURE 3. The Ladder Scale

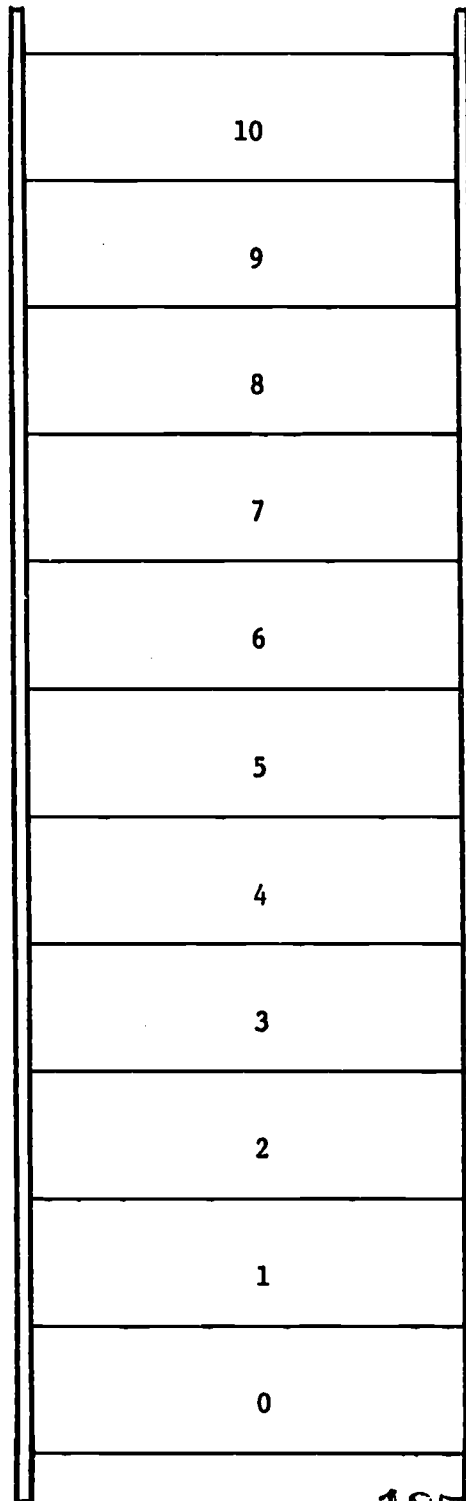


TABLE 1. Selected Socioeconomic Characteristics of All Farm Operators in Ten Counties Participating in Texas Intensified Farm Planning Program and in Texas*

Socioeconomic Characteristics	10 Counties in Texas IFPP	Texas
Number of farms	15,218	205,110
Average size per farm (acres)	267	691
Value of land (dollars per acre)	87.65	111.53
Mean income from sale of farm products (dollars)	4,435	10,848
Percentage of farmers reporting off-farm work	54.9	49.8
Mean age of farmers	54.6	53.3

*U.S. Department of Commerce
 1964 Agricultural Census, State and Counties. Washington:
 U.S. Government Printing Office. Volume 1, Part 37,
 pp. 312-335, 424-479.

TABLE 2. Selected Characteristics of Agricultural Program Aides
Participating in Texas Intensified Farm Planning Program

Characteristic	Number
AGE	
24 - 35	3
36 - 45	3
46 - 55	3
56 - 59	2
EDUCATION	
Less than high school diploma	1
High school diploma	6
One or two years of college	3
College graduate	1
FARM EXPERIENCE	
Farm owner	7
Farm operator	2
Some farm experience	2

TABLE 3. Socioeconomic Characteristics of Cooperators Participating in Texas Intensified Farm Planning Program, 1968

County	Number of farmers in program	Average age	Average size of farm	Mean income from sale of farm products	Number reporting off-farm employment
Cherokee	23	59	75	\$ 903	15
Falls	15	57	85	2,695	2
Freestone	27	56	148	1,463	24
Guadalupe	17	55	225	3,916	9
Lamar	20	50	92	1,707	16
Lee	20	56	108	1,277	11
Milam	18	55	103	1,044	12
Red River	28	59	78	1,349	19
Starr	29	48	213	2,510	16
Washington	27	51	77	1,966	17
TOTALS	224	54*	121*	\$1,828*	141

*Weighted Average

TABLE 4. Percentage Distribution of Cooperators by Responses
Describing Types of Assistance Offered by Extension Service

Type of Assistance	Percent N=156
Information of a general nature	69.9
Information about participation in governmental assistance programs	10.9
Information on specific enterprises	6.4
No contact with Extension Service	5.1
Encouragement	2.6
Youth work	1.3
Do not know	3.8

TABLE 5. Percentage Distribution of Cooperators by Responses of Most Effective Types of Assistance Offered by Extension Service

Most Effective Types of Assistance	Percent N=156
Give personal advice	32.1
Information about participation in governmental assistance programs	23.1
Farm visits	17.3
Help on specific enterprises	11.5
Conduct group meetings	3.2
Encouragement	1.9
Soil Test	1.3
Other	1.9
Do not know	7.7

TABLE 6. Percentage Distribution of Cooperators by Responses of Least Effective Types of Assistance Offered by Extension Service

Least Effective Type of Assistance	Percent N=156
Ignore requested assistance	57.7
Extension Service has no bad methods	11.5
No farm visits	10.3
Other	1.3
Do not know	19.2

TABLE 7. Distribution of 156 Cooperators by Ratings of Services Offered by Texas Agricultural Extension Service

Rating	Time Period		
	5 years ago	Present	5 years from now
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
0-2	47	11	3
3-8	28	38	25
9-10	<u>25</u>	<u>51</u>	<u>72</u>
TOTAL	100	100	100

TABLE 8. Percentage Distribution of Cooperators by Attendance at Planned Programs of Extension Service, 1968 and 1970

Type of Meeting	Percent attended ^a	
	1968	1970
Record keeping N=90 ^b	0	25.5
Swine production N=88 ^b	0	15.9
Truck crop production N=14 ^b	7	57.1
Pasture improvement N=76 ^b	0	19.7
Beef cattle short course N=88 ^b	0	25.0

^aPercentage attendance at meetings are compiled only for those counties having scheduled meetings.

^bN refers to total number of cooperators in counties having scheduled meetings.

TABLE 9. Distribution of Cooperators by Participation in Assistance Programs Offered by Selected USDA Agencies, 1968 and 1970*

Agency	1968	1970	Percentage Change
Soil Conservation Service	29	79	172
Farmers' Home Administration	11	58	427
Agricultural Stabilization and Conservation Service	43	129	200

*For purposes of each of the selected agencies, see footnotes, page 6.

TABLE 10. Distribution of Cooperators in Corn Production by Acreages, Yields, and Production Practices, 1968 and 1970

	1968 Number	1970 Number	Percentage Change
Number of cooperators in corn production	76	76	
Average number of acres per farm in corn production	10.8	8.8	-18
Average yield per acre (bushels)	23.0	35.0	+52
Farmers following recommended production practices			
Land preparation	37	56	+51.4
Variety planted	35	51	+45.7
Seed planting rate	36	55	+52.8
Fertilizer application	21	35	+66.7
Weed control	32	32	0

TABLE 11. Distribution of Cooperators by Selected Truck Crop
Production Practices for 1968 and 1970

	1968 Number	1970 Number	Percentage Change
Number of cooperators having truck crops	89	89	
Number following recommended production practices			
Land preparation	49	70	+42.9
Variety planted	70	76	+ 8.6
Seed planting rate	57	70	+22.8
Fertilizer application	38	54	+42.1
Weed control	44	58	+31.8

TABLE 12. Distribution of Cooperators by Calf-Crop Percentage, Acres in Pastureland, and by Practices for 1968 and 1970

	1968 Number	1970 Number	Percentage Change
Number of cooperators in beef cattle production	207	204	- 1.5
Calf-crop percentage	78	85	+ 9.0
Acres in pastureland	22,393	22,865	+ 2.1
Unimproved	19,881	18,411	- 7.4
Improved	2,512	4,454	+77.3
Number of cooperators following recommended production practices			
Utilize recommended bull for breeding purposes	55	90	+63.6
Vaccination practices	48	79	+64.6
External parasite control	48	81	+68.8
Internal parasite control	17	52	+205.9

TABLE 13. Gross Farm Incomes of Cooperators Participating in Texas-IFPP, 1968 and 1970

	Source of Income	
	Livestock	Crops
Number of cooperators	212	137
Total farm income in 1968	\$232,673	\$150,468
Mean farm income	1,098	1,098
Total farm income in 1970	287,956	145,141
Mean farm income	1,358	1,059
Total amount of change	+\$ 55,283	-\$ 5,327
Percentage change per cooperator	+ 23.7	- 3.5

TABLE 14. Distribution of Cooperators by Level of Living Index Items for 1968 and 1970

Index Item	N=224		Change from 1968 - 1970	
	1968	1970	Number	Percent
Electricity in home	222	223	1	0
Cold running water piped into home	113	134	21	+18.6
Hot running water piped into home	92	114	22	+23.9
Refrigerator	216	219	3	+ 1.0
Telephone	116	124	8	+ 6.9
Radio	211	218	7	+ 3.3
Television	170	188	18	+10.6

PHYSICIANS' VIEWS OF MEDICAL PRACTICE
IN NONMETROPOLITAN COMMUNITIES*

The decrease in the number of physicians and allied health professionals in the rural counties of the nation has become a matter of concern to physicians located in these counties as well as to the general public. Trends in the United States toward urbanization as well as specialization in medical practice have resulted in a concentration of physicians in larger cities. The maldistribution of physicians in certain areas has deprived some rural communities of immediate access to medical care.

The distribution and availability of health manpower for rural medical service areas is of continuing concern to the American Medical Association Council on Rural Health. With this problem in mind, the council surveyed a random sample of physicians practicing in nonmetropolitan areas of the nation during 1967 with a questionnaire entitled "Medical Practice in Small and Large Communities."

Some background information on the physicians sampled as well as their perceptions of selected professional and social aspects of their practices are reported here.

METHOD

The population studied, defined on the basis of information available in AMA records, included all physicians in private practice who resided in nonmetropolitan counties of the United States. Preliminary calculations suggested that a sample size of about 2,500 would be adequate for the study. With the use of the AMA's "master file" and a set of random numbers in the range of 1 to 50,000, a sample of 2,468 physicians was selected.

Data were obtained by means of a questionnaire which called for completion of 71 multiple-choice items divided into three headings: (a) background information, (b) medical practice organization, and (c) factors associated with practice and community.

Four mailings of the questionnaire were made during the summer and fall of 1967. By the termination date, December 1967, 1,975 questionnaires had been received, a response of 80 percent. Of those received, 122 were excluded because of incomplete or inconsistent answers or because the physician was not in active practice at the time. The remaining 1,853 questionnaires were analyzed in accordance with the objective of the survey.

For purposes of analysis of the data, counties or communities were grouped according to relative population density. One classification of counties used was that developed by the Public Health Service which categorizes nonmetropolitan counties as follows: (a) adjacent to metropolitan areas, (b) isolated semirural (which contains an incorporated place of 2,500 or more), and (c) isolated rural.

*Prepared by Bond L. Bible, PhD, Director, AMA Department of Rural Health, for the Southern Agricultural Workers Association Annual Meeting. Richmond, Virginia, February 14-16, 1972.

A comparison of the distribution of all physicians, practicing in nonmetropolitan areas, of the selected sample of physicians, and of the usable representative responses in the three county group categories showed no significant deviations from the selected sample.

FINDINGS

Because of the tendency of physicians, like other professionals, to settle in urban areas and because of the problems in communication and transportation experienced by rural dwellers, rural people, particularly those in the isolated areas, have only about one-half the access to physicians and other health resources that the rest of the nation has. In 1967, less than 15 percent of the physicians in private practice were located in nonmetropolitan areas of the nation.

Family backgrounds of physicians. More than one-third of the physicians, regardless of size of community in which they practiced, reported that their fathers were professional men. The fathers of 15 percent were physicians. The highest percentage of physicians whose fathers were farmers were practicing in towns with less than 2,500 people, and this percentage decreased as the size of the community in which they practiced increased.

Physicians practicing in counties adjacent to metropolitan areas were more likely to be sons of white-collar workers than those practicing in rural areas. Nearly one-fourth of the physicians located in isolated rural counties were sons of farmers.

Location in the early years. Results of studies in New York, Kentucky, Missouri, and Washington have indicated that physicians who practice in small towns are more likely to have a rural than an urban background. Hassinger, in a study of the background and community orientation of rural and urban physicians in Missouri, found that rural physicians had predominantly rural backgrounds and that metropolitan physicians generally had urban locations during their youth. Thus, we might hypothesize that physicians who practice in small towns are likely to have a rural background. Physicians were asked to indicate the size of the community in which they primarily resided until 18 years of age. They answered the same question for their wives.

Nearly one-half (49 percent) of the physicians who were practicing in towns of less than 2,500 were reared in a small town. The same percentage (49 percent) of the physicians practicing in nonmetropolitan cities of 25,000 or more were reared in cities of that size.

A chi-square analysis of the data, arranged according to community size, was used to test the null hypothesis that there is no relationship between size of place where the physician practices and size of place where he was reared. The test was significant at the 0.001 level ($\chi^2=193.89, d.f.=9, P<0.001$). In addition the same relationship was found for the physician's wife ($\chi^2=113.56, d.f.=9, P<0.001$). Statistically then, this rejects the null hypothesis of independence and suggests that there is a relationship or degree of dependency with respect to the variable of size of place where the physician was reared.

The extent to which this relationship holds true in an era of rapid social change is subject to continued empirical investigation, particularly among young physicians. Nevertheless, the results of this and other studies seem to indicate that physician recruitment for rural areas would be enhanced if more young men with rural backgrounds were encouraged to enter the medical profession as family physicians.

Selecting a location for practice. Career locations involve personal choices. As a person advances in his career, the choices become more and more his own. Physicians seem to have greater control over choice of locations for practice than members of most other occupations. The profession is an independent one and demand for services is high in all areas.

The questionnaires revealed that the physicians practicing in nonmetropolitan areas were not geographically mobile from their first practice locations. At least 63 percent of the physicians had not moved from their original practice location. This percentage was consistent regardless of community size. A more detailed breakdown in nonmetropolitan areas shows that about one-fourth of the physicians in nonmetropolitan areas had practice 20 years or more in the same place.

Physicians were asked what factors influenced them to come to their present location. The reasons most commonly mentioned were the best opening available when ready to practice and geographic preference. These two considerations accounted for about one-half of the responses. Involved in the perception of the best opening was the availability of medical facilities, including hospitals and pharmacies, in the community area. Family and friends were another major influence and were particularly important in the isolated rural counties. Some of the physicians in these counties undoubtedly returned to practice in their hometown or adjoining community or at the location of a friend.

Physicians were also asked how they decided upon their present practice location. More than 25 percent indicated that they are practicing in the town where they grew up or in a neighboring community. An additional 25 percent said that friends helped them decide on their present location. These two factors accounted for more than half of the responses to this question.

Older physicians appear to have had an influence in helping to find a practice location for younger ones; 7 to 9 percent of the respondents reported that association with older physicians influences their decision in finding their practice location.

Communities which contacted medical association placement services had some success in obtaining physicians. Four to 11 percent of the physicians indicated they found their location through the assistance of the AMA and State medical association placement services. This procedure was particularly evident in the isolated rural counties where communities had had difficulty in recruiting physicians since World War II.

Location of internship and residency was reported by 9 to 10 percent of the physicians in the most populated rural counties as the basis for selecting their practice location. Other influences reported by physicians in selecting a location included private placement services, basis of own selection through investigation, medical needs of community, military service location, State health agency contacts, assistance from medical practice groups, and specialty organization services.

The responses regarding selection of a place to practice indicate that the location of medical services is largely a function of supply and demand, particularly in the more populated rural counties. However, in many rural areas of the nation, the supply of physicians has not kept pace with demand. Physicians generally are independent practitioners who make decisions about the location of their practice on the basis of assessment of opportunity. Once a physician establishes a practice, however, he is unlikely to move. Thus, the redistribution of physicians tends to occur when young physicians entering practice decide to locate in larger centers rather than to replace physicians in small towns who have retired. A maldistribution of physicians, therefore, has been developing gradually for the past several decades in the more rural areas.

Factors associated with practice and community. The distribution of physicians by community size according to year of graduation from medical school points up the accelerating influence of urbanization during the past few decades in attracting young physicians to locate in larger centers of population. The average age for physicians located in communities of less than 25,000 was 50 whereas it was 46 for those in communities of 25,000 or more.

The impact of the growth and development of group or clinic practice is one factor which merits consideration. Among the respondents, 58 percent were engaged in solo or individual practice, 17 percent in group medical practice, 9 percent in a full-time salary arrangement, 8 percent in other combinations of group or partnership arrangements, and 8 percent in combinations of salary, group, or individual practice.

A percentage of physicians engaged in group medical practice in nonmetropolitan areas is somewhat higher than for all U.S. physicians. Group medical practice is viewed as one possible means of attracting physicians to rural areas.

A characteristic of a professional career is that public and private lives are interrelated to such an extent that it becomes difficult to separate them. This is true among physicians as evidenced by the responses in the study of those practicing in nonmetropolitan areas. The fact that many physicians do not retire indicates the congruence of professional and private life.

Respondents to the questionnaire were asked to rate 18 statements regarding medical practice on a 5-point range of response. For purpose of analysis the five response categories were condensed into a 3-point continuum ranging from "asset" to "no concern" to liability".

Of the respondents in the isolated rural counties, 48 percent said that lack of "opportunities for professional growth" and "limited access to continuing medical education programs" were liabilities in their practice. In the more populated rural counties, 21 and 27 percent respectively cited these two factors as liabilities.

Although the liability rating for these two aspects of the physician's life was of considerable concern among all physicians in the sample, the major concern was in the isolated rural counties. Thus, it would seem that the limited opportunity for professional growth and access to continuing medical education programs in the isolated rural counties would tend to make it difficult to recruit young physicians for such areas.

With the increasing number of patients, greater demand for services, and more complex diagnostic and therapeutic procedures, the need for easy access to continuing medical education programs is of paramount concern to all physicians.

Five other factors in which there was a significant difference between the rating of respondents in the more populated rural counties and the isolated rural counties were (a) hours of practice, (b) medical facilities available, (c) consultative services available, (d) facilities for handling emergencies, and (e) distance to hospital.

Factors associated with medical practice which most physicians perceived as assets included (a) wide range of experiences in medical practice, (b) the feeling of being wanted and needed, (c) providing health education, (d) treating and advising the patient in all his health problems, (e) status in the medical profession, (f) the need for self-reliance in practice, (g) knowing patients well, (h) satisfaction with accomplishments, (i) knowing the families of patients, and (j) opportunities for professional medical leadership.

Eighty-four percent of the respondents indicated that they were active participants in their local medical societies. Participation was about the same in all of the nonmetropolitan areas.

Respondents were asked to rate 15 statements regarding community living on the 5-point range of response alternatives described previously. Of the physicians located in the isolated rural counties, 56 percent indicated that limited cultural advantages were a liability factor in their communities. About one-fourth of the physicians in the other rural counties gave a similar response.

Other factors pertaining to community living which were of considerable concern included limited availability of education facilities, restricted social activities, lack of a growing and thriving community, and lack of personal privacy for the physician and his family. About one-third of the physicians practicing in the isolated rural counties perceived these four factors as liabilities in their community life.

Factors concerning community life which were generally considered desirable included opportunity for community leadership, development of close and lasting friendships, good family relationships, geographic location, and avocational opportunities such as hunting and fishing.

Satisfaction with community practice. Physicians were asked to express their feelings about living in their present locations by checking one of five response categories ranging from entirely satisfied to entirely dissatisfied. In addition, respondents were asked to indicate which aspects they liked and disliked about their communities. In the more populated rural counties, 35 percent of the physicians said that they were entirely satisfied with life in their communities. Only 19 percent gave a similar response in the isolated rural counties; in these counties 28 percent were not satisfied with living conditions as opposed to 11 percent in the larger counties. The difference in satisfaction ratings among the three county group classification categories was significant ($\chi^2=32.70, d.f.=4, P<.001$).

The respondents who liked rural practice and living did so because of the feeling that rural people were friendly and dependable, which resulted in close personal ties with the people. They also listed as assets geographic location, climate, less traffic and confusion, and the advantages of schools and other institutions. The last advantage was true particularly for those located in university towns.

Most of the reasons given for not being satisfied with their present location centered around community limitations in the more rural areas, such as cultural and social factors, shortage of physicians and allied health personnel, lack of educational facilities, and inadequate living conditions.

Physicians were asked to indicate their wives' feelings about living in their communities. According to the husbands' perceptions, a higher percentage of the physicians' wives were not as well-satisfied with community life as were their husbands. More than one-third of the physicians located in isolated rural counties indicated that their wives expressed dissatisfaction with community life.

SUMMARY AND CONCLUSION

The responses to a questionnaire of 1,853 physicians practicing in non-metropolitan areas in 1967 indicated that a significant relationship exists between size of place where the physician practices to size of place where he was reared. Smalltown physicians and their wives had predominantly smalltown backgrounds, and physicians in nonmetropolitan cities of 25,000 or more were generally from cities of the size.

Factors which influenced physicians to come to their present locations are obviously complex. Physicians may be influenced by some particular individual characteristic (liked the town when driving through) or by situational factors (war, depression). But certain patterns did emerge. The most frequently mentioned influences were best opening when ready to practice, geographic preference, and family and friends. In finding a location, either hometown preference or suggestion of friends was most often listed, followed by place of internship nearby as well as assistance of State and AMA physicians' placement services.

Access to continuing medical education programs and opportunities for professional growth were of concern to physicians in the sample, particularly to those practicing in isolated rural counties. They also viewed hours of practice, medical facilities and personnel available, and emergency medical facilities as problems. They and their families missed the cultural and social opportunities found in urban areas.

Implications for medical school admission committees suggest the importance of giving consideration to admitting more medical students with a rural background. In addition, medical schools, hospitals, and other agencies, in cooperation with medical societies, should study new methods of making available continuing medical education programs for physicians practicing in rural communities.

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PART III

SOCIOLOGY OF THE ENVIRONMENT

While "Sociology of the Environment" is one of the newer areas of concern for the Rural Sociologist, it represents the continuation of a long time interest in the investigation of attitudes towards various social phenomenon.

Ross and Peterson focus their attention on the attitudes of a population towards watershed development. Within this same vein, but moving towards the testing of various analytical techniques are two additional papers. Korshing and Burdge concern themselves with mass media exposure on attitudes while Ballweg and Beasley inject the aspect of recreation as a factor in shaping public attitudes.

The identification of some of the relevant factors that are related to changes in behavior towards the disposal of solid waste in a rural area is the concern of Belcher, et. al. Miller moves one step beyond each of these earlier papers. In addition to the identification of social, psychological, and demographic variables as they relate to the phenomenon of incendiarism, he goes on to test experimentally the conclusions that are drawn from the analysis of his survey data.

Concern for environmental problems provides the platform for the Rural Sociologist to mount his investigation of the phenomenon and sharpen his tools of analysis. If he is to make a significant and long lasting impact on the resolution of a social problem that he is investigating, perhaps many more researchers will need to follow the lead of Max Miller as reported in his paper in this section. Research, without interpretation and potential application may not win the favor and support of sponsoring agencies as readily in the future as it has to date.

FACTORS ASSOCIATED WITH FAVORABLE ATTITUDES TOWARD WATERSHED DEVELOPMENT*

by

Peggy J. Ross and John H. Peterson, Jr.
Social Science Research Center
Mississippi State University

The Problem

The importance of attitudes to the success of programs of planned technological change has become a major concern of both development agencies and researchers. Attention to how people feel and what effects it has on program implementation has been particularly keen among those in the water resources field. Dasgupta (1967:1) succinctly summarized the significance of attitudes for watershed development:

A program which is not properly oriented toward the felt needs of the members of the community, and with which the community members have not identified themselves, may be within the community but not necessarily of the community.

Attitudes of the local landowners toward the watershed development program are a very important factor upon which the success of the program depends to a large extent. The way the people perceive the need which the program seeks to fulfill, the way they evaluate the effectiveness of the program in fulfilling these needs, and the way they see their own involvements in the program may all be considered to be crucial for the success of the program.

Recognizing the key importance of attitudes of local residents toward successful watershed development has led to a significant body of research on factors related to favorable attitudes toward water resource development. Favorable attitudes seem associated with two types of variables: (1) personal characteristics and (2) knowledge about watershed programs. Research on personal characteristics associated with favorable attitudes toward water resource development yielded general, but not complete, consensus. In a study of local residents' attitudes toward watershed development in South Dakota, Photiadis (1960) found favorable attitudes associated with town people, farmers with more irrigable land, tenants, better educated persons, and those under 35 years of age. He also found that knowledge of watershed development was significantly related

*Paper presented at the annual meeting of the Association of Southern Agricultural Workers, Rural Sociology Section, Richmond, Virginia, February, 1972. The paper is based on data obtained and analyzed in a larger research project supported in part by the Office of Water Resources Research Department of the Interior, and administered through the Water Resources Research Institute for Mississippi. The report, Changing Attitudes Toward Watershed Development (State College: Mississippi State University, Water Resources Research Institute, 1971), by the authors details the results of the total research.

to favorable attitudes. Studying a river basin population in Utah and Idaho, Andrews and Gillings (1967) found that occupation, length of residence, and education significantly affected attitudes toward water resource development. They did not find age significantly related to attitudes, but like Photiadis, they found that lack of knowledge of watershed development was related to negative attitudes toward water resource development.

Building on research by Photiadis and Andrews and Gillings, Dasgupta (1967) established that occupational status, level of living, education, and organizational involvement were the major factors associated with favorable attitudes of local landowners toward water resource development in Mississippi. Hypothesizing that "persons who had high organization involvement, high education, and a high level of living would tend more to be exposed to various information sources and thus would be more likely to have knowledge of water development," Dasgupta demonstrated that knowledge was an intervening variable in the relationship of personal characteristics and attitudes toward watershed development. He then demonstrated that differences in attitudes toward watershed development could be explained in terms of characteristics of landowners which affected their exposure to information on watershed development. Dasgupta was careful to point out, however, that other factors such as the type of linkage between the program and the structure of the community, as reported by Wilkinson (1966), also affected local residents' attitudes.

The work by Becker and Burge (1971) on attitudes toward reservoir construction demonstrated a positive relationship between socioeconomic status and favorable attitudes. They also found that persons experiencing previous flood damage tended toward favorability of attitudes about the proposed reservoir project. While age and residence were not identified as significantly associated with attitudes, the researchers pointed out the need for further investigation with these variables.

Attitudes, in and of themselves, are only one in a series of factors underlying successful watershed development. Several studies, Webber (1965), Gambell (1967), Fitzgerald (1966), Peterson (1971), to name a few, have pointed to the importance of patterns of local leadership and community organization on water resource development. Immediately prior to project accomplishment lies active participation of local leadership in a pattern of involvement appropriate to the particular project. (Wilkinson, 1969). Prior to this active involvement lies the receptiveness of the local people to information concerning the need and possible benefits of water resource development. The possession of this information is in turn dependent upon certain characteristics of the local population (Dasgupta, 1967). It should be immediately noted that this series of factors does not necessarily suggest a causal chain with factors at one level determining factors on the next level. Rather, there are sound reasons for assuming a constant interplay of factors at all levels.

Purpose of the Study

The scope of the study with which this report deals was limited to a consideration of attitudes toward watershed development and of factors which might account for differences in favorability of attitudes toward watershed development. The specific

objective was to delineate variables, both of an individual or situational nature, related to attitudes toward watershed development. Variables in the study included socioeconomic and demographic measures of age, education, level of living, organizational participation, occupation, size of landholdings, and profits from landholdings. Among the project-related experiences considered were extent of knowledge about the watershed development program, previous flood experience, and program impacts. Particular attention was given to the importance of knowledge about watershed development on attitudes and whether associations between variables remained significant under different conditions of knowledge.

Background

The study was conducted in a locality of northeast Mississippi which consisted of an urban center of 20,000 in a county of 40,000 and areas in three adjacent counties where a small watershed project (under Public Law 566) was underway. The plan of the watershed project, initiated in 1965, six years prior to this study, called for 35 flood retaining structures, encompassed 250,000 acres and 180 miles of channel improvement. Between 1965 and 1971, some modification of initial plans occurred. The 1971 plan called for 31 structures, of which five had been constructed and a sixth was underway. Easements had been obtained for four additional construction sites, and easements were being solicited for additional sites. No action had been taken on the remaining 19 sites nor had any channel improvement taken place.

The watershed project under investigation in this study was researched earlier as part of a larger study comparing two projects. (Wilkinson, 1966; Dasgupta, 1967; Dasgupta and Wilkinson, 1968; and Wilkinson, 1969). The analysis of this research parallels in many respects the work which was done by Dasgupta (1967).

Description of the Sample

The rural landowners who comprised the sample for this study may be described as representing, in most ways, landowners of the northeast section of Mississippi, and perhaps in many aspects were similar to landowners through the state. (Selected characteristics for the 1971 sample are shown in Table 1).

In many respects the sample was a very homogeneous group. Of the 144 respondents, 74 percent were male; all but ten were white. Most appeared to be native Mississippians. Nearly 90 percent had lived all their lives in the state, while 67 percent had also resided in their resident county all their lives. Though ages ranged from 24 to 75, three out of every four were 50 years or older. Mean age was computed at 58.2. Over two-thirds had engaged in farm-related work, some in conjunction with another occupation.

Educational level was higher than for the overall state. The mean years of schooling completed was 10.4 years, while four out of ten had at least a high school education. Further, two out of ten had attended some college, and one out of ten was a college graduate.

Landholdings varied from very small (less than five acres) to moderate acreages ranging from 1,000 to 5,000 acres. Landholdings for the modal group ranged from 100 to 500 acres.

Though nearly one-half reported they had been troubled by flooding in the last five years, the extent of project experiences depended on proximity of landholdings to completed dam structures. Forty-three landowners had relinquished easement acreage for floodpools. An additional 44 landowners had been taxed for benefited acres. Land of the remaining 40 percent was in the proximity of proposed sites. Interestingly, two-thirds of the sample felt the flooding problem in the county was serious enough to justify special flood control programs, but only two had participated in any way in planning or directing the program.

Research Methods

Data Collection

Data for the study were drawn from information obtained through personal interviews with 192 rural landowners* whose landholdings were near one of six sites where dam construction was completed or near completion, or near one of six sites purposively selected to provide maximum representativeness of landholders in the area.

The interview schedule was a structured questionnaire of 49 items which elicited attitudinal and project-related information from the respondents along with background data and patterns of land possession and usage. In-the-home interviews were completed in June, 1971, with 144 landowners representing 75 percent of the sample.

Table 1. Percentage of Landowners Having Selected Demographic and Socioeconomic Characteristics

Characteristics	(N=144)	Characteristics	(N=144)
<u>Race, Age, Sex</u>		<u>Occupation</u>	
White	93.1	Farming	49.3
Male	74.3	Nonfarm	14.6
Age over 50 years	76.3	Retired	31.9
		None	4.2
<u>Education</u>		<u>Land</u>	
None	0	1-120 acres	58.4
1-8	27.1		
9-12	50.7	<u>Organizational Membership</u>	
College	21.5	Religious only	47.2
<u>Residence</u>		Secular only	1.6
Urban	19.4	Combined	29.2
Rural	80.6	None	17.4

*Using site survey and county maps and landrolls, names of all landowners were obtained who had landholdings in the floodpool area, within a one mile arc below the dams, or within a one mile radius of proposed sites.

Measurement and Analysis Procedures

Analysis involved several steps. First, codification and processing of the data for computerization were completed. Then, basic frequencies were obtained for all variables aiding in the construction of scales for a number of the variables. Chi square statistic was used to assess the relationships among the variables, with the .05 level selected for statistical significance.

Measures of most of the variables came from single-item questions and are easily ascertained in the data presentations. In some cases, where multi-item scales were developed, some elaboration is needed.

Attitude toward watershed development. Twenty-two evaluative statements concerning water resource development were utilized as a pool of items to develop an ordinal scale of favorability of attitude toward watershed development. The basic procedures of scale construction,* using the Guttman scaling technique, reduced from 22 to 10 the number of items among which there was a pattern of cumulative consistency, with a coefficient of reproducibility of .91. The 10 statements comprising the scale are shown in Table 2. Scale scores ranging from 0-10 were assigned to each respondent, and three favorability groupings were established to facilitate statistical evaluation for a relatively small sample. Those who scored 0-3 were classified low favorability, 4-6 medium favorability and 7-10 high favorability. As a test of validity, the scale groups were cross-tabulated with a measure of a general rating of the project. Table 3 shows that the scale was significantly related to the project ratings which were considered to be an independent criterion of attitude toward watershed development.

Knowledge. Dasgupta (1967) found that knowledge of watershed programs was a critical factor in accounting for differences in favorability of attitudes. Restrictions of the data with which he was working limited the measure of knowledge to a dichotomous classification of respondents -- those with or those without some knowledge of the watershed program. The measure used in this study was a simple summated scale developed from six knowledge indicators** where the score of one was assigned for demonstration of knowledge and the score of zero for lack of knowledge. Observed scores ranging from 0 to 5 were combined in three knowledge groups -- low score - 0, moderate scores - 1, 2, high scores - 3, 4, 5.

Level of living. Using the Guttman technique, an eight item scale was formed from possession of a number of household items. The items, which scaled with a coefficient of reproducibility of .92, included telephone, air conditioner, automatic washing machine, two or more cars, automatic dryer, color television, two or more baths and dishwasher. Scales scores ranging from 0-8 were combined into groups representing three levels of living.

* These were the same as those used by Dasgupta (1967).

**The six knowledge indicators were: (1) familiarity with project, (2) naming of purpose, (3) naming of one or more operations, (4) naming of numbers of counties in watershed district, (5) naming of number of dams completed, and (6) naming of one or more key agencies.

Table 2. Statements Included in the Level of Favorability Toward Watershed Development Scale

Statement	Percent who Responded Positively (N=144)
<u>Disagrees</u> that "trees are of little value in keeping the soil from washing away."	86.8
<u>Disagrees</u> that "only those with dams on their property will benefit from the watershed program."	79.2
<u>Agrees</u> that "a watershed lake would be good for recreation in this area."	72.9
<u>Agrees</u> that "spending money for watershed development is a good investment."	61.1
<u>Disagrees</u> that "the watershed program is being pushed too hard in this county."	39.6
<u>Disagrees</u> that "the average landowner in this county stands to lose more than he will gain by watershed programs."	36.8
<u>Disagrees</u> that "they're damming up too many creeks in this county."	31.9
<u>Agrees</u> that "watershed programs in this county are likely to meet with widespread acceptance."	28.5
<u>Disagrees</u> that "state's powers are being given up when the federal government finances watershed programs."	21.5
<u>Disagrees</u> that "landowners have little opportunity to express their opinions in planning watershed programs."	9.7

Table 3. Overall Rating to Watershed Project by Level of Favorability to Watershed Development

Rating of Watershed Project	Level of Favorability		
	Low (N=36)*	Medium (N=39)*	High (N=34)*
Excellent	2.8	0.0	32.4
Good	19.4	51.3	58.8
Undecided	13.9	25.6	5.9
Not very good	22.2	15.4	2.9
Not good at all	41.7	7.7	0.0

$\chi^2 = 81.10$

df = 8

P < .001

*Includes landowners who had heard of and rated the project.

Results

Does level of favorability of attitudes vary with personal, socioeconomic or demographic traits of the individual? What effects do various kinds of project-related experiences have on favorability of attitudes toward watershed development? Are those who have been subjected to flooding of their land prone to be more favorable than those who have experienced no flooding? Do knowledge and understanding of program objectives and operations tend to influence favorability of attitude? Are landowners who expect to personally benefit from the program more favorable than those who do not perceive personal benefits?

Selected Personal Characteristics

Numerous studies have dealt with socioeconomic and demographic characteristics of individuals as they relate to favorable attitudes. Table 4 contains data showing selected traits of the landowners.

Age. Age of landowners was found to be significantly related to attitudes toward watershed development, with increasing age tending to be associated with unfavorable attitudes. There was a strong tendency for those over 60 years of age to have a low level of favorability. These findings are in opposition to those of several researchers (Andrews and Gillings, 1967; Dasgupta, 1967; Becker and Burge, 1971). A more detailed presentation of the data reveals that among landowners having low favorability, an increasing percent was found at progressively higher age groups. Among landowners having high favorability, however, the suggested relationship was not linear although this group did have a higher percentage of younger landowners. It may be that a low level of favorability tends to be strongly associated with elderly landowners, while a high level of favorability is less strongly associated with young landowners.

Education. Higher levels of education were significantly associated with higher levels of favorability, confirming the results of earlier researchers.

Organizational participation. Type of organizational participation was significantly related to high favorability, thus paralleling Dasgupta's finding. Approximately the same percentages of the no secular and some secular participation categories fell in the low and high favorability groupings respectively. Since a likely form of dissemination of project information was through talks at civic organizations, this finding could be interpreted as indicating that this form of information dissemination did have an impact on landowners who were members of such organizations.

Level of living. It was found that level of living was positively and significantly related to favorable attitudes. The items included in the scale seemed to be indicators of a generally high level of living.

Employment status. A very small number of the sample reported that they were unemployed. The relationship between employment and a high level of favorability was positive and significant, where the largest percentage of landowners who reported they were retired expressed low favorable attitudes.

Table 4. Selected Socioeconomic and Demographic Characteristics by Level of Favorability Toward Watershed Development

Characteristic	Level of Favorability			Total (N=144)*Significance	Level of Statistical Significance
	Low (N=54)	Medium (N=46)	High (N=44)		
Age					
	--Percent--				
Under 60 (N=73)	21.9	34.3	43.8	100.0	$\chi^2=18.44$ df=2 P < .001
Over 60 (N=71)	53.5	29.6	16.9	100.0	
Education					
1-11 years (N=80)	55.0	27.5	17.5	100.0	$\chi^2=25.80$ df=2 P < .001
12-16 years (N=64)	15.6	37.5	46.9	100.0	
Organization Participation					
None or Religious only (N=92)	44.6	31.5	23.9	100.0	$\chi^2= 7.07$ df=2 P < .05
Religious & Secular or Secular only (N=52)	25.0	32.7	42.3	100.0	
Level of Living					
Low (N=42)	54.7	28.6	16.7	100.0	$\chi^2=19.8$ df=4 P < .001
Medium (N=59)	39.0	37.3	23.7	100.0	
High (N=43)	18.6	27.9	53.5	100.0	
Employment Status					
Employed (N=91)	32.9	26.4	40.7	100.0	$\chi^2=12.33$ df=4 P < .02
Unemployed (N= 7)	28.6	71.4	0.0	100.0	
Retired (N=46)	47.8	37.0	15.2	100.0	
Occupational Status**					
Farming W/Wo other (N=92)	37.0	30.4	32.6	100.0	$\chi^2=.32$ df=2 N.S.
Non-Farm (N=34)	32.4	35.2	32.4	100.0	
Annual Amount Grossed from Sale of Agricultural Products					
Under \$1,000 (N=87)	35.6	41.4	23.0	100.0	$\chi^2= 8.97$ df=2 P < .02
Over \$1,000 (N=53)	39.6	18.9	41.5	100.0	
Number of Acres Owned					
Under 100 (N=85)	38.8	31.8	29.4	100.0	$\chi^2=.19$ df=2 N.S.
Over 100 (N=58)	35.6	32.2	32.3	100.0	

* On some variables, a small number of no information cases were excluded from the analysis.

**As occupational status was defined as "the kind of work done most of your life," female landowners who had never worked outside the home were excluded.

Occupational status. No differences were found on level of favorability between those with farm and non-farm occupations. This finding is in opposition to Dasgupta's (1967) study in which he found non-formers held more favorable attitudes than formers.

Annual amount grossed from sale of agricultural products. Landowners who grossed over \$1,000 yearly from sale of products were more favorable than those who grossed lesser amounts.

Number of acres owned. Size of landholdings was not significantly related to level of favorability.

Measures of Project-Related Experiences

Table 5 contains the first grouping of measures which represented behavioral and attitudinal aspects of project-related experiences as related to level of favorability toward watershed development.

Knowledge. The knowledge measure in this study is viewed as stronger than the dichotomous classification Dasgupta (1967) had to use in the 1965 attitudinal study. With his measure, Dasgupta argued that knowledge was a critical factor in accounting for differences in favorability of attitudes. Using the three categories of extent of knowledge as previously described, knowledge was found to be strongly associated with level of favorability. Landowners in the high knowledge group tended to have more favorable attitudes than did landowners in the low and medium favorability groups.

Flood experiences. Some studies have suggested that flood damage may be related to favorable attitudes. Two measures were examined. About one-half of the landowners had been bothered by flooding in the last five years. The three attitude groups did not differ significantly on the incidence of flooding, although a significantly greater number of flooded landowners who assessed damage to their land as severe or moderate fell in the high favorability group. Similarly, significant was the proportion of those who felt that the flood problem warranted a watershed project and fell in the high attitude category. This suggests that flood experience, if of a relatively serious magnitude, may influence the development of favorable attitudes toward preventive programs.

Personal benefits. The proportion of total landowners who felt they or their family would receive direct benefit* from the project was relatively small, less than one-quarter of the sample. But, when viewed in relation with level of favorability, the data indicate that those with high favorability differed significantly from the other groups in perception of personal benefits.

Program impacts. Two measures in Table 5 concern the relationship between real or anticipated program impacts with level of favorability. Landowners had been or

*Protection from floods was named by the overwhelming majority as the main benefit to be received.

Table 5. Measures of Project-Related Experiences by Level of Favorability Toward Watershed Development

Measure	Level of Favorability			Total (N=144)*	Level of Statistical Significance
	Low (N=35)	Medium (N=30)	High (N=79)		
--Percent--					
<u>Extent of Knowledge About Watershed Project</u>					
Low (N=35)	51.4	20.0	28.6	100.0	$X^2=14.65$ df=4 P < .01
Medium (N=30)	56.7	26.7	16.6	100.0	
High (N=79)	24.0	39.2	36.8	100.0	
<u>Flooding to Land in Past 5 Years</u>					
Yes (N=69)	34.8	31.9	33.3	100.0	$X^2= 3.20$ df=2 N.S.
No (N=75)	40.0	32.0	28.0	100.0	
<u>Assessment of Severity of Flooding to Land**</u>					
Severe (N=18)	29.4	11.8	58.8	100.0	$X^2= 7.68$ df=2 P < .05
Moderate (N=24)	33.3	33.3	33.4	100.0	
Slight (N=27)	40.7	40.7	18.6	100.0	
<u>Feelings that Severity of Flood Problem Warrants a Watershed Project</u>					
Warrants (N=82)	24.4	29.3	46.3	100.0	$X^2=20.99$ df=2 P < .001
Does not warrant (N=62)	54.8	35.5	9.7	100.0	
<u>Taxation or Anticipated Taxation to Acreage</u>					
Yes (N=37)	24.3	35.1	40.6	100.0	$X^2= 6.40$ df=4 N.S.
No (N=53)	37.7	37.7	24.6	100.0	
Don't know (N=54)	46.3	24.1	29.6	100.0	
<u>Purchase or Anticipated Purchase of Acres for Easement Rights</u>					
Yes (N=53)	34.0	45.3	20.7	100.0	$X^2=11.60$ df=4 P < .05
No (N=52)	32.7	23.1	44.2	100.0	
Don't know (N=39)	48.8	25.6	25.6	100.0	
<u>Landowners' Perception of Direct Benefit to Self and Family***</u>					
Perceived benefit (N=27)	11.1	18.5	70.4	100.0	$X^2=30.04$ df=4 P < .001
No perceived benefit (N=73)	43.8	39.7	16.5	100.0	

* In some variables, a small number of no information cases were excluded from the analysis.

** Includes only cases who had reported flooding experience. For analysis purposes, severe and moderate categories were combined.

***Includes cases who had heard of the project. Also, don't knows were omitted.

were potentially subject to relinquishing acres for easements or being taxed for benefited acres and perhaps both. If near a proposed site, a landowner may not have at the time of the study actually experienced either, though many of the proposed site landowners should have been aware of potential impacts of the project to their landholdings. The data indicate a larger number of the sample were or anticipated purchase of land for easement than the proportion who had been or expected to be taxed for acres protected by the dams. Taxation was not significantly associated with level of favorability though 40 percent of those affected fell in the high favorability group. On the other hand, having relinquished acres for easements or expecting such was related to attitudes. Those who had or expected not to lose land tended to be more favorable than the persons who had. These data, though limited in many respects, point to the notion that scope of project experience is associated with level of favorability of attitudes.

Effects of Knowledge on Characteristics and Attitudes

The data previously presented showed that a number of variables were significantly associated with favorable attitudes toward watershed development. No attempt was made to discover relationships between the factors treated as independent variables, or to suggest patterns of causal sequence. However, additional analysis was conducted in which knowledge was examined as a possible intervening factor in the relationships between individual characteristics and attitudes. This follows the plan of analysis used by Dasgupta and was repeated to test the strength of his finding.* While the analysis was limited to a consideration of one variable, e.g., knowledge, it does not eliminate a possibility of a larger number of factors operating in a similar manner.

Following the pattern of analysis carried out by Dasgupta, each of the characteristics found to be related to attitudes were separately related to extent of knowledge. These data, which appear in Table 6, demonstrate that the four status variables, education, organizational participation, level of living and employment status were related to extent of knowledge in the same manner as they were related to attitudes. Age was significantly related, but amount grossed from land was not.

The results of statistical tests for relationships between the status indicators and attitudes under three conditions of knowledge are shown in Table 7. The significance of the relationships between the variables and favorability of attitudes disappeared when knowledge was of low or medium extent with one notable exception. Age was related to favorability of attitudes for the low knowledge group as those over 60 tended toward unfavorable attitudes. The relationships between age and education were significant when extent of knowledge was high. And, while not statistically significant, there was a marked tendency toward high proportions of the high knowledge group who had high level of living and/or secular involvement in organizations to hold highly favorable attitudes. Employment status was found not to be significant

*Dasgupta (1967) found that knowledge of watershed development acted as an intervening variable in the relationship between an index (IPW) composed of 4 status indicators and attitudes toward watershed development.

Table 6. Selected Characteristics of Landowners by Extent of Knowledge About Watershed Project

Characteristic	Extent of Knowledge			Total (N=144)*	Level of Statistical Significance
	Low (N=35)	Medium (N=30)	High (N=79)		
--Percent--					
Age					
Under 60 (N=73)	19.2	15.1	65.7	100.0	$X^2 = 7.15$ df=2 P < .05
Over 60 (N=71)	29.6	26.8	43.6	100.0	
Education					
1-11 years (N=80)	28.7	28.7	42.6	100.0	$X^2 = 12.45$ df=2 P < .01
12-16 years (N=64)	17.5	11.1	71.4	100.0	
Organization Participation					
None & Rel. only (N=92)	30.4	25.0	44.6	100.0	$X^2 = 10.94$ df=2 P < .01
Rel. & Sec. & Sec. only (N=52)	13.5	13.5	73.0	100.0	
Level of Living					
Low (N=42)	31.0	35.7	33.3	100.0	$X^2 = 14.54$ df=4 P < .01
Medium (N=59)	23.7	18.7	57.6	100.0	
High (N=43)	18.6	9.3	72.1	100.0	
Employment Status					
Employed (N=91)	15.4	14.3	70.3	100.0	$X^2 = 25.20$ df=4 P < .001
Unemployed (N=7)	57.1	28.6	14.3	100.0	
Retired (N=46)	37.0	32.6	30.4	100.0	
Annual Amount Grossed from Sale of Agricultural Products					
Under \$999 (N=87)	27.6	20.7	51.7	100.0	$X^2 = 4.08$ df=2 N.S.
Over \$999 (N=46)	15.2	15.2	69.6	100.0	

*On some variables, a small number of no information cases were excluded from the analysis.

These results may be viewed as merely suggestive of the role knowledge plays in watershed development activities. Nonetheless, the outcomes do press the need for further research with causal models as a base.

Implications

Both practical and scientific implications arise from a review of the findings:

First, attention needs to be given to dissemination of project information to assure that it is: (a) in a form suitable for diverse types of landowners, and (b) continuously disseminated, especially in large-scale programs or programs where benefits must

Table 7: Statistical Results for Association Between Selected Characteristics and Level of Favorability by Extent of Knowledge About Watershed Project

Characteristic	Extent of Knowledge		
	Low	Medium	High
Age	$\chi^2 = 9.42$ df=2 P < .01	$\chi^2 = 1.02$ df=2 N.S.	$\chi^2 = 9.00$ df=2 P < .02
Education	$\chi^2 = 5.12$ df=2 N.S.	$\chi^2 = 5.28$ df=2 N.S.	$\chi^2 = 17.99$ df=2 P < .001
Organizational Participation	$\chi^2 = 1.43$ df=2 N.S.	$\chi^2 = 1.33$ df=2 N.S.	$\chi^2 = 5.87$ df=2 N.S.
Level of Living	$\chi^2 = 6.62$ df=4 N.S.	$\chi^2 = .34$ df=4 N.S.	$\chi^2 = 9.43$ df=4 N.S.
Employment Status	$\chi^2 = 7.60$ df=4 N.S.	$\chi^2 = 7.01$ df=4 N.S.	$\chi^2 = 6.87$ df=4 N.S.

necessarily accure over a long period of time. Types of information and means of delivery must be wide and varied to serve many types of landowners. This is especially true when a large number of landowners possess characteristics often identified with negative attitudes: persons over 60, retired persons, persons with lower education and other traits associated with lower socioeconomic status. It is these landowners who are less likely to receive adequate information concerning watershed development through public meetings or mass media. Furthermore, such persons are less likely to derive personal benefits from watershed development since they may not be actively utilizing their land. Thus, it is understandable how apprehensions could arise about a program which results in added taxation or possible easement rights. Therefore, information about projects should be disseminated in such a way as to reach the maximum number of affected persons. Similarly, information must be disseminated in a continuous fashion. This may prevent the formation of negative attitudes when landowners are too impatient to see the long-range benefits of a program, or when they perceive the short-run disadvantages outweighing possible long-range advantages.

A second implication has to do with the need for research which focuses on the prolonged and continuous effects of water resource development on creating conditions which will further water resource development. It is a long and difficult task to change the basic characteristics of a given population. Water resource development cannot wait until the general educational level or level of living of a population is raised to a point of maximum favorability toward water resource development. By initially

developing the aspects of water resources for which the local people feel a direct and immediate need, a favorable climate of public opinion may be created for further development in other areas.

A final implication is an emphasis on the desirability of collecting adequate base-line data at the earliest possible time if the impact of project development is to be scientifically assessed. There is a great need for further research to confirm the findings of this study, hopefully avoiding the limitations under which the research was conducted. Also, an understanding of differences in development may mean treating attitudes as a product of development rather than a factor encouraging development. Lastly, only with systematic research of project development in local populations can programming for project development and information dissemination realize maximum local support for water resource development.

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THE EFFECTS OF MASS MEDIA EXPOSURE ON ATTITUDES TOWARD RESERVOIR
DEVELOPMENT IN A LOW INCOME EASTERN KENTUCKY COUNTY

Peter F. Korsching and Rabel J. Burdge*

Introduction to the Problem

One of the major factors responsible for the conditions which keep underdeveloped areas of the world from positive progress toward modernization is the relative isolation of these areas. In some cases the isolation is due to actual physical barriers which act as impediments to the free flow of new ideas and information to the underdeveloped areas. This lack of communication between the isolated region and its surrounding area often causes the isolated region to progress more slowly and finally lag behind other regions. Because of lack of outside influence, such characteristics as traditionalism, fatalism, localism, and superstition will be continually recycled within the culture creating a subculture which will more likely than not be unique to that region, as well as having norms and values which will react against change and development. Thus the physical barriers tend to create with the passing of time, cultural barriers which embrace the status quo.

The Cumberland Plateau of Eastern Kentucky, a part of the Appalachian mountain region, is an isolated area such as described above. Through the years, it has developed and maintained a subculture fairly unique to the United States.¹ Caudill (1963:52) speaking of the inhabitants of the Cumberland Plateau states that "...the frontier modes have endured in no other part of the state (Kentucky) to such a marked degree as in the landlocked valleys of the plateau." Weller (1965:13) concurs with Caudill on this point:

The gap between the culture of the towns and the mountains became both wide and deep. By the end of the nineteenth century, the mountaineers were a people apart, molded by the forces of the terrain, the pressure of economics, and the lack of contact with outsiders.

Thus the development of the subculture within the region and its relatively unchanging nature is attributable to the isolation created by the mountain barrier which in turn created a cultural barrier by developing a society with norms and values resistant to development

*Respectively graduate assistant and Associate Professor, Department of Sociology, College of Agriculture, University of Kentucky, Lexington. Paper given before the Annual Meeting of the Association, Southern Agricultural Workers, Richmond, Virginia, February 10 - 14, 1972.

¹See Caudill (1963, Chapter II pp. 11-31) and Campbell (1969, Chapter II and III pp. 22-71) for an historical development and description of this subculture.

and change. In order to reverse this trend, the focus of the attack must be upon the cultural barriers. The norms and values which inhibit change must be altered; a process which can be aided through the exposure of the society to new ideas and information. The mass media of communication can play a large role in this process because of its ability to reach large numbers of individuals with vast amounts of information. This paper will attempt to determine what effect the mass media of communication has had on attitudes toward change of a selected group of subjects within the Appalachian subculture.

Orientation to the Problem

The basic orientation guiding this study is that exposure to uncommon ideas and information in the form of mass media exposure will be the main intervening variable between specific individual properties and receptiveness to change. The following specific hypotheses will be tested.

- I. The mass media of communication is an important intervening variable between the individual properties of age, sex, residence and SES and the dependent variable, receptiveness to change.
 - a. The relative effects of the media will be, in descending order: (1) newspaper, (2) magazine, (3) radio and (4) television.
 - b. The relative effect of the content of communication will be greater than the amount of communication.

The relative effects are so arranged as to specify descending exposure to uncommon ideas and facts in minor hypothesis a and b.

Clarification of Concepts

Continued random and undirected exposure means first of all, exposure that is not an isolated instance but has reinforcement by other instances overtime. The "random and undirected" does not mean that the individual will, over some period of time, be exposed to all of the various forms of mass media, but is rather a way of differentiating this study from many of the studies in the literature in which the effects of mass media on the adoption of innovations is ascertained. By the term "uncommon" reference is made to those ideas and facts which need not be integral and are not explicit within an individual's immediate cultural context, impinging environmental factors, and working definition of social reality. In other words, all that which is not encountered in normal daily living and acts as an agent in broadening perspectives. Finally, social change refers to change in values or institutions.

Mass Media and Change

As stated earlier, the free flow of ideas and information is a basic

prerequisite for the process of social change. Rogers (1969b:7) defines communication as the transference of ideas from a source to one or more receivers, and considers it an inherent part of social change:

...communication is an essential part of social change, and perhaps all analysis of social change must ultimately focus upon communication processes. The general theoretical viewpoint of the present book is that communication processes are integral, vital elements of modernization and development.

Speaking of modernization, Lerner states (Lerner and Schramm, 1967:306):

Rooted in their place and pride, traditional mankind lived by its constraints - unaware of them as constraints because no communications alerted them to alternatives.

To state it more simply, "it establishes a climate in which development can take place" (Lerner and Schramm, 1967:6).

Many underdeveloped nations have attempted to bring about progressive changes through the use of mass media for presenting and spreading innovations. Unfortunately, many of these programs have failed due to inefficient, ineffective, and improper use and planning of the campaigns (Rogers, 1969b:12-14). The problem was that not enough knowledge concerning the use of mass media was available to the agencies that drafted the programs. Since then, the role of mass media in modernization and social change has been given more attention; specifically by Rogers, Inkeles, Lerner and Schramm. These researchers provide most of the information relating specific variables to mass media of communications.

Socio-Economic Status

Generally, SES is directly related to receptiveness to change. In a survey of a suburban community in Northern Virginia on the effect of SES on participation in a Salk vaccine trial, Deasy (1956) found that higher SES families participated more. Belcher (1958:162) found similar results in the diffusion and acceptance of Salk vaccine in a rural community. Among various other factors Rogers (1969:299) found that SES is positively related to innovativeness and that higher SES is also a more important variable for early adopters of innovations than for later adopters.

Social research has repeatedly found a high correlation between occupation, education, and income resulting in their standardization as indicators of SES. Except for notorious exceptions, they are all directly related to each other. Our paper will not deal with the components of socio-economic status.

Age

The literature has shown age to be a central variable in orientation to change that is inversely related to receptiveness to social change.

Gross and Taves (1952:328) in their study of characteristics associated with the acceptance of recommended farm practices came to the conclusion that the only important characteristic associated with innovativeness is age. Lowry et al., (1958) found lower age to be a factor in the adoption of recommended health practices in two rural North Carolina counties.

The major portion of this variation is attributed to the loss of flexibility of attitudes with an increase in age. When the individual is young, attitudes aid in facilitating social adjustment, but with the inflexibility that normally accompanies age they become stereotyped and the individual loses some of the awareness of his surroundings. Consequently, the individual will not be as open to innovation and not be as aware of the communication around him.

Sex

Education has generally not been stressed, even discouraged, for the poor mountain males, and considered mainly as a woman's past time (Weller, 1966:110). Therefore, males dropped out early and females stayed as long as they could, even repeating courses. This system worked as long as the family could be supported through the husband's manual labor (mining or lumbering) in which formal education played no part. With mechanization, however, the need for these skills was reduced and many workers were left unemployed. The support of the family thus fell upon the wife, who with her higher education could find work in stores, clinics, hospitals, or the developing industrial concerns (Weller, 1966:77). Thus, the traditional roles are being altered, and perhaps, as some writers such as Weller would argue, the females would be more receptive to change than the males.

Donohew's (1967:685) study of the receptiveness to change in Eastern Kentucky's Knox County did not substantiate this claim. Females were either not receptive or neutral to change. Donohew attributed this to the "housewife phenomenon", that is, although women have much more media exposure during the day, much of it tends to be non-change producing such as television soap operas. It therefore seems that sex needs to be given more consideration as a variable in receptiveness to innovation and change, especially in relation to other variables such as residence, SES, education and mass media exposure.

Residence

Rogers (1969b:37) states that "the exact degree of localiteness obviously varies according to the availability of roads and means of transportation, nearness to cities, and other factors," with localiteness being "the degree to which individuals are oriented within, rather than external to, their social system." Closer proximity to urban centers will increase communication and interaction and thus increase exposure to uncommon ideas and information because of the heterogeneity of urban populations.

Urban centers promote the establishment of radio and television stations, newspapers, libraries, better schools and transportation facilities, all of which enhance the necessary interaction.

Mass Media of Communication

The four types of media exposure to be examined are, newspapers, magazines, radio and television. In studying the effects of communication on receptiveness to change in Eastern Kentucky's Knox County, Donohew (1967) found that newspapers were the most effective in producing change. Copp, Sill, and Brown (1958: 150-153) found that magazines were more often cited than radio for a source of information in the various phases of adoption of farm practices, especially at the awareness stage. Gross and Taves (1952: 23) obtained similar results in their research on acceptance of recommended farm practices. Deasy (1956) in her study of participation in the polio vaccine trial found that for higher SES families, the information source on the vaccine was the newspaper as opposed to other sources of communication, and that these families participated more often in the trials.

Newspapers and magazines may have a greater effect because printed media require greater concentration upon the subject matter for comprehension and thus there is a greater possibility of effective transmission of ideas and information. Printed material is also not momentary or transient as is oral and visual media, thus allowing the individual to go back and reread at his own discretion.

Amount of Exposure

In developing their scale for individual modernity, Smith and Inkles (1966: 375) found "...the question on how often a man read or was exposed to a newspaper to be a very powerful indicator (for modernism) in all countries." Rogers (1969a: 104) states that the relationship between the amount of exposure to a new idea and its adoption is directly proportional.

The variable amount is important because it infers some kind of continuity (or the lack of it) to exposure. Continued exposure would act as a reinforcing agent for whatever change in attitudes is introduced. The more the exposure, the greater the reinforcement, and the greater the reinforcement, the more likely a permanent attitude change will occur.

Content of Media Exposure

Two studies (Donohew, 1967: 685) and (Donohew and Singh, 1969: 210) found that the effect of communication on receptiveness to change was best distinguished when the content of the communication rather than the amount of communication was analyzed.

A trichotomous typology of (1) news and public affairs exposure (2) other types of exposure (3) no exposure was created. The results showed that news and public affairs exposure more strongly loaded on variables showing openness to change than those exposed to the "other" category, but both of these categories were more strongly related than those not exposed at all. It is implicit within news and public affairs exposure that it has a higher content of uncommon ideas and information than other types of exposure.

Receptiveness to Change

The literature views receptiveness to change as part of a larger multi-dimensional concept. For underdeveloped areas receptiveness to change is frequently presented in terms of modernization or innovativeness (Smith and Inkeles, 1966 and Rogers, 1969a, 1969b).

The model to be used in this study with all possible arrows of influential relations included is shown in figure 1.

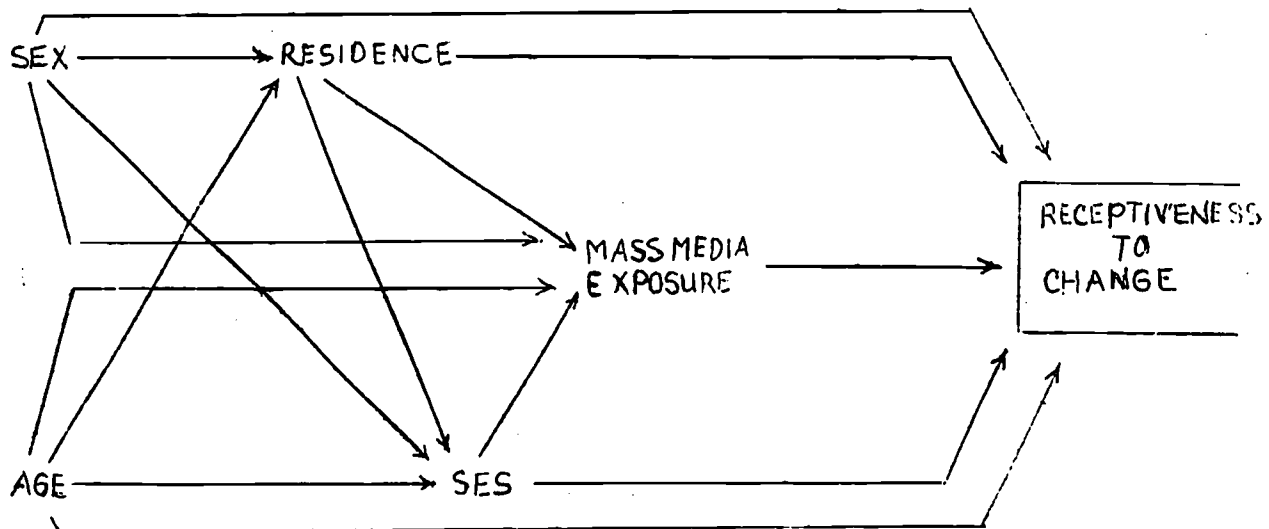


Figure 1 - Basic Path Model

Age and sex are simultaneous and independent in time. Residence occurs before SES in time order, because persons born in a low income situation away from an urban center in the mountains will have less opportunity for formal education and thus less opportunity for a higher paying occupation. The assumption is also made that persons in higher SES positions are not likely to migrate from the urban center to rural mountain regions. Exposure to mass media is the main intervening variable between age, sex, residence, SES and receptiveness to change.

Research Methods

Four hundred adult residents of Johnson County between the ages of eighteen and sixty were chosen for personal interviews. The primary technique for collecting the sample was cluster sampling with random procedures interjected at each stage to insure representativeness.

Results of the Analysis

The analytical device used in this paper is path analysis. Path analysis allows the establishment of a causal chain and the specification

²The principles of path analysis may be found in Land (1969) and Nygreen (1971).

of a definite time order among variables. Thus it is ideal for a study such as this one concerning social change which is a causal and temporal process. Tests of significance would not give the direction or amount of change, and many sociologists are now advocating greater use of tests of association and direction (Labovitz, 1970).

Our first hypothesis states that the relative effects of the media in predicting proclivity to change will be, in descending order: (1) newspaper, (2) magazine, (3) radio and (4) television. The results of the path analysis is shown in figure 2, 3, 4, and 5.

Although the magnitudes of the path coefficients between the types of media and receptiveness to change have the predicted order (except for the path from television to modernism which is .06, greater than the respective .05 for magazine and radio) the hypothesis is not supported because the path coefficients are not significant. The four models do, however, show other relationships which require clarification.

SES is the only variable in these models that is significantly related to receptiveness to change. This is not surprising, since Kahl (1968) has contended that SES is the most consistent predictor of modernism. SES has a strong positive relationship to newspaper (.44) and magazine (.35) indicating that those of higher SES are more exposed to idea and information types of media.

Two other relationships which were expected are the significant negative relationships between residence and SES (-.23) and age and SES (-.30). The negative relationship between SES and residence support the earlier contention that in an underdeveloped area, like Eastern Kentucky, residence does affect life opportunities and thus SES.

Both age and residence have significant negative relationships with radio exposure (-.09 and -.12, respectively). This supports Roger's (1969b: 330) contention that radio is basically a youth media. For this to hold, since radio exposure is significant for both age and residence, age must be negatively related to residence. The correlation coefficient between the two (.118) lends support.

The positive relationship between residence and magazine (.07) may be due to the fact that many residents of rural Johnson County may receive various farm magazines.

In summary, the four models show that SES is the main intervening variable in receptiveness to change. The importance of SES is also evident by the smaller magnitude of its residual or unexplained variation coefficient. Age and sex were found to have significant coefficients with many of the key variables in the model.

Our second major hypothesis states that the relative effect of the content of communication will be greater than the amount of communication. The path models for this hypothesis are shown in figures 6 and 7.

Table-1 Single Order Correlation Coefficients Among Variables

	X1	X2	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
X1 Sex		.01	-.09	.02	.13	.17	.02	.13	.06	.22	-.06	-.03
		**	*		**	**	*	*	**	**	*	**
X2 Age		-.33	.11	-.04	-.13	.03	-.10	.11	-.13	-.11	-.21	
		**	**		**	**	**	**	**	**	**	
X5 SES			-.27	.04	.06	.37	.32	.38	.30	.30	.35	
			**		**	*	*	*	*	*	*	
X6 Residence				-.04	-.13	-.08	-.03	-.06	-.12	-.10	-.11	
				*	**	*	**	**	**	**	**	
X7 TV					-.01	.08	.11	.37	.60	.05	.08	
					*	**	**	**	**	**	**	
X8 Radio						.11	-.02	.27	.52	.05	.08	
						**	**	**	**	**	**	
X9 Newspaper							.27	.66	.47	.20	.20	
							**	**	**	**	**	
X10 Magazine								.45	.61	.16	.15	
								**	**	**	**	
X11 Content									.71	.18	.21	
									**	**	**	
X12 Amount										.17	.20	
										**	**	
X13 Reservoir												.28
												**
X14 Modernism												

* Significant at .05 level
 ** Significant at .01 level

Figure 2. Newspaper Exposure

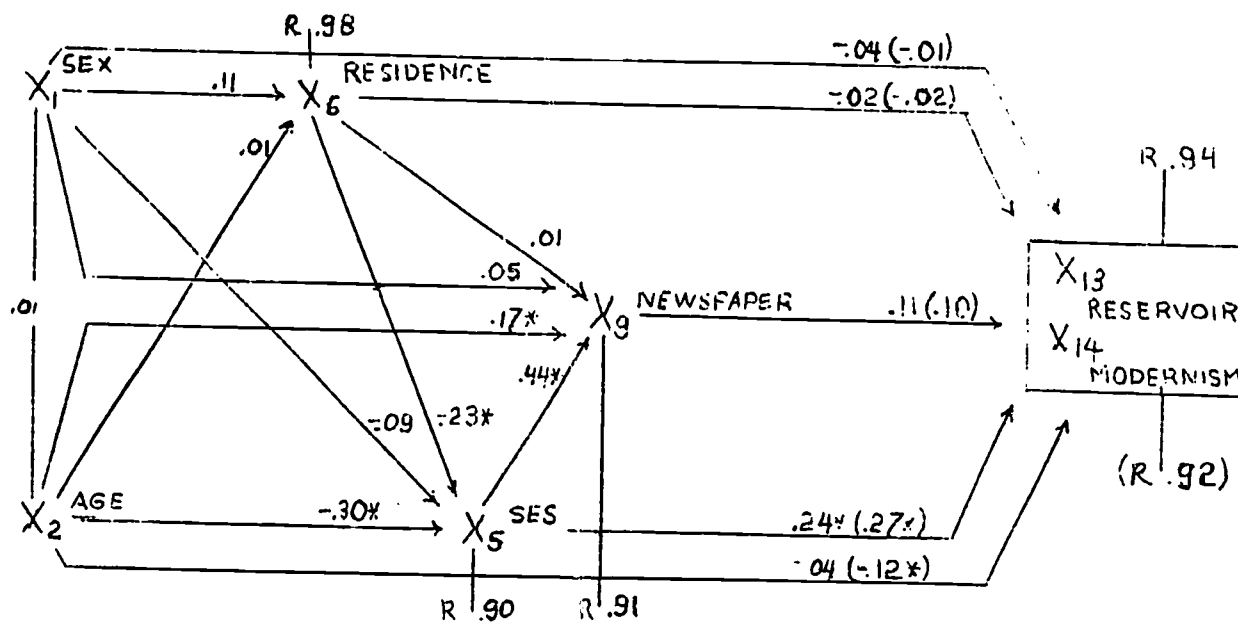
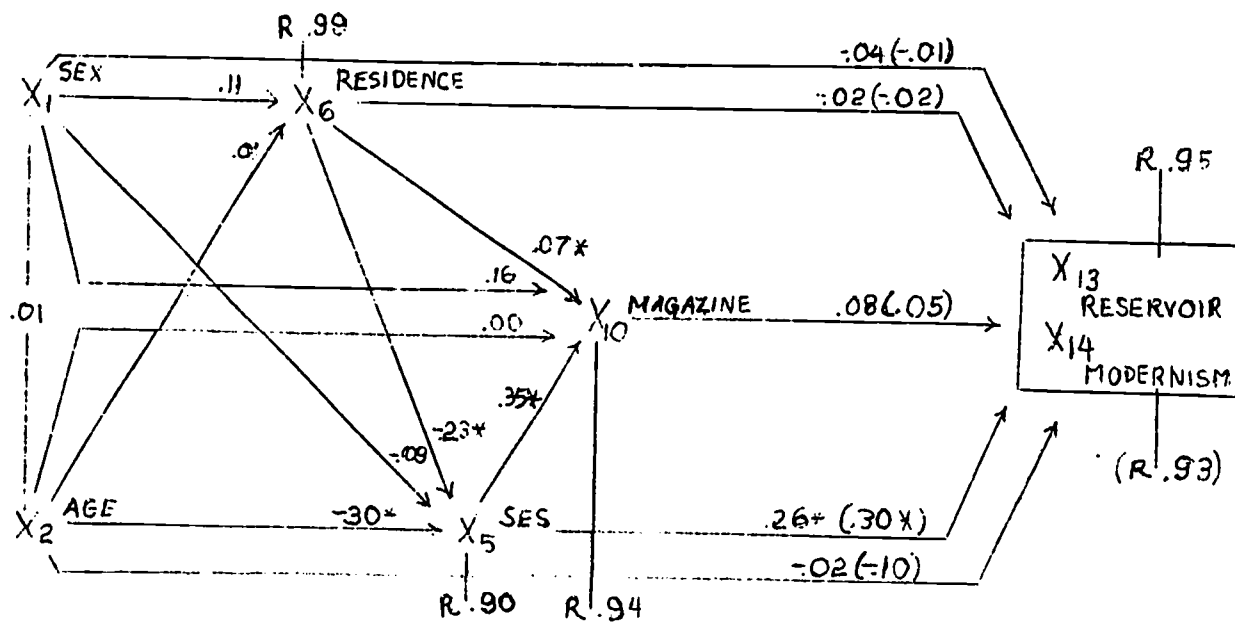


Figure 3. Magazine Exposure



* Significant Path Coefficient
 () Coefficient for Modernism
 R Residual Path Coefficient

Figure 4. Radio Exposure

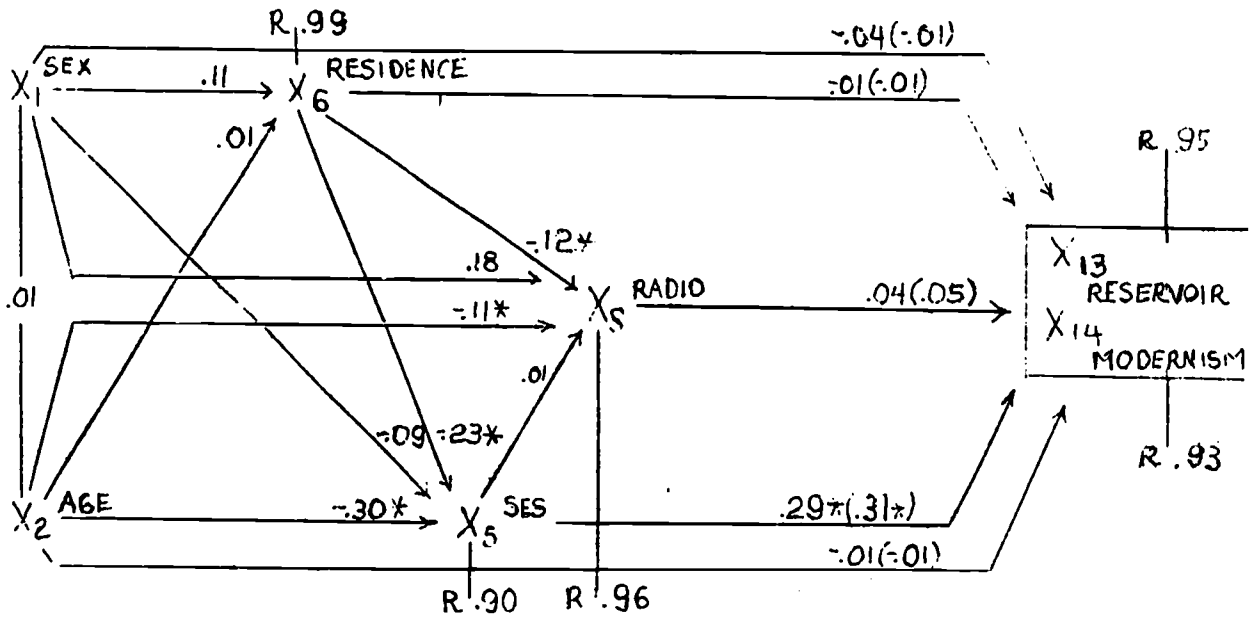
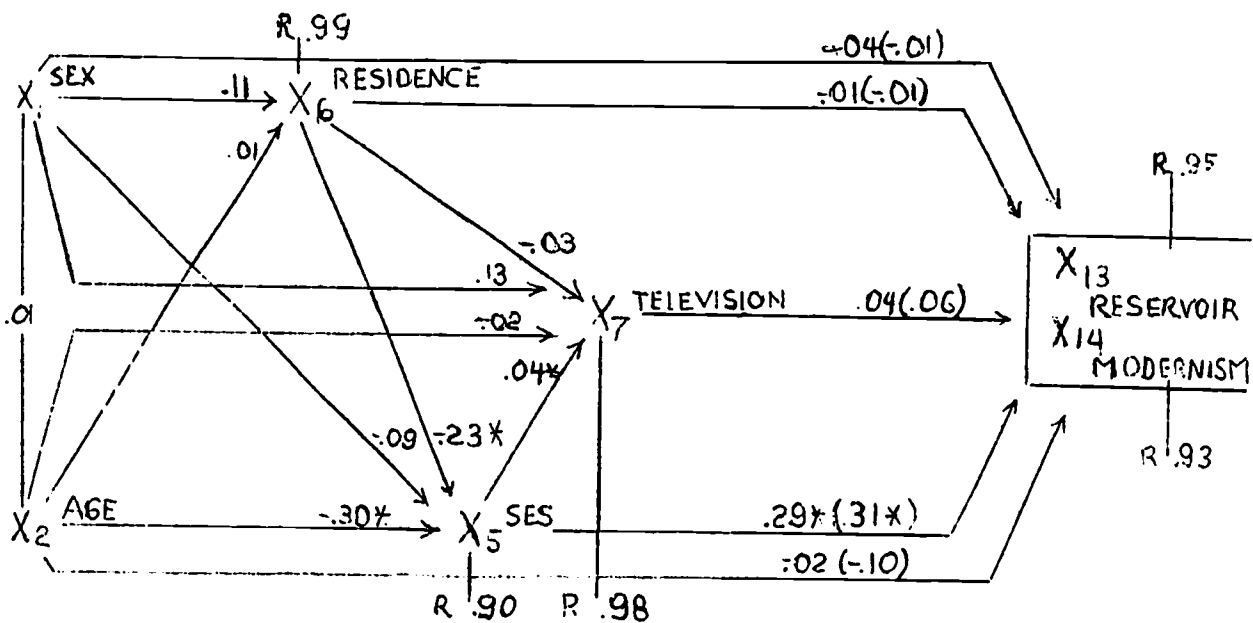


Figure 5. TV Exposure



* Significant Path Coefficient
 () Coefficient for Modernism
 R Residual Path Coefficient

Neither path coefficient from amount of mass media exposure to the two receptiveness to change variables is significant (both .11). However, the path coefficient from content to modernism is significant (.13). Further evidence is as follows:

1. The paths from SES to the two receptiveness to change variables are smaller for content (.24 and .25) than for amount (.25 and .28) showing a smaller direct influence.
2. The path from SES to content is much larger (.49) than through amount (.30) showing a greater effect going through content.
3. The residual for content (.88) is smaller than for amount (.92) showing that it is explaining more of the variation.

An additional point is that content is also a more important intervening variable than SES since its residual (.88) is smaller than SES (.90).

A puzzling relationship is the large and significant path from age to content (.28). It would seem that if anything, it should be a negative relationship, since age has a significant negative path to modernism (-.14) and SES (-.30) in the same model and is not correlated with content (.01).

A Revised Content Scale

The preceding analysis shows a minimal effect of mass media exposure on receptiveness to change. We suggest that the media scales for content should be reformulated.

A new scale was devised which gave more weight for exposure to social change messages. The four categories include world and national news, state and local news, other exposure, and no exposure to mass media of communication.

The new scale increased the effect of mass media exposure on receptiveness to change as shown in Figure 8. It reaffirms the position that content of exposure is a more important change variable than amount of exposure.

In the revised scale models shown in figure 8, age has a significant negative direct effect on receptiveness for the modernism variable and a somewhat stronger and significant positive direct effect on ~~SES~~, which would mean age is therefore also positively related to receptiveness through media exposure. The matter is complicated by correlation coefficients (table 1 and 2) which do not show a consistent significant relationship between age and content oriented media. A plausible explanation may be that older people tend to be exposed to idea and information

Figure 6. Content of Exposure

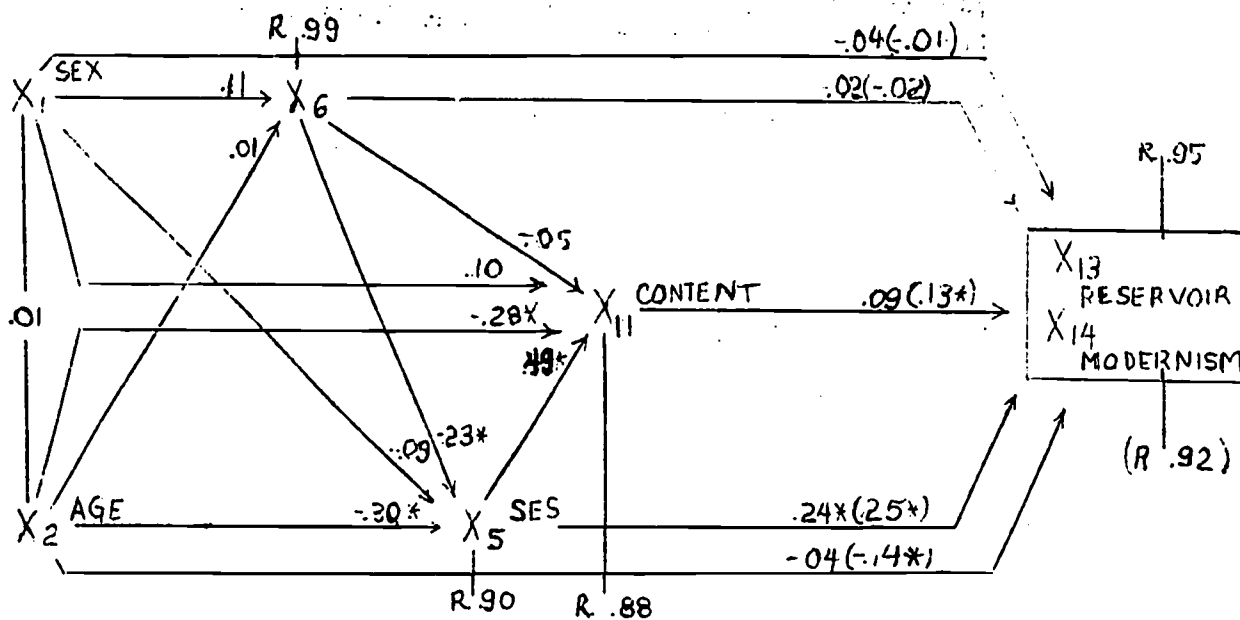
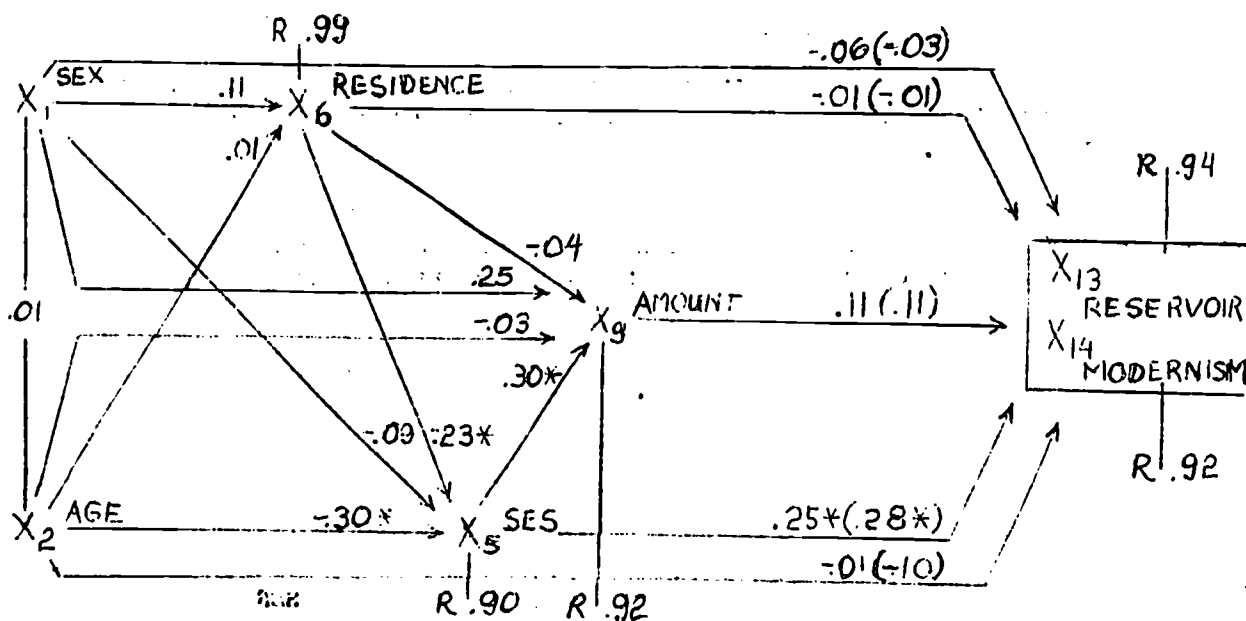


Figure 7. Amount of Exposure



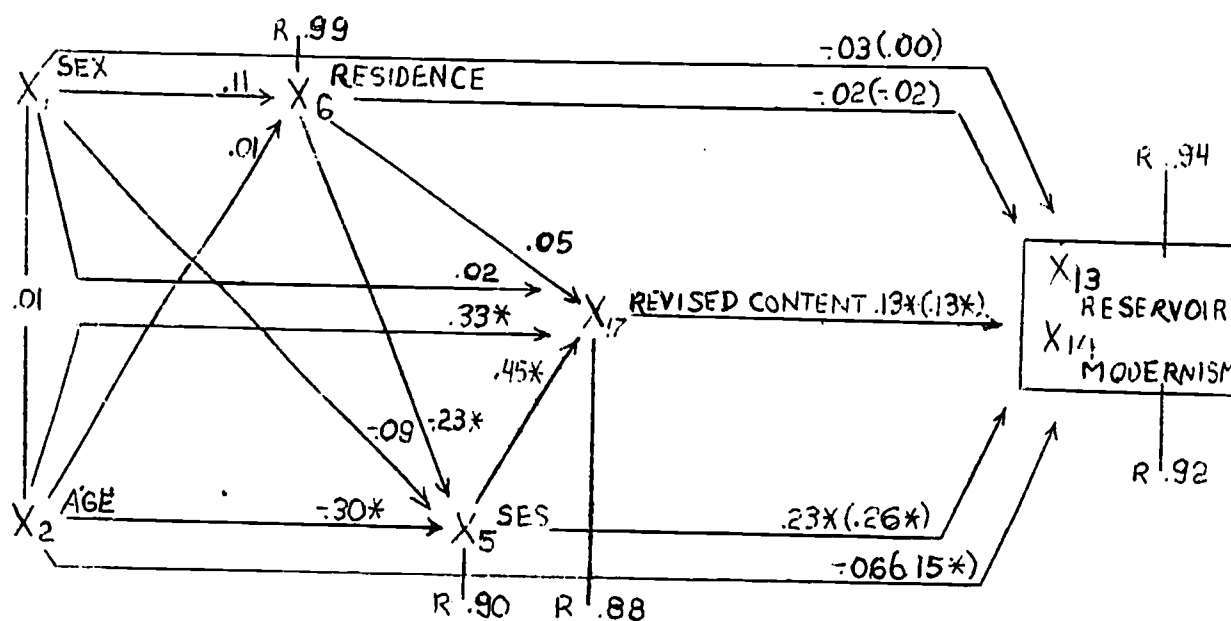
* Significant Path Coefficient
 () Coefficient for Modernism
 R Residual Path Coefficient

Table 2
Single Order Correlation Coefficients for Revised Scale

	Sex X1	Age X2	Education X3	Income X4	SES X5	Residence X6	Reservoir X13	Modernism X14	TV X15	News X16
Combined X17	-.02	.19	.35	.26	.32	-.03	.19	.18	.79	.80

** Significant at .01

Figure 3
Path Model with Revised Content of Mass Media Scale



* Significant Path Coefficient
() Coefficient for Modernism
R Residual Path Coefficient

media more through purposeful intent, and yet because they are older, are less influenced by the exposure.

Summary

The mass media of communication is an important intervening variable between the individual properties of age, sex, residence and SES and the dependent variable, receptiveness to change.

With the limitations of the present data, the acceptance of this hypothesis can only be conditional. As has been demonstrated, not all types of media exposure create a strong receptiveness to change. Such variation was expected, and even hypothesized, but it was not anticipated that the influence would be consistently minimal. When the four media, newspaper, magazine, radio and television were measured by amount of exposure, none were significant. Neither was the effect of an overall scale of amount significant. Analyzing the content of the media exposure, however, gave better results. The path coefficient in the original content scale going to modernism was significant. In the revised scale, both coefficients going from media exposure to change receptiveness were significant. From these data we must then conclude that only content significantly affects receptiveness to change.

Conclusions

Our research has attempted to move away from the "traditional" multiple correlation techniques in explaining modernisms and receptivity to change. Path analysis provides the opportunity to put time order in the analysis. When mass media of communication was used as an intervening variable the results showed content to be the important variable. Amount did not lead to significant increased receptivity to change. However, combined SES was the best predictor of mass media exposure, especially content, as well as receptivity to change.

There appear to be several implications of the study.

(1) If change agents desire to raise modernism levels they must improve the content of the messages to emphasize the desired change. Such a procedure is relatively simple in less-developed countries where the mass media is under control of the government. In the less developed areas of the United States purposeful content exposure is difficult and obviously susceptible to a certain amount of "dial switching."

(2) Newspapers provide the best method of spreading modernizing messages. Here opportunity for recall and evaluation is possible. Even in "less developed" areas of the United States most persons can read. Although often overlooked the local newspaper could be the best method for advocating change.

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POLLUTION AND SOLID WASTE DISPOSAL IN THE RURAL SOUTH
by

John C. Belcher, Norman R. Layne, Jr. and Charles A. Watson

INTRODUCTION

Present concerns with pollution are bringing into focus some of the sanitation problems of rural areas. Rural people living in geographic isolation have been forced to resort to individualistic solutions to their sanitation problems including the disposal of solid wastes. By contrast, the density of urban settlement has facilitated collective solutions for the residents of cities. It was not until the emergence of collective norms for solving sanitation problems that rapid urbanization became possible. Early cities have often been identified as the graveyards of the population because of the extremely high death rates from communicable diseases associated with the lack of public sanitation. The growth of cities can not proceed at a rapid rate when the influx of rural migrants only replaces city residents who die.

The world wide reduction in the death rates during the "mortality revolution" of the twentieth century has been brought about by a tremendous decline in the incidence of communicable diseases. The control of communicable diseases has taken much attention away from problems of sanitation per se. Now, the related health concerns are broached under the more general label of pollution.

There are three major facets of the concerns over pollution. One is the relationship of the environment upon health. The absence of pure water, air and food can have great ramifications for human health in an era when degenerative rather than communicable diseases bring reductions in life expectancy. Modern pollution can result in increase death rates especially from degenerative causes. A second concern is that man is destroying the resources of the earth through misuse. Some argue that the misuse of the environment is a function of a rapidly growing population. Others view the source of the problem as a consequence of a high level in an urban world. Automobiles, highways, and industrial plants that alter eco-systems are conceived as reflecting the existence of pollution. A third and related facet of the pollution problem is basically an esthetic perspective. The existence of signboards, automobile junk yards and other artifacts of modern life that impinge between man and nature are considered as pollution.

Inevitable the concerns with pollutions seem destined to be focused more on the life patterns among rural populations as collective action brings industrial and urban sources of pollution under control. Already, there are mounting pressures for the control of the agricultural utilization of pesticides, insecticides, and herbicides. Some condemn the use of commercial fertilizers and would even want to outlaw the plow. There have long been objections to the burning of fields and forests as an unwise agricultural practice.

The purpose of the present study is to determine some of the factors that must be considered if new collective solutions for pollution control are to be adopted by a rural population that has traditionally followed its own culturally sanctioned, individualistic norms. To demonstrate the factors involved this paper reports the changing sanitation requirements (specifically the disposal of solid wastes) of a southeastern Georgia county. The solutions to these problems at the turn-of-the-century for the predominately farm population are contrasted with those of the predominately rural-nonfarm population of the present time.

THE SURVEY AREA

Camden County, Georgia, is bounded on the east by the Atlantic Ocean and on the south by the St. Marys River which is the boundary between Georgia and Florida. Fifty-six percent of the county's 9975 inhabitants in 1960 resided in one of three incorporated towns. St. Marys had a population of 3,272; Kingsland counted 1,536; and Woodbine, the county seat, had 845 (U. S. Census of Population:1960). The remaining inhabitants lived in unincorporated villages along the major roads, especially U. S. 17 and Georgia 40, and infringe areas near the incorporated towns. The County has a land area of 656 square miles and a density of population of 15.2 persons per square mile. About 38 percent of the total area is in marsh land, inland waterways, and swamps. About 55 percent of the county area is vacant upland, much of which is devoted to growing and harvesting pulpwood. The remaining 7 percent of the total land area is developed for residential, commercial, industrial, public and semi-public and agricultural uses.

METHODOLOGY

A survey was made of the entire county in 1964. Every structure in the county was located on a map and assigned a number. Notations were made in a ledger of the characteristics of the structure and, if a residence, whether or not it was occupied "as viewed from the road." A 20 percent sample of heads of households was then drawn taking every fifth occupied residence listed in the ledger. Interviews were secured successfully from over 99 percent of these houses during the summer of 1964. Five hundred and fifty usable questionnaires were obtained.

DISPOSAL OF WASTES IN THE EARLY 1900's

The literature provides no detailed studies of sanitation practices per se in our society. Fragmentary information was gathered in Camden County through informal interviews with long-time residents of the county, newspaper articles, and other publications which refer to this county. The sanitation practices among county residents without modern facilities were considered as representing the situation as it existed in the past. Since the germ theory of disease would have been unknown in 1900 in rural Georgia as well as in most of the rest of the world, sanitation and cleanliness were not synonymous. At that time, modern sanitation practices were unknown; yet practices existed that were considered relevant to the maintenance of good health. These practices emphasized two aspects of cleanliness, utilization of waste and visible cleanliness. An example of the latter was the common practice of keeping the ground around the house bare of vegetation.

Household Trash and Garbage

Subsistence agriculture was the predominant means of earning a livelihood in 1900. The only household waste disposal involved household trash and garbage and human wastes. Household trash was a negligible problem because the vast array of boxes, bottles, cans and papers that now come daily from the supermarket were just not available then.

Practically all foodstuffs were produced at home. The few staples that were purchased such as coffee, salt, flour and sugar came in cloth bags which were used for making tea towels or hand towels, shirts or girls underclothing. Some products were packaged in wooden barrels or boxes which were subsequently used. The individual often provided his own re-usable container for purchases. Newspapers and magazines, both of which were scarce in this area, could be utilized for starting fires in the kitchen stove or fireplace. No homes had trash receptacles because the family had little trash to discard. The fireplace and kitchen stove served as incinerators, and the ashes from them were used as fertilizer. A no-waste norm prevailed not only in regard to household trash but also to household garbage. Leftover food was scraped after each meal into the "swill" bucket, the only garbage receptacle in the house. After the dishes were washed, the dishwasher was also poured into the swill bucket, since the common belief at that time was that soapy dishwasher helped in preventing worms in hogs. Every scrap from the table and kitchen was saved to feed the farm animals. Most scraps of food and bones were fed to the dogs and cats. Hulls, tops, and peelings of vegetables were fed to the horses, mules, and hogs. Grits, rice, bread scraps, and some forms of grain were fed to the chickens. The custom for a family with no stock was to save garbage for one's neighbor. Those who gave their garbage to others expected no favors in return, their only purpose was to prevent waste.

Human Wastes

The open privy was used by most households for disposal of human wastes until the pit privy came into general use in the 1930's. If no toilet facilities of any sort were available, family members relieved themselves down by the branch or near the house wherever there was some form of concealment. Hookworm was common in the county because of this practice. An estimated 50 to 60 percent of all children between ages 6 and 16 were infected with hookworm in 1912 (Southeast Georgian, 1912;1).

Summary of Early 20th Century Solid Waste Disposal Practices

In summary, norms as they existed in rural Georgia about 1900 showed great functionalism. Solid waste disposal was not considered a problem in the self-sufficient economy because the limited amount of waste could be recycled back into the environment by the individual farmer. The greatest threats to health were communicable diseases resulting, for instance, from the unsanitary means of human waste disposal.

SOLID WASTE DISPOSAL IN CAMDEN COUNTY IN 1964

Half a century later, the solid waste disposal and sanitation problems of a predominately small town, rapidly growing population have multiplied tremendously. Subsistence agriculture has disappeared and few, if any, households are self-sufficient any more. The number of places classified as farms has declined from 876 in 1900 to 58 in 1964. Virtually everything that is purchased creates some waste that can no longer be recycled. The increased waste has necessitated increased sanitation services.

Household Trash and Garbage

The composition of household trash in 1964 has radically changed from the early 1900's. Many types of hard to dispose of containers made of glass, plastic, etc. have interrupted the older pattern of almost complete recycling in a subsistence agricultural economy. Almost everything that is consumed in an industrial economy could still be recycled on a farm, such a solution would be unavailable to most of the residents because they no longer live on farms. Also, the farm animals that consumed household garbage in a subsistence economy are no longer available to most residents. The disposal of household trash and garbage can no longer contribute positively to the functioning of the individual household.

Even though the volume of household trash has multiplied astronomically, few residents have difficulty in disposing of their household trash and garbage. When the respondents in 1964 were asked if they had a problem with garbage or trash disposal in the last year, only four percent said "yes" for garbage and only one percent said "yes" for trash. However, there is considerable variation in the solutions adopted for disposal of household trash and garbage. The respondents were asked, "what do most people do around here with household trash?" and "what should be done?" The same two questions were also asked about household garbage. The responses were coded into four categories. Those households for which household trash or garbage was collected by the city were placed in a "collective" category. Responses such as "carry to dump," "haul off," "throw in woods, swamp, or by roads," "throw in rivers or creeks," or "burn" were placed in an "individual" category. A "utilization" category included all those households that fed their trash or garbage to animals.

To the degree that individualistic solutions other than farm recycling are disapproved of, the residents of Camden County have moved toward collective solutions. In the urban context of the small towns in the county which have a higher population density than the rural areas, there has been a clear impetus to change individualistic patterns. Trash and garbage cannot be dumped in the back woods like some farmers are still able to do nor can it be dumped on small residential or business lots because it is too visible. The three incorporated towns in the County have made efforts toward a collective solution. St. Marys and Kingsland each provide a mixed garbage and trash disposal service. Woodbine provides more limited services. The households that are located within the city limits of St. Marys or Kingsland will be referred to as "urban." Throughout the unincorporated areas of the county, the disposal of solid waste was handled in 1964 on an individual basis in each household, since there were no public or private collection agencies. The households which are located outside the limits of the three incorporated towns will be referred to as "rural."

Several factors operating in conjunction have made the urban areas in Camden County particularly amenable to the development of collective solutions to household trash and garbage disposal. First, as previously mentioned, individualistic solutions are highly visible and, thus, more vulnerable to social pressures of neighbors. Second, the propinquity of urban dwellings and the size of the urban population makes collective solutions for each household unit economically feasible. Third, the higher average income of the urban residents provides a large enough tax

base to pay for the services. In Camden County, 60.8% of the urban residents had an income over \$5,000.00 in 1964 whereas only 28.9% of the rural residents had this high an income. And, fourth, the selectivity of rural-urban migration concentrates the most adaptable elements of the population in the urban areas. As Table 1 clearly shows, the young and the better educated are now concentrated, and probably were even more concentrated in the past, in the towns in Camden County. The early migrants to the towns, who were most amenable to the establishment of collective solutions, developed strong norms favoring collective solutions which were diffused to the older, less educated, and less affluent later migrants.

In the rural areas, though, individualistic and utilization norms that were functional in the early 1900's continued to be functional for many rural residents in 1964 (Table 3). Dumping household trash and garbage in the woods behind one's house, burning or feeding it to the animals are still favorite means of disposal for many rural

The best predictor of adherence to collective, individualistic or utilization norms is simply which type of solution the individual has been exposed to (Table 2). Those residents who have city collection favor a collective solution; those residents who feed their garbage to animals favor a utilization solution. This is slightly less true for individualistic solutions. A rural-urban control improves the prediction (Table 2). Thus, the distribution of individualistic, utilization, and collective norms cannot be understood without recognition of the existing distribution of trash and garbage disposal services.

To the extent that individualistic solutions to trash and garbage disposal are visible, as in the case of the dumping that occurs along several secondary roads in the county, they are rejected overwhelmingly by both urban and rural residents. Ninety-nine percent of the respondents were in favor of a law to control the dumping of trash along roads. As the population density increases in rural Camden County, those individualistic solutions that were still acceptable in 1964, such as dumping on vacant land, increasingly impinge on the lives of others and, consequently, become less acceptable. By this time the tax base will probably be sufficient to finance at a low cost per unit a collective solution such as a county-wide trash and garbage pickup. Also, many of the older rural residents who made use of and most strongly supported individualistic solutions in 1964 will have died.

Sewage Disposal

In 1964, sewage disposal was handled on an individual basis throughout Camden County with the exception of Kingsland which started a sewer system in 1961. Only 41 percent of the households within the city limits of Kingsland are connected to the city sewer system. In St. Marys and Woodbine almost all individual dwellings used their own septic tanks. Septic tanks were used by a majority of the county households which have plumbing facilities. Virtually all (99.6 percent) of the respondents would like their household to be connected to a septic tank or sewer if they could afford it. The respondents expressed little opposition and considerable enthusiasm for having a law which would require that every home in the County be connected to a public sewer or septic tank. Location of residence and race, not income

or educational level, were the most important determinants or the distribution of sewage facilities and attitude toward making a septic tank or connection to a public sewer mandatory for every household (Table 4 and 5). The main factor is that as the population density rises individualistic solutions to sewage disposal problems become unworkable, and even septic tanks become unacceptable. As in the case of household trash and garbage, the density of urban settlement and the affluence of urban residents make a collective solution economically feasible.

Septic tanks provide an efficient means of sewage disposal provided the absorption rate of the soil is high. This condition is met in Camden County except in the northwest portion where the soil has a clay texture. The remainder of the county has a sandy loam soil, which readily absorbs moisture. However, the water table is near the ground level, and during heavy rains the sandy soil soon reaches the saturation point. In the rural areas, individualistic solutions, which are the only ones available, are practical even when the soil is saturated because the septic tanks or other means of sewage disposals are widely spaced. In St. Marys, though, some city lots are too small to provide adequate absorption, especially where houses are crowded close together in the older sections of town. High water in St. Marys has caused septic tanks to back up and overflow. Consequently, complaints have been registered about the condition, and many newcomers in St. Marys are in favor of installing a city sewer system. A collective solution like a city sewer system becomes normative once it is installed, and these norms become strong enough to overcome economic intractability. Even though the sewer system in Kingsland has required constant and expensive repairs since it was installed. Considerable pressure has been exerted by the townspeople on the city to keep the existing system in operating order. Although the system has operated at a profit, the huge cost of maintenance and payment of the public debt has precluded any plans for expanding the system to those areas not presently serviced. The large initial investment has prevented the urban areas from moving as far toward a collective solution for sewage disposal as they have for trash and garbage disposal.

Air Pollution

At the time of the study there were no regulations controlling air pollution in Camden County. There are three factors which can be readily identified as contributing to air pollution in Camden County. The first is the prevalent practice throughout the county of burning of trash, undergrowth in forests, and timber wastes, especially in the rural areas where no refuse collection service is provided. There are no city or county ordinances which prohibit the burning of trash although few city households do so as long as regular pickups are made. Extension of the trash and garbage pickup service outside the city limits would probably eliminate most of this source of pollution. The second source of pollution is the burning of refuse at the Kingsland city dump four or five days a week. A land-fill type dump would eliminate this source of air pollution at a slightly higher cost. The third and major source of air pollution is the Gilman Paper Mill located within the city limits of St. Marys. Significant damage to structures and property occurs in the immediate vicinity of the mill due to particle fall-out. During the fall and winter months when

northeastern winds are common, smoke and smog from the mill inundates the business district of St. Marys. In summer and spring when winds tend to blow from the east, southeast or south, the residential areas along the only approach by highway into St. Marys, Georgia Highway 40, are likely to be engulfed in smoke.

At the time of the survey (1964), few of the respondents were concerned about the air pollution that results from the burning of trash, because the limited air pollution in the county directly affected few of the residents. Only 2.7% (N=482) of the respondents mentioned air pollution as a reason for controlling the burning of trash. Most of the respondents (56.6%) felt that the only reason for such a law is to minimize the fire hazard that the burning of trash creates. The survey data included questions relevant to two of these three sources of air pollution, individual burning of trash and the burning of refuse at the city dump. The respondents were asked if they approved or disapproved of a law to control the burning of trash in the county. Whether the respondent was in favor of an individual or collective solution to trash disposal problems was the best predictor of his attitude toward legal controls on trash burning (Table 6). A favorable attitude toward a collective solution to one type of solid waste disposal problem apparently predisposes the respondent to favor collective solution to other solid waste problems. This substantiates our contention that the inclination to support collective solutions to solid waste disposal problems is crystallized in the urban context and becomes a positive attitude toward collective solutions in general.

CONCLUSION

Shifts in population density, in addition to changes in the composition of household trash and garbage, were the primary causes of the change from almost complete functionalism and no waste to much wastes and collective solutions. Cleanliness, which was an important norm around 1900, continued to be important in 1964. All individualistic solutions involved getting the wastes out of sight, and due to increased density in the rural area, "dumping along secondary roads" was rejected because it failed to do this. The increased population in rural and urban areas made this solution too visible. In the urban context all individualistic solutions were too visible, and collective solutions emerged.

The movement from the bush, creek or privy method of human waste disposal to the septic or sewer method can be seen in a similar way. Human excrement was and is regarded as very unclean. Thus, whether elimination was accomplished down by the creek or in the privy, the resultant concealment effectively kept wastes out of sight. In 1964 sewage disposal methods were distributed according to population density. In the urban area there was uniformly more agreement that a septic or sewer ought to be mandatory. Additionally, there was considerable pressure in the urban area to develop a collective solution.

Whereas collective solutions to the disposal of human and household wastes had developed in urban Camden County, there seemed little prospect of a collective solution to the problem of air pollution. However, a favorable attitude toward collective solutions to one type of solid waste disposal problem, trash disposal, was found to be related to a favorable attitude toward a collective solution to another result of solid waste

disposal, air pollution. This relationship was taken as indicative of the crystallization, in the urban areas, of a positive attitude toward collective solutions to pollution problems.

Thus, we would hypothesize that given a norm of cleanliness:

1. Those waste disposal practices that are most visible will be more objectionable.
2. The more objectionable the waste disposal solution the more likely it is to be replaced by a less objectionable solution.

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TABLE 1. CHARACTERISTICS OF RESPONDENTS BY AGE, EDUCATION, AND RESIDENTS

Age	Residence	
	Urban	Rural
	..... percent.....	
Under 35	34.8	19.9
35-54	43.3	35.9
Over 54	19.9	44.2
N	(296)	(206)

Education	Residence	
	Urban	Rural
	.....percent.....	
0-8	32.4	66.1
9-11	22.4	16.4
HS-Tech	29.2	12.7
College	16.0	4.8
N	(281)	(189)

TABLE 2. PRESENT PATTERN OF TRASH AND GARBAGE DISPOSAL BY PREFERRED PATTERN

Present Pattern		Preferred Pattern			N
		Collective	Individual	Utilize	
		.....percent.....			
Collective	trash	93.4	6.6	0	259
	garbage	96.8	3.2	0	248
Individual	trash	22.6	77.4	0	155
	garbage	48.1	51.9	0	27
Utilize	trash	0	0	0	0
	garbage	0	19.7	80.3	142

TABLE 3. PATTERN OF DISPOSAL OF SOLID WASTES BY RESIDENCE AND PREFERRED PATTERN (PERCENTAGES)

Pattern	Residence	Preferred Pattern						N
		COLLECTIVE		INDIVIDUAL		UTILIZE		
		Urban	Rural	Urban	Rural	Urban	Rural	
Collective	Urban Trash	96.3		3.7		0		(214)
	Urban Garbage	96.7		3.2		0		(214)
	Rural Trash		69.2		30.8		0	(13)
	Rural Garbage		87.5		12.5		0	(8)
Individual	Urban Trash	28.0		72.0		0		(25)
	Urban Garbage	42.9		57.1		0		(7)
	Rural Trash		7.0		93.0		0	(173)
	Rural Garbage		17.1		70.7		12.2	(41)
Utilize	Urban Trash	0		0		0		(0)
	Urban Garbage	11.1		33.3		55.6		(9)
	Rural Trash		0		0		0	(0)
	Rural Garbage		0.9		18.6		80.5	(113)

TABLE 4. DISTRIBUTION OF SEWAGE DISPOSAL SERVICES BY RESIDENCE AND RACE (PERCENTAGES)

Residence	White			Nonwhite		
	Connected to a Septic Tank or Sewer					
	Yes	No	N	Yes	No	N
Urban	98.6	1.4	(218)	64.0	36.0	(75)
Rural	88.8	11.2	(98)	15.6	84.4	(96)

TABLE 5. APPROVAL OF MANDATORY SEPTIC TANK OR SEWER CONNECTION BY RESIDENCE, EDUCATION AND INCOME (PERCENTAGES)

	Residence					
	Urban			Rural		
	Connection to a Septic Tank or Sewer Should be Required by Law					
Education	Yes	No	N	Yes	No	N
0-> 11 yrs.	95.8	4.2	(143)	79.4	20.6	(136)
11 yrs. plus	95.8	4.2	(119)	71.0	29.0	(31)
Income	Yes	No	N	Yes	No	N
Under \$5,000	95.5	4.5	(89)	78.4	21.6	(102)
Over \$5,000	95.8	4.2	(166)	77.8	22.2	(45)

TABLE 6. RELATIONSHIP BETWEEN PREFERRED TRASH PATTERN AND ATTITUDE TOWARD A LAW TO PROHIBIT THE BURNING OF TRASH (PERCENTAGES)

Preferred Trash Pattern	Would Approve of a Law Prohibiting the Burning of Trash		
	Yes	No	N
Collective	73.4	26.6	(244)
Individual	53.8	46.2	(238)

Design and Implementation of an Action Experiment in
Forest Fire Prevention*

H. Max Miller

The University of Georgia

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DESIGN AND IMPLEMENTATION OF AN ACTION EXPERIMENT IN FOREST FIRE PREVENTION

H. Max Miller

One of the problems involved in research concerning the environment lies in the tendency of social scientists to assess social, psychological or demographic variables as they relate to the problem without ever attempting, through experimentation, to determine the causative relationship between these variables and the problem itself.

After survey research carried out to determine the social and psychological variables involved in the environmental problems is completed, there remains the need to test experimentally the conclusions based on survey data. In other words, survey research provides hypotheses concerning the social variables which produce problems like forest fires. Until these variables are manipulated in an experimental situation, however, the conclusions based on survey data must remain as a hypothesis no matter how significantly they are related.

This research attempts to capitalize on hypotheses derived by survey data by designing and executing an experiment through which the hypotheses can be tested experimentally. A research process is described which extends from the survey research necessary to formulating hypotheses through an action program design method and into an action research evaluation phase. It is believed that this process which combines survey research with social action and evaluation is the process through which sociologists must ultimately test their understanding of society.

The study described herein concerns a problem in forest fire, the contention just presented. This study and its design affords an opportunity to illustrate the combination of survey research with action research.

The persistence of man-caused forest fire is damaging to both forest productivity and utilization and involves profound social and economic costs. Although research based information on fire prevention has been disseminated and a variety of programs and activities aimed at prevention of incendiary fires have been instituted, many local areas and regions are still faced with unacceptably high rates of forest fire occurrence.

Generally, much early research on the problem of incendiarism arrived at the conclusion that man-caused fires were highly related to socio-cultural factors expressed as attitudes and beliefs in relation to the forest. (White, 1936; Shea, 1939; Jones, Taylor and Bertrand). Consequently, research strategies in forest fire prevention have favored the assessment of attitudes, values and beliefs, traits and communication patterns of forest publics, or, in

some instances, economic analyses of forest enterprise systems.

Thus, research into social factors in forest fire has long been of interest to foresters and social scientists and this research follows in the tradition of studies concerned with the problem of incendiarism. While research involving various aspects of incendiarism has been primarily definitive and suggestive in nature, it is felt that additional research is needed in order to determine the applicability and relative advantages of different combinations of fire suppression and prevention programs.

Statement of the Problem

The Georgia Forestry Commission has reported a longstanding problem of major proportions with man-caused fires in Long, Liberty and McIntosh Counties. On the basis of a detailed analysis of the Forestry Commission's fire reports, a preliminary field survey and a review of existing literature, it appears that a number of factors are operative and relate to the fire occurrence problem in the three county area. The following are factors that were determined as having the greatest import and salience in relation to the fire occurrence problem in the three county area.

1. Hunting and Game Interests. As an area that is supportive of a wide variety of wildlife and game and in a culture that emphasizes hunting, a large element of the fire problem centers around utilization of the forest for hunting and game purposes (especially deer). Fire is used as a means of clearing the forest of visual obstructions (underbrush) to game and as a means of rectifying conflicts of interest with individuals or corporations over hunting rights or land use policies regarding hunting or game management.
2. The Collection of "Deer Tongue" or "Dog Tongue." "Deer Tongue," and indigenous herbaceous plant used in the manufacture of tobacco and perfume products, is collected and cured by residents of the three county area. Fire is used in this instance for the purpose of clearing the underbrush and in the belief that this is a means of decreasing reptile or insect populations.
3. Spite Burning. "Spite" burning or the implied and diffuse threat that an individual could possibly "experience" a fire appears as both a manner of rectifying issues or of forcing desired outcomes of issues.
4. Snake and Pest Control. This is a factor that appears highly related to the fire problem throughout the three county area and involves the preoccupation with and fear of snakes and rodents (or other pests) that inhabit forests or marshy grassland areas. Burning such areas (usually adjacent to dwellings) is culturally prescribed as a remedy and is felt to be expedient for the safety of household members.

5. Lack of Knowledge and Carelessness in the Management of Fire. The failure to follow prescribed methods or the lack of knowledge relating to how, when and where or under what conditions to burn small plots such as yards or gardens is often a factor in wildfire occurrence.
6. Image of the Forest Commission. In general, the image of the Forest Commission and its personnel is that of a fire control unit. Very little cognizance or recognition of other functions and roles of the Forest Commission is given by a large number of area residents. In addition, the Forestry Commission is perceived as being so efficient in suppressing fire that people believe there is little real danger of a "truly catastrophic" fire.

In view of the findings of the preliminary survey and the implications thereof, it becomes obvious that forest fire in the three county area is not a single but a multiple factor phenomenon. If fires are to be prevented and the incidence of man-caused fires reduced, efforts at prevention should be directed to many variables rather than a single variable. Obviously, what might work in one instance may be neither applicable nor functional in another.

At this point it should be emphasized that this is what peoples opinions and sources of data specify as elements of the problem. Yet, we cannot really know until one or the other of these variables or factors are manipulated and the effects of the variables are assessed. This manipulation requires cooperation between the researchers and an action team as well as the consent of the population of people involved in the problem. This, generally, requires the building of a cooperative relationship of a longstanding nature involving a rapport between the researcher, the action agents and the citizens of the area where the environmental problem exists (in this case; forest fire).

Objectives

The major objective of this study is to design and implement a broadly based action program directed toward the prevention and reduction in man-caused forest fires in Long, Liberty and McIntosh Counties. The program would be based upon an assessment of multiple factors or causes involved and would be applied in such a manner as to provide a scientific experiment as well as an action program. A secondary objective would be to design and test a fire prevention program that could be applied in other counties or areas faced with similar man-caused fire problems. The results of this study would be based upon an evaluation of varying elements of the program.

The action program to be implemented in the three county area was conceived as including elements that would relate to the multiple of factors associated with forest fire occurrence in these counties.

In an attempt to obtain a fuller conceptualization of the problem and as a method of dealing more directly with the principal parties involved, a planning conference was proposed. On the basis of

existing literature concerning program planning and community involvement and in reference to the specific nature of the problem and research objectives, it was decided that the conference approach to planning would constitute the most appropriate method of approach to this particular phase of the research. (Green and Mayo, 1953; Sower, Holland, Tiedke and Freeman; Watson and Westley, 1958; Miller, 1958). A number of possible elements of the action program could be conceptualized as those related to the varying dimensions of the problem. Possibly these action programs could have been applied through agencies in the area or through other existing methodological procedures. However, the objective was to structure and impart a more precise conceptualization of the nature of the problem and to define and plan action elements through the participation and involvement of the principal parties. The purpose of the conference was then to plan a fire prevention program around the elements of the action program so that the varying methods of implementing the program was worked out, to define responsibilities for parts of the program, to determine a time table for carrying it out and to assure the resources necessary to its successful completion.

It was proposed that the planning conference would be held at the Georgia Center for Continuing Education or some other suitable location and that representatives of various agencies concerned with the fire problem in the three county area would be present. The various groups to be represented were:

- a. Representatives of large land owners, particularly pulp and paper companies.
- b. Representatives of Georgia Forestry Commission.
- c. Representatives of U. S. Forest Service (both research and S. & P. F.)
- d. Representatives of the Georgia School of Forestry.
- e. Representatives of the University of Georgia, Department of Sociology and Anthropology.

Planning the Action Program

The Program of the Planning Conference was designed to include a perspective on social science orientations to a forest centered social system. In this manner conference participants could be made aware of the fact that human values and decisions are a major factor in any program but that regardless of one's orientation or particular concern he cannot isolate nor understand all factors in the environment. The central idea to be imparted was that the social scientist should aid in giving proper perspective of man and his function in the developing eco-systems.

Following this broad perspective, the program was designed to focus on research of a sociological nature concerning forest fire. In this manner and through the presentation of this body of material the general perspective could be narrowed to focus more directly upon

the specific problem. Following the general presentation of research findings and implications, a presentation of the research findings of the preliminary survey was deemed desirable since this presentation would focus upon the specific problem of forest fire occurrence in the three county area and the sociological factors associated with forest fire occurrence. The proceedings were planned with an allowance of maximum time for discussion and audience participation. The general notion underlying the plan of the conference was to begin on the first day with a broad perspective and then to narrow the focus to the specific problem and to examine the ramifications for action in reference to the problem. During the first day of the conference, the approach proved to be effective in that there was an unusual amount of audience participation, discussion and involvement concerning the nature of the problem and the possible ramifications and alternatives for action.

As a method of maintaining the continuity of the group and structuring an atmosphere of ease and congeniality among the conference participants, a meal and a "pickin' and singing" session was planned at a local lodge-type accommodation. Since a number of both the staff of the conference and the conferees were adept at or interested in this form of entertainment, it was shared by most individuals.

The second day of the conference was planned around the development of the action program elements. This period of time was planned for the presentation of the resource personnel who were participating in the conference. These presentations by the varying specialists were centered around the possible program elements based on the preliminary study findings. Generally, these presentations were characterized by profuse group involvement and tended to generate much discussion and thought. The last session of the second day of the conference was devoted to an evaluation and summary of the action program elements.

During the course of the conference and on the basis of group discussion and participation, it became obvious that all individuals representing groups or agencies were not equally interested in all or the same exact program elements or did not have the proper authority to make a commitment to action in relation to these. To insure the continued interest in the problem and to maintain the momentum gained, the program elements were descriptively defined and designated as task force elements. Through this method the specifications of programs that were most relevant could be accomplished and the objectives, composition and method of operation could be specified. Altogether four task force areas were designated. These are:

TASK FORCE I

Design program for use by large landowners to control factors associated with hunting as a factor in forest management--including fires.

TASK FORCE II

Design a program for changing the use of fire by small landowners, principally in the small rural communities comprised of Negroes.

TASK FORCE III

Explore the possibilities of predicting the high (sociologically defined) risk areas for spite burning and other types of man-caused fires, and to determine whether controlled burning can be used economically to prevent uncontrolled fires in those areas.

TASK FORCE IV

Design curriculum materials for use in public schools to educate children with respect to forestry, including fires and their effects on them.

The planning conference was terminated with an agreement on the part of all conferees to attend a second planning conference to be arranged at a location in the three county area within a period of one month. During the interim period of time the conferees were to decide upon or obtain authority for a specific commitment to the Task Force Area (or Areas) that were most applicable to their needs or of most concern to their interests.

On the basis of descriptive data obtained, content analysis of taped procedures of the conference and the results of a post-evaluation procedure, it was inferred that the objectives of the Planning Conference were achieved. Further verification of this assumption was offered by the spontaneous suggestion from the conferees stating the desire and willingness to participate in a follow-up conference which would be held within a period of one month at some facility located in the three county area. In the evaluation and summary session at the end of the conference the task force areas had been presented and it was anticipated that commitments by the individual conferees would be obtained at that time. However, most conferees felt that more time and study of the task force areas was prescribed. Also, many conferees needed confirmation of authority from the agencies which they represented. The follow-up conference was held on July 7 and 8, 1970, at Midway, Georgia (Liberty County).

As was mentioned in the preceding section, the analysis of the taped sessions and the results of the evaluation procedure were utilized in planning the agenda and program of the follow-up conference.

Twenty-seven individuals representing large landowners, pulp and paper companies and the Georgia Forestry Commission were in attendance at the follow-up conference held at Midway, Georgia. This group was composed of all but two of the conferees who attended the first conference plus additional representatives of the various agencies or groups. Further discussion of the task force areas was undertaken at this conference with more elaborate and precise specifications being made for the implementation of the task forces.

After a somewhat detailed discussion of each task force and a review of the methods for implementing these, a suggestion to the effect that individual representatives would prefer a commitment to a particular task force or forces was made by several conferees.

Phase I of the research effort consisted of an analysis of the Georgia Forestry Commission's fire reports, a survey of relevant literature and a field survey designed to determine the factors that appeared most salient in relation to the local fire problem. On the basis of the exploratory research a fire prevention conference was held and a broad outline of an action program to deal with the various causes was formulated.

The overall objective of the second phase of the action research effort--"is to design and initiate fire prevention action." Four specific elements or tasks were formulated by conference participants as being most salient in attacking the man caused fire problem in the three county target area. These tasks were developed as long term tasks taking several years to implement. Although a total of four tasks elements was laid out, only one task element was chosen to be designed and initiated during Phase II of the research program. The task element that was chosen was Task Force II which is the design of a program for changing the use of fire by small landowners principally in small rural communities comprised of Negroes. This element was chosen on the basis of immediacy of need and relevance to the existing fire problem. The remaining elements have been defined and outlined and will be implemented in succeeding years if the other action elements prove successful. Also, the remaining elements are contingently related and rather highly dependent upon the task element that was chosen for implementation during Phase II of the research.

Contacts with major landowners, representatives of major pulp and paper companies and the staff of local units of the Georgia Forestry Commission were maintained during the summer and fall of 1970. During the winter of 1971 a leadership study was conducted among rural communities in Liberty County which are comprised principally of Negroes. This study related to the design of a program for changing the use of fire by small landowners and was carried out for the purpose of determining the leadership structure and identifying functional leaders in these communities.

The objective of this phase of the research is to design, implement and evaluate the action program to deal with the use of fire by small landowners in small rural communities comprised of blacks in Liberty County. The action program will constitute the independent variable(s) in an action experiment. This action experiment will allow us to test certain hypotheses concerning the cause of the fire problem in these communities by permitting us to manipulate some of the variables that appear to be associated with the problem.

On the basis of the information obtained in the leadership study and preliminary research in the area and our examination of the literature we are led to believe that the following factors form

the basis of the problem.

1. Fire is used as a management device by small landowners to control undergrowth, insects, pests, and snakes.
2. Given the ecology of the area, this practice seems both rational and firmly established in the local culture. It seems unlikely, therefore, that the practice can be done away with.
3. We, therefore, assume that the problem amounts to one of assisting people in the use of fire and in teaching them how to employ it.
4. Research leads us to believe that the following factors contribute to the misuse of fire for the culturally prescribed purpose:
 - a. A lack of knowledge concerning proper practices to be used in employing fire to clear small acreages.
 - b. A misunderstanding of the Forest Commission's policies and attitudes on the part of small landowners.
 - c. A misunderstanding of the attitudes of local landowners on the part of the Forestry Commission.
 - d. A communication gap between the Black community and the Forestry Commission, which is identified with the white community, and a resulting lack of organized communication.

The major hypothesis of this research phase is: If small landowners are educated in the use of fire and organized communication is established through which the attitudes and norms of the Forestry Commission and local residents could be exchanged and understood, then the number of man-caused fires will be reduced.

To test this hypothesis a number of specific elements are in the process of being implemented. The relevant population consists of all Black residents of rural communities, neighborhoods and locality groupings located between Hinesville and the Georgia Coast in Liberty County. This area was operationally defined as a high risk incendiary area on the basis of existing rates of incendiary fire. These communities evidenced homogeneous ecological and demographic characteristics. The action program will be implemented in those communities and neighborhoods (experimental group) that are located in a triangular area between U. S. Highway 17 and Hinesville, Georgia. Specifically this geographical area includes the McIntosh,

Dorchester Academy and "Triangle" areas along with other contiguous neighboring units. All Blacks residing within these specified boundaries will be included in the sample population for this phase of the study and will constitute the experimental group.

The control group consists of communities and neighboring areas located between U. S. Highway 17 and the Georgia Coast and bounded on Highway 17 north by the hamlet of Midway, Georgia and on the south by the town limits of Riceboro, Georgia. This area will not be subjected to the action program implemented in the experimental area; and therefore any measurable decreases in incendiary fire occurrence can be attributed to general factors and not to participation in the action program. The sample in these two areas will be as comparable as possible.

The specific program elements that have been implemented in the selected communities are as follows:

1. Participation in fire prevention by Black community leaders.
2. The dissemination of information on the proper use of fire through educational meetings and personal contacts.
3. The diffusion of policy information relative to the Georgia Forestry Commission and the norms of local communities concerning fires through group meetings and personal contacts.

The Georgia Forestry Commission has made available \$1500.00 to employ two Black leaders on a part-time basis as Community Fire Prevention agents. These two leaders were selected on the basis of the leadership survey. They are being paid a monthly salary of \$75.00 for assisting the Forestry Commission with its program. They will conduct meetings, make personal contacts, disseminate information and assist in the gathering of data for the evaluation of the action program. These individuals were contacted during the fall of 1971 and were acquainted with the problems and the objectives of the action research effort. Upon an expression of interest in the program and an agreement to work, these agents along with local representatives of the Georgia Forestry Commission, were brought together for a two day training session in Athens, Georgia. During the training session the general problem along with background elements was discussed. The previous research findings and elaborations involving duties and techniques for carrying out program elements were discussed with the agents. A follow-up conference was held a week later in Liberty County and included the principal investigations along with personnel of the Georgia Forestry Commission and representatives from large corporations with land holdings adjacent or intermixed with Black community residents.

The implementation of the Action program was begun during January, 1972. The fire season in the communities is from mid-winter until early spring, therefore, several months are available for program implementation.

The methods for implementing the action program will involve: (1) personal contacts by Community Fire Prevention Agents sponsored and employed by the Georgia Forestry Commission with area residents; (2) demonstrations relating to burning practices carried out by the staff of the Georgia Forestry Commission and organized by Black community leaders. This element specifically relates to practices for using fire, clearing trash and debris. (3) The diffusion of policy information will be carried out through mass meetings conducted by the research staff, the professional staff of the Georgia Forestry Commission office in Liberty County and the Community Fire Prevention agents. These meetings will be conducted through Black organizations identified and studied earlier this year.

The research staff will be in constant contact with the staff of the Forestry Commission and the Community Fire Prevention Agents. Informal interviews will be taken constantly as a technique of documenting program inputs. Records of meetings and personal contacts will be carefully maintained. Along the personal contact dimension this program will be similar to the one used in Louisiana under the title of the "Contactor Program." This research will add to the results obtained there by including organized community groups and systematic demonstration efforts to the personal contact as a device for reducing fires. It is recognized that we will not be able to separate the effects of the various dimensions of the program on the fire rate.

These inputs, or content of the action program constitute the independent variable for the study.

The primary dependent variable is the fire occurrence rate in the control and experimental areas. This will be documented through the files and individual fire reports kept by the Forestry Commission. It will be supplemented by case studies of fires made by Community Fire Prevention Agents.

Other dependent variables will consist of the following attitudinal measures:

1. A scale for measuring fire use practices. This scale will contain questions related to fire lanes, weather conditions, etc. and will be used to determine what sample respondents know about using fire before and after the action program.
2. A scale measuring how respondents perceive the Forestry Commission's attitude toward fire; what they think the Forestry Commission rules, or the law is; what they think foresters' attitudes are toward fire before and after the action program.
3. A scale on attitudes towards large landowners relating to property rights before and after the action program.

In order to assist in separating various program inputs these supplementary dependent variables will be employed and from them we will be able to learn whether as a result of the program:

1. Knowledge of practices has changed

2. Knowledge of Forestry Commission policies and attitudes have changed
3. Attitudes towards fire and towards land ownership have changed.

We recognize that one conceivable result of the action program would be for no change or possibly even an increase in fire rates to take place and that at the same time changes could occur in the three items listed above or in any one or combination of the three items. This additional information will assist in evaluating the success of the various program elements and will assure us against the possible failure of the program.

The hypothesis will be tested using the data from the sample of the experimental and control areas. The experimental and control areas will be compared to determine if the experimental areas evidence a significantly lower incidence of incendiary fire over a given period of time than the area which did not experience the prevention program. After preliminary analysis have been made, a Chi-square test will be run to determine if the experimental areas differ significantly in the incidence of forest fire. They will also be compared on the attitudinal and knowledge scales listed above.

Implications and Conclusions

In essence, the research effort amounts to conducting an experiment through the medium of an action program. In the phases of the research described in this paper, we have illustrated the design and implementation of an action program in forest fire prevention. The final phase will be the action experiment phase where variables are manipulated through the action program, effects are evaluated and conclusions are drawn.

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PART IV

SOCIAL AND ECONOMIC INDICATORS OF RURAL DEVELOPMENT

Presented here you will find two differing approaches towards the identification of social and economic indicators of rural development. While the Economists have been developing their economic indicators for three or more decades, it is only within the last few years that an attempt has been made to develop and refine social indicators of development.

The dialogue between Sociologists and Economists relating to indicators of change is one of long standing. These two papers perhaps present the best indication of the level of development of these "indicators" at the present time as viewed by Agricultural Economists and Rural Sociologists.

SOCIAL AND ECONOMIC INDICATORS OF RURAL
DEVELOPMENT FROM A SOCIOLOGICAL VIEWPOINT:
A SUGGESTED EMPIRICAL APPROACH*

by

Leslie D. Wilcox, Ralph M. Brooks, Gerald E. Klomlan and George M. Beal
Department of Sociology and Anthropology, Iowa State University, Ames, Iowa

ABSTRACT

This paper suggests an empirical approach to the development of a system of social indicators, conceived as one alternative that may offer greater promise than the current discussions and research that focus initially on macro-models for urban or national systems. As an alternative, this paper suggests research developed around a more inductive approach to social indicator research with three methodological phases representing increasing levels of methodological sophistication. The first step attempts, initially, to conceptualize social indicators that reflect the human meaning of societal change and development by examination of the life experience of people at the nonmetropolitan community level. Second, attempts will be made to work inductively toward the macro-level, by combining these empirical indicators into more abstract indicators that provide multidimensional profiles of individuals and subgroups providing generalized, but highly disaggregated, measures of quality of life and community viability at the community and individual level. Third, attempts will be made to develop relational models of community systems and to draw causal inferences by the use of controlled indicators designed to measure the social effects of major demographic changes as one strategic force in societal change.

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INTRODUCTION

One can tell when relatively new areas emerge in a discipline by the increased activity at professional meetings, in the number of journal publications and financial support by various agencies for future research. Certainly, the recent emphasis on social indicators and their potential uses for policy planning and decision-making would constitute such a new area of emphasis in sociology. Oftentimes, with new fields of interest, there is the danger of devoting too much effort on general aspects of the problem, negating specific approaches to a systematic study. In a most caustic criticism of the social indicator movement, Sheldon and Freeman (1970: 109) point out areas of concern if the movement is to remain viable:

Far too many promises and claims have been made for social indicators, and not enough delivered. The risks are too great that a continual over sell could indeed transform the indicator movement into a passing fad, and this probably is undesirable. Social indicators cannot do many of the things claimed for them. But from the standpoint of social policy and social action as well as from that of social science development, there is critical need for providing a continuing body of data on the state of affairs of the nation and its constituent parts. This step is essential before any promise for utilization of policy and action purposes can be fulfilled. Rather than invent new claims for social indicators or keep on pushing forward the impossible ones advanced, what needs to be done is to look realistically at the great amount of work that needs to be accomplished.

Part of the work that needs to be done is to suggest possible next steps for social indicator research. Duncan (1969a) makes such an attempt by proposing replication studies as a viable alternative. Some have criticized this approach, however, on the basis of inadequate previous studies that could be replicated validly. The purpose of this paper, therefore, is to suggest, not a replication study, but an alternative empirical approach for future social indicator research.

There are three high-priority, researchable societal problems that provide the focus and objectives of this paper. These three areas of societal concern may be referred to generally as: 1) the general recognition of the need for greater conceptual clarity and broader definitions of the aims, purposes and goals of societal, community and human resource development; 2) the need for the development of more adequate measurement techniques that make possible the monitoring of strategic aspects (social indicators) of planned and unplanned societal and community change; and 3) the need for conceptualization and monitoring of the social effects of major population shifts, as one strategic factor in societal change, in terms of their impact on community viability and quality of life in both rural and urban situations. It is the third problem area that provides

the empirical reference and parameters of this paper. The problem and objectives of this paper can best be outlined by examining each of these societal concerns and their interrelationships.

Objective 1: DEVELOPMENT

The years since World War II have brought about a growing concern at all levels of government and other activity with the general notion of human progress and societal change. Central to this recent interest has been an increasingly positive attitude developing toward the desirability and need of planned development at all levels of society. There are, for instance, an expanding number of programs appearing at federal, state and local levels that specify the importance of human resource development, community development and the more general social and economic development. There is, however, no general agreement on specifically what constitutes human resource or community development. Conceptualizations of development and specific program objectives usually are stated in broad, general, abstract and often intangible, inconsistent terms; e.g., optimizing natural and human resources, maximizing individual satisfaction, improving man's adaptation to his environment, etc. When these goals are conceptualized in terms of more concrete goals and objectives, more often than not, they are formulated around objectives that are primarily economic; e.g., per-capita real income, employment, decreased imbalances, GNP, etc. This same bias toward economic factors is evident when we look at the availability of data by which we might assess the trends in our national life. The most highly developed data are those that monitor the nation's economic status. This data describes in detail the glaring contrasts of affluence and poverty that exist in our society, but offer little in assessing quality of life and its changing patterns through time.

The social indicator movement that has been developing over the past few years among government officials, as well as among social scientists, is expressive of the growing recognition of the need to broaden the definition of development to include the conceptualization and measurement of indicators designed to monitor social and cultural conditions of life--going far beyond the limited range of concerns monitored by economic indicators in appraising how people live and how they feel about their way of life. The social indicators sought, however, are not conceived as substitutes for economic indicators, but rather, as complementary indicators and as measures that provide a wider knowledge of quality of life and human satisfaction, which can be used in conjunction with economic indicators in planning for a better society.

The earlier discussions and resulting publications produced by the social indicator movement over the past few years have made their contributions. But there still seems much work that needs to be done in attempting to conceptualize at a general and then more empirical level the variables that have potential for measurement that reflect the range of

possible "social indicators" specifying measurable concepts inherent in human resource development, community development and social and economic development. Therefore, the first major objective of this paper focuses upon these social aspects of societal change and development. It will constitute an attempt to conceptualize social indicators of quality of life that may provide a more adequate base for formulating and monitoring the goals, aims and purposes of development planning in the broader sense of human satisfaction and fulfillment.

Objective 2: MEASUREMENT OF SOCIAL INDICATORS

Assuming existing concepts of development and new concepts that could be developed, the second problem is that of measurement: How does one develop reliable and valid measures and collect data to determine the degree to which phenomena are occurring that would be accepted as a valid measure of the elements implicit in the general concepts of development. In the discussion below, we will outline several key problems related to measurement of indicators, upon which we will form the methodological basis of our suggested alternative for future research. But first, a brief discussion of more general developments within the social indicator movement may provide a better basis for the discussion of methodological needs.

Although the notion of indicators to monitor changes in society has been present for many years, the recent emphasis on social indicators suggests possibilities for providing assessments of societal performance, suggesting future societal alternatives and aiding descriptive reporting on the state of society. Several writers (Bauer, 1966; Cohen, 1968; Gross, 1969; Moss, 1969; Olson, 1969; Duncan, 1969a, 1969b; Dueker, 1970) in the past few years have addressed themselves to the notion of a social indicator movement. These "state of the art" summaries introduce social indicators and discuss the growth and events leading to this new area of concern. Others (Sheldon and Freeman, 1970; Kamrany, 1968; Land, 1970) include in their discussions the advantages and disadvantages of social indicators as tools in monitoring quality of life. Until 1969, most of those writing in this area were suggesting that a possible annual social report be presented each, similar to the annual economic report of the President. The movement received a major thrust with the publication of Toward a Social Report through the U.S. Department of Health, Education, and Welfare (1969). As a result of this monograph, it seems that the federal government, not only is pledging support for the development of social indicators, but is, in fact, suggesting how they might be useful in providing data for future decision-making. Further indication of government interest in providing a "Social Statistics Publication" is suggested by Tunstall (1970). Both of these suggest federal acceptance and support for the development of social indicators to monitor quality of life. There also is evidence that private agencies must be involved in this activity.

In 1969, a joint committee appointed by the National Academy of Science and the Social Science Research Council, in the monograph, The Behavioral and Social Sciences, Outlook and Needs, (1969: 6) made the following recommendation.

RECOMMENDATION: SOCIAL INDICATORS

The committee recommends that substantial support, both financial and intellectual, be given to efforts under way to develop a system of social indicators and that legislation to encourage and assist this development be enacted by Congress.

However, this committee inserted a strong qualification (1969: 7), as follows:

Because of the particular problems involved in developing sound, workable social indicators, we are hesitant to urge an official social report now. We favor, instead, a privately sponsored report during the next few years, perhaps through the initiative of either the National Research Council or the Social Science Research Council, or through a joint effort of the two.

This qualification is followed by a more specific, short-run recommendation:

RECOMMENDATION: A PRIVATELY DEVELOPED ANNUAL SOCIAL REPORT
The committee recommends that behavioral and social scientists outside the government begin to prepare the equivalent of an "Annual Social Report to the Nation," to identify and expedite work toward the solution of problems connected with the eventual preparation of such a report on an official basis. Support for this endeavor should come from private foundations as well as from federal sources.

During the last 3 years, much of the writing has focused on need for conceptualization, operationalization and measurement of social indicators. Yet, a review of the current literature (Perle, 1970) suggests we are still in the initial stages with gross, abstract, macro-models directed at the entire nation. Further, it is suggested by Galmoor (1971: 7) that we currently lack a theoretical basis for social indicators.

The problem is that we do not have such a [macro] model--let alone a systems theory--to handle the task of societal mapping. (Bracketed insert ours.)

Duncan (1969b: 111) indicated a similar problem in an earlier publication:

Our problem is at least as much that we do not know just what we ought to be measuring (and, therefore, how we ought

to go about measuring) as that we are failing to accumulate the kinds of information we do know how to collect.

Hence, after several years of writing, there still is a lack of consensus as to "what social indicators are, what they should be or how they are to be utilized" (Perle, 1970: 136). With lack of definitional consensus, it also is difficult to propose models of how a system of social indicators would be interrelated. Land (1971), however, suggests that, although the model proposed by Gross (Bauer, 1966: 154-271) is too abstract to apply to specific situations, we still need to consider social indicators in a system framework. Indeed, one aspect of this definition (Land, 1971: 4-5) of a social indicator requires that it be a component in a social system.

Thus, I propose that the term social indicators comprises those social statistics which possess the following attributes: (1) they are components in a social system (including sociopsychological, economic, demographic, and ecological) model or of some particular segment or process thereof; (2) they can be collected at a sequence of points in time and accumulated into a time-series; and (3) they can be aggregated or disaggregated to levels appropriate to the specifications of the model.

Considering social indicators in a system framework ought to reduce the problems of not being able to interrelate systems of indicators.

A recent review of literature on social indicators (Beal and others, 1971; Wilcox and others, 1971) suggests that much of the past work has sought to develop macro-models of either metropolitan or total society systems. Some suggest that this approach has not been fruitful in the areas of conceptualization and measurement.

Even though these earlier attempts to conceptualize and measure social indicators have not been as fruitful in establishing a social accounting system as most social scientists would like, they have been valuable in pointing to some important problems in developing a useful system of indicators that could render further attempts at this type of research of little value to either policy or sociology. The crucial element in development of a system of useful social indicators obviously will be the methodological sophistication used in their development and measurement. The type of methodological approach that we are proposing is an alternative approach from those that focus on macro-models for urban or national systems and one that we believe may provide greater promise for the successful development of usable indicators. We are proposing a more inductive approach, which, while not ignoring macro-models, will focus on smaller social systems and upon more concrete conceptualizations of quality of life initially and attempt to work inductively toward larger more generalized systems as the methodological techniques and improved data are developed (Wilcox and Brooks, 1971).

The need for improved methodology has been noted by a number of individuals working in this area. Coleman (1969) especially has noted several points of increasing methodological sophistication that need to be made that lend support to a more inductive approach to the problem.

Disaggregation

To be useful in planning for development or in monitoring social change, social indicators must be developed to reflect variations in sub-categories. One of the major objections to economic indicators, as well as to recent attempts to formulate social indicators, has been the highly aggregated nature of the measures. This has led to policy formation on the basis of aggregated demand without sufficient attention to needs and interests of subgroups delineated by factors such as age, race, education, occupation, region, etc. As Coleman (1969: 94) notes in discussing the impact on the American Negro of policy decisions formulated in the basis of aggregated data:

"One might go so far as to say that the failure to disaggregate, to show trends detailed by types of occupations, by population subgroups, and by differing types of individual trajectories, caused policy errors with serious consequences."

Hence, it seems that, whatever approach one takes to the development of indicators, it must provide for disaggregation. To begin this type of development at the aggregated level, as has normally been done in the past, presents serious problems for systematic disaggregation because the indices and measures may not provide the requisite data necessary for assessment of the social state of subgroups and ecological units. We therefore propose to follow an alternative approach, which will allow for a more inductive method of development of indicators of quality of life in macro-systems by focusing research on partly disaggregated population subgroups at the very outset and then recombining these measures into more generalized indicators of larger population units when the requisite techniques are available. At this initial stage of research, we plan to focus our attention upon the nonmetropolitan community level where, by definition, disaggregation is partly accomplished by the population parameters employed in the study. And, where the smaller, less-complex population will lend itself more readily to further disaggregation.

Combined conditions

A second level of increasing methodological sophistication emphasized by Coleman (1969) moves in the opposite direction from disaggregation and lays the basis for inductive model building. This is the need to recombine

data from several indicators to provide a multidimensional profile of individuals and subgroups. Coleman (1969: 96) argues:

"In short, I am suggesting that one must not only 'break the population down' through disaggregation, if social indicators are to be useful, but must also 'reconstruct the individual' through combined measures each of which gives only a fragment of information about his state."

Thus, we propose, not only to focus upon disaggregated population subgroups at this early stage of the development of social indicators, but also upon different levels of abstraction and the relationship between these levels in our efforts to conceptualize indicators of quality of life and community viability. The importance of generalized indicators that provide for a more multidimensional profile of individuals and subgroups is particularly important for both the development of models of change and for policy planning; e.g., policies apply to individuals and groups as wholes, not to their individual attributes. But generalized concepts may be both misleading and unusable unless grounded in empirical reality. Too often, generalized models in the social sciences provide only abstract categories that may sensitize one to social conditions, but in addition, confront the researcher with unlimited and often insurmountable problems when attempts are made to explicate and operationalize these concepts into measurable indicators.

We believe that an alternative approach that offers greater promise in the initial stages of conceptualization of quality of life and community development is one that focuses, first, on the concrete empirical level and then attempts to conceptualize factors inherently a part of the social state of individuals from various socioeconomic positions and population subgroups. For, quite obviously, any adequate measure of quality of life must, at least in part, reflect the perception of quality as seen from the eye of the beholder. In other words, it is only through examination of the experience of life of people that we will understand the human meaning of societal change. Once these basic foundations of empirical measures are developed, it will be possible to work toward a more generalized conceptual model by combining these concrete indicators into more abstract indicators that provide a multidimensional profile of individuals and subgroups. A conceptual model of community, constructed in this way, would provide empirical indicators of state variables capable of further generalization to larger social systems at a later stage of research.

Controlled indicators

A third suggestion (Coleman, 1969) for increasing methodological sophistication, which is basic to this suggested future research, is the need to develop controlled indicators designed to show cause of a given

condition. In his discussion of controlled indicators, Coleman (1969: 96) states:

"The reconstruction described. . . is designed to provide measures that show joint consequences of several variables, and is thus useful as a way of summarizing the conditions in which people find themselves. The very concept of social indicators appears directed to this kind of question, as measures of the 'state of the system.' But if social indicators are going to be useful beyond this, they must lend themselves to analysis, to work that is designed to learn the causes of given conditions. For this purpose one wants controlled indicators, which do not show the whole of a given condition, but only that part of it which can be attributed to a given cause. . . Thus, the point is that if social indicators are to be useful as guides for remedial policy that directs itself to causes of given conditions they must include controlled indicators that show the partial deficits of given subgroups attributable to given causes."

To accomplish this requirement on a large scale obviously would necessitate a highly sophisticated model of change able to show the interrelationship between strategic factors of the change process. A model of this type is not available now and, no doubt, will not be available for some time. At the present stage of development of indicators, however, we believe the inductive approach outlined offers considerable promise for the development of controlled indicators, as well as for the eventual development of causal models of change. To date, most of the attempts to develop a system of indicators have gone no further than elementary attempts to conceptualize indicators of state variables, which at best lend themselves to summary and description of the conditions in which people find themselves, but allow for no further inferences. Few, if any, have attempted to develop models that show the interrelationship between variables, and none that we have been able to find has attempted to relate indicators of quality of life to causal factors. We believe the failure of these studies to go beyond the development of indicators of state variables is, in part, due to the necessary methodological looseness of research that focuses on abstract macro-models before the requisite methodological sophistication and more concrete models have been developed. As an alternative, we believe a more promising approach would be to focus research first upon the social consequences of a narrow range of strategic factors in societal change as they impact the quality of life and viability of individuals and groups affected by the change in these variables. By focusing on one or two major forces in societal change at a time, it may be possible to develop well-tested controlled indicators, which, in turn, should lay the basic groundwork necessary for the construction of causal models of societal change and, within this broader framework, specific aspects of quality of life.

Several strategic factors that are major forces in societal change in the United States have been delineated through previous research, ranging all the way from subjective values to more objective factors such as technology, industrialization, urbanization, etc. In this paper, we are suggesting research that will focus on the social consequences of major demographic changes in terms of their effects on community viability and quality of life in nonmetropolitan areas. Our primary focus will be upon the social consequences of the major population shifts that have accompanied the industrial urban growth in recent years in terms of the impact of these shifts on quality of life and community viability of declining, stable and increasing population centers in nonmetropolitan areas.

Objective 3: MONITORING POPULATION CHANGE

The present research proposal focuses primarily upon the conceptualization and measurement of indicators designed to measure and monitor the social consequences of major population shifts, which have accompanied the urban-industrial growth of the American society, for quality of life and community viability in nonmetropolitan areas. Population change has been selected from among several important factors in societal change as the strategic change variable upon which this suggested research might focus, in part because of the unique interests of the authors of this paper. But another reason is because of the fundamental significance of this problem to future socioeconomic development in the United States. The rural-to-urban population shift, though historically a national strength, has in recent years become a major national problem not being adequately handled by the various concerned sectors of our society. There is substantial evidence now available that there may be serious problems of overpopulation and underpopulation in various areas of the United States. Many experts believe that the population shifts of the last 2 decades have had very detrimental effects on many rural areas, while simultaneously greatly aggravating urban problems.

Social scientists have for some time recognized the social implications of these population shifts. In the past 15 years, however, the problem has become a major focal point of national concern and one of national policy implications. Federal recognition of this problem became evident in the late 1950's when it was singled out as one of the important concerns by the President's Commission on National Goals for the Sixties (1960). Government concern over the distribution of population became more evident throughout the sixties. In 1968, the National Manpower Conference sponsored by the Senate Subcommittee on Government Research focused their attention on the rural-to-urban population shift, defining it as a high-priority national problem. In his message to this conference, President Johnson said:

"The migration of our people--especially the young--into the troubled urban areas is a tide that must be stemmed.

In pressing to solve problems of our cities, we must look toward the rural areas and small towns for both immediate and long-range answers." (National Manpower Conference, 1968: iii)

In stating the objectives of the conference, the conference leaders further emphasized the importance of population shifts for quality of life and national development:

"...It has become increasingly clear that any solutions to the already difficult situation of the cities must be accompanied by new efforts for dealing with poverty, inadequate education, and lack of job opportunity in rural America. Local, State and National government policies, as well as those of labor, business and education must be restructured and reconstituted or the problem will continue unabated.

Large numbers of rural youth, often ill-prepared to compete in urban society, each year leave their homes in search of opportunity in the cities. More often than not frustration and alienation result, along with an additional strain on already overburdened welfare and unemployment rolls. . . There is a pressing need to develop new concepts and new ideas for dealing effectively with the problem. One of the conference objectives is to stimulate research in this area among the various university and private research organizations in the country." (National Manpower Conference, 1968: v)

The trends indicated by this conference have led toward a prevalent sense of gloom for the future of both urban and rural America. This outlook is evident in the report of the Advisory Commission on Intergovernmental Relations (1968), "Urban and Rural America: Policies for Future Growth." The report states:

"The Nation's smaller communities outside of the metropolitan areas will be increasingly bypassed by the economic mainstream and will find it difficult to offer enough jobs for all their residents and those surrounding rural areas. Many rural areas will suffer from a siphoning of the young and able work force with a resultant greater concentration of older and unskilled among those remaining and a continuing decline in the capacity of rural communities to support basic public services."

The recognition of the importance of the problem of population shifts to national development stimulated the formation of the President's Task Force for Rural Development (1970). The report of this committee reaffirmed the basic importance of population shifts to development of both rural and

urban America and emphasized the integral interrelationship between rural and urban conditions for any successful national development. One of the strongest recommendations of this committee to the President was the importance and desirability of establishing a system capable of monitoring rural development.

The National Goals Research Staff (1970) went even further in identifying this problem as a major national problem. Nearly one entire chapter in their report, Toward Balanced Growth: Quantity with Quality, was devoted to a discussion of the problem of population distribution and the impact of population shifts on quality of life in America. On the other hand, this report takes a more optimistic view of the problem and suggests the process now at work can be reversed by more adequate research, planning and implementation (National Goals Research Staff, 1970: 45):

"Research based on recent demographic data and analysis of past public and private policies affecting migration suggests that the trends toward megalopolis in some areas and underpopulation in others are reversible. It also suggests there is an opportunity for a different and more rewarding future for the Nation as a whole, than the discouraging vision of gargantuan megalopolis and rural desolation. But realization of a better future will probably require a coordinated national strategy for balanced population distribution. The Federal Government can provide leadership in developing any such strategy, but public and private institutions across the country will need to participate in both planning and implementation. . . ."

In summarizing this problem, the commission strongly emphasized the importance of further research aimed at assessing the social costs and benefits of programs designed to cope with problems of population shifts and unbalanced distribution (National Goals Research Staff, 1970: 57):

"The Federal Government, working closely with the States and communities, can wield immense influence in bringing about the desired demographic and environmental changes. But the government will need to understand the implications of bringing about the desired changes in terms of commitment of resources (public and private) and difficult tradeoffs that would have to be made with other desired objectives and priorities. There is still much to be learned about what constitutes satisfactory levels and rates of change in population in various parts of the country. Studies are needed to define what would be lost and what would be gained by adding population and what policies might succeed in guiding population growth."

The report of the President's Commissions on Rural Development (1970) and Goals for the Seventies (1970) clearly point out both the high priority need and urgency of developing a system of indicators capable of monitoring the social implications of population shifts. We believe that the methodological approach to social indicators outlined in this paper offers great promise of systematically developing this type of monitoring system. Because research into social indicators is in its initial stages, however, we consider the suggested effort in this paper as exploratory. It would be naive to think that one study of this magnitude could solve all the problems explicit or implicit in the above statements from these 2 commissions. Further, this study does not propose to be normative in its approach; i.e., it will not make value judgments regarding what is "good" or "bad." Rather, it will attempt to specify a range of social indicators and determine their qualitative and quantitative differences under different ecological situations. It is believed that such exploratory studies should have high priority at this time.

AN ALTERNATIVE APPROACH

Even though philosophical and academic discussions of the nature, importance and desirability of social indicators have been under way for several years, empirical research into social indicators has been relatively nonexistent. The "state of the art" of social indicator research, methodologically and conceptually, is thereby relatively undeveloped. Our approach attempts to offer one alternative to the development of a system of indicators that, we believe, might provide a sounder empirical and methodological basis than is offered by the more abstract discussions and macro-model approaches currently being undertaken. As is true of all research in the exploratory stages, however, the design of this research must be somewhat looser and more flexible to respond to methodological and procedural changes as the research develops than would normally be necessary in research at a more advanced stage of methodological and conceptual sophistication.

It is largely because of the exploratory nature of social indicator research that we are suggesting a more inductive approach at this conceptual stage, with the hope that valid, reliable models can be developed to allow for deductive research in the future. Our emphasis on a more inductive form of research, however, should not be construed as a form of extreme empiricism. Theory and research must go hand-in-hand at every stage if the search for knowledge is to be effective. We agree fully with Perle's (1970: 139) comments on the methodology of social-indicator research when he argues:

"In order to justifiably realize the promise of indicators, not only is it necessary to suggest apparently brilliant

conceptual models but also to empirically verify them. Without an active process of empirical testing for model specification, validity, and reliability, most of our conceptual models will continue to lie on the shelf for conversation and intellectual purposes alone. Clearly, the search for knowledge can be initiated either deductively or inductively. At some point in the process, however, it is necessary both to empirically verify deductive propositions and to theorize about empirical findings. Theory without empirical verification is a worthwhile intellectual activity, but it has little utility for policy formulation. Conversely, heavy-handed empiricism without theoretical linkages has questionable scientific validity."

In designing the research, we are attempting to bring together theory and observation so that conceptual models of social indicators can be formulated that accurately represent the state of life of individuals and subgroups at the community level.

A simple model of the impact of population change on society, developed at the Institute of Ecology, University of California under the direction of Kenneth Watt (1970), is presented in Figure 1. This flow chart presents, in highly simplified form, the type of interpretive model that will guide our research. The long-run goals of our research will be to attempt to develop models sophisticated enough to measure social costs of changes in population. The main focus of the research suggested in this paper centers on the conceptualization and measurement of indicators of the effects of population change on such factors as society, the individual, the environment and resource utilization, which are represented by the four boxes in the center of the chart. In a future follow-up study, we hope to formulate these indicators into a model that will allow for conceptualization and measurement of social costs of population variations.

Population

In our earlier discussion, we suggested that our primary concern in this proposed research will be limited to the conceptualization and measurement of social effects of population shifts that have accompanied the urban, industrial growth in American society. These shifts can be analyzed as the combined effects of birth rates, death rates and migration rates in a community. Even though many factors influence changes in these rates, for analytical purposes, it is assumed desirable to consider these factors as causal conditions in our model, as exemplified in Figure 1. The population variables will be controlled largely through establishing population parameters. Our objective is to select Iowa communities that have experienced declining, stable and increasing population growth patterns over the

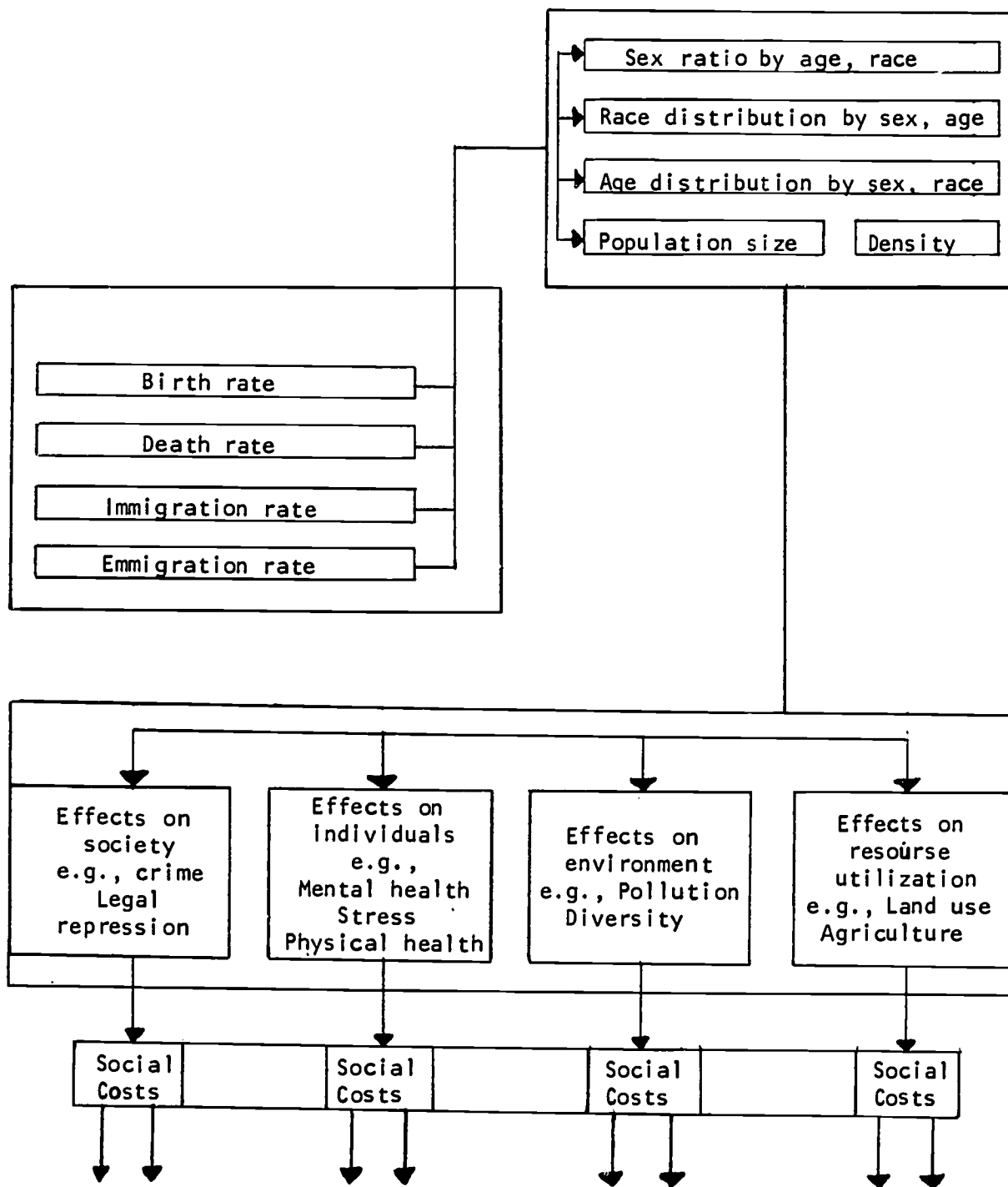


Figure 1. An interpretive model of population changes (Adapted from Watt 1970)

past 2 decades. These communities will be selected by analyzing census data to determine the population characteristics and growth trends that have occurred. By focusing our research on communities of differing population-growth trends, it is hoped that it will be possible to provide the controls necessary to make preliminary causal inferences, as well as considerable comparative analysis of the social effects of population shifts in differing ecological units.

Interpretive model

The flow chart in Figure 1 presents the general interpretive model that provides focus in specifying areas of social indicator need. Population growth trends will be analyzed by use of census data and will involve time series analysis based on the net growth per 1,000 population (total births-total deaths + total migration) over a 20 year period. The first order consequences of population growth trends will be analyzed in terms of the time trends in population composition, population size and population density. Population density will be measured in terms of the number of inhabitants per square mile, and population size in terms of the number of inhabitants within the geographical target area.

Population composition variables are important criteria for disaggregation of data and provide the basis for multivariant analysis of second order consequences of population growth trends. The variables used in this stage of analysis will be the traditional demographic variables of age, sex and ethnicity (race, religion and national origin) and socioeconomic variables of education, income, and occupation. Through multivariant analysis of these composition variables, a multidimensional profile of population subgroups can be obtained. For example, this procedure will provide a basis to analyze the extent to which education, income and occupation are equitably distributed among racial, religious or national origin groups by sex and age. It would, for instance, certainly aid in making policy decisions to be able to compare the age-specific occupation achievement of black females with the same age-specific achievement of a white female or male. Thus, the primary focus of the analysis of first order consequences of population shift is to provide a profile of the community composition and to identify the extent to which basic socioeconomic factors are equitably distributed between the community's population subgroups, and how these multidimensional factors change through time as they are impacted by population growth trends. This analysis also allows for a more controlled analysis of factors such as dependency ratios, life expectancy and skill levels within the community.

The second order consequences of concern in our basic model include the effects of these population changes and the impact of first order consequences of these shifts on the community, the individuals, the environmental quality and resources utilization. In the present study, our research is

limited to an analysis of the effects on the community and individual. Environmental and resource utilization factors in community development are important factors; however, they constitute concerns more directly related to other disciplines and to expertise beyond the normal scope of sociological analysis. A total set of indicators of development would include these types of concerns and should receive substantial attention in development research. The expansion of the interpretive model for the concerns of this paper will focus on organization concerns of communities and the ability of communities to service their members' needs.

Toward an Expanded Model

The model presented in the last section is intended as a basic interpretive model to direct attention to general categories of human concern that should be monitored by social indicators. In this section our aim is to expand the categories designating the social effects of population shifts on the two subsets of effects on the community and upon the individual. From this expanded model, we hope to identify conceptual areas of human concern that may provide focus to the delineation of specific areas to be monitored by social indicators. This is a task that has not proven to be as easily accomplished as once believed. Much of our current frustrations and difficulties in specifying and developing social indicators is related to our current inability to specify the nature and meaning of social development. Without some basic agreement concerning the meaning of social development, and the process by which it is to be realized, it becomes impossible to isolate social factors important to social development that should be monitored by social indicators. Thus, before meaningful social indicators can be developed, considerable attention needs to be devoted to clarification of this concept.

Goals in Development

The term "development," as it is currently used in so much of our literature, differs from many other social scientific concepts because of the consciously applied and programmatic nature of current development efforts. No matter how the term is defined, there is, in so many of the recent discussions of development, one fundamental and basic dimension of the term that implies, either implicitly or explicitly, progress toward individual or collective goals. It is precisely this normative dimension of development that has given rise to the extensive debate and disagreement that has clouded our understanding of the nature and meaning of social development. The reason for this controversy arises from our current inability to formulate social goals that are generally agreed upon by social scientists. This inability to formulate consensual goals of development is greatly increased when we attempt to formulate collective goals that are reflective

of the values of society's members. For, as yet, we have found few social dimensions of collective life where total consensus can be obtained in the formulation of development goals.

The lack of consensus concerning social goals arises, in part at least, because so much of human aspirations and values concerning their social conditions of life arise from, and are reflective of experiences and needs that are encountered in the unique historical processes and conditions under which individuals live out their life. These social conditions vary widely throughout complex society, resulting in wide divergences in vested interests, values and goals among population subgroups. It, therefore, seems highly unlikely in a heterogeneous society such as the U.S. that any high degree of consensus will be forthcoming in the near future concerning a desirable standard for establishing the common goals of total social development if, in fact, the goals are to be built upon existing social values of society's members.

This inability to specify common goals of social development has resulted in two pronounced tendencies in current development efforts. Both of these orientations, we believe, are reflective of a tendency to avoid the issue raised here concerning the nature of total societal development by refocusing attention either on a narrow range of variables in development where a high degree of consensus is evident concerning long-run goals, or upon the treatment of symptomatic behavior of underlying social processes that result in very short-run goals and programs designed to treat these symptoms rather than underlying social conditions.

Indicators of normative interest

Most of the recent efforts to develop social indicators, we believe, fall into the category of descriptive data that measure societal symptoms and rarely deal with underlying social conditions. Because of this, a great deal of current social indicator efforts will have short-run value to society for they reflect the normative interests that arise from current societal conditions which may be of little normative concern or value to social planning in the near future. There are several approaches to social indicator research that generally fall under the definition of social indicators suggested by the authors of Toward a Social Report (1969: 97). A social indicator, according to this definition, is:

"a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the conditions of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction while other things remain equal, things have gotten better or people are 'better off'."

The document Toward a Social Report has been strongly criticized both in terms of this definition, as well as in terms of the statistics presented. The major criticism of this definition obviously centers on the idea that social indicators are measures of direct normative interest. This type of statistic is important to social development, according to the authors of this report, because such normative measures of social conditions "could give social problems more visibility and thus make possible more informed judgments about national priorities" (1969: xiii). There is little doubt that we need more visibility in many areas of society, and that such data may sensitize us to problem areas in the process of development. However, when information is sought for purpose of societal guidance on the basis of normative interest, one cannot help but wonder: "whose normative interest will determine the choice of social indicators?"; "who will use these data to control societal change?"; "toward what goals will society be directed?"; and "who will be controlled?" In this sense, the possibility is high that the goals of social development may be dictated by the normative whims of persons in control of the information system and possessing the power to determine societal decisions.

There are three important trends in social indicator research that reflect in varying degrees this emphasis on normative judgments. The first has been the attempt to provide guidance in social development by formulating national goals. The activities of the President's Commission on National Goals for the sixties focused on the formulation of a set of national goals to guide public policy during the past decade. This Commission did specify a number of problem areas in the American society but fell short of providing a set of goals that would provide a basis for total societal development, and certainly failed to establish a comprehensive or consensual set of goals. In light of the criticism of the earlier document, the President's National Goals Research Staff, which dealt with the question of formulating goals for the seventies, chose not to attempt the specification of concrete goals but, rather, attempted to address various problem areas of society in such a way as to structure a context of debate around major social issues. The purpose of this approach seems to be aimed at developing a dialogue among interest groups that might lead to the establishment of collective goals. The work of these two commissions have brought into sharp focus the difficulties we confront in attempting to establish consensual goals of social developments in complex and heterogeneous societies.

A second, and perhaps the dominant strategy of social indicator research, is the tendency to formulate the goals of social development in terms of "quality of life." There is little doubt that "quality of life" is a universal goal of mankind; however, there is also little doubt that few, if any, living beings would agree on just what it is that constitutes quality of life. In most studies that have focused on this concept, it has been freely admitted that the term is employed because of want of more precise definitions of the goals of social development. Quality of life

studies not only focus on descriptive data of symptomatic behavior but provide understandings about society of very short-run importance. For it is evident that individual perceptions of quality of life arise from situationally specific experiences which vary widely throughout society and change rapidly through time. What is conceived as high quality of living today may be undesirable in the future. Social indicators of this type will need to be constantly reformulated as normative interests shift through time, rendering trend analysis through time series data virtually impossible in the long-run.

A third strategy for the development of social indicators has focused primarily on social problems. Again, studies of this type are helpful in providing descriptive data about society and in making social problems more visible. However, the preoccupation with the development of indicators of societal problems offer little in clarifying the nature and meaning of social development, or in establishing development goals. Very often social problems occur as a latent consequence of development and change, and it is important to recognize these problems and make adjustments to reduce the dysfunctionality of development processes. However, indicators of social problems are inherently weak because they tend to focus primarily on marginal members of society and tell us little about the common man. For instance, in sociology we know more about criminals, drug addicts, prostitutes and social misfits, in many respects, than we know about the hard core citizen that provides the backbone of our national life.

The greatest weakness, however, in both the quality of life and social problem strategies is that the indicators being developed from these perspectives tend to be dominantly descriptive data drawn primarily from aggregated characteristics of individuals and rarely attempt to treat underlying social causes and conditions. Nor, do they often attempt to specify interrelationships between variables that are measured, and as such, offer less than desired toward the clarification of the nature of social development, the articulation of goals of development or provision of understandings necessary for societal guidance.

Social development and human viability

There is a limited range of human need that is rather universally of concern to human life. Around these basic needs, a few goals of development have been specified and widely supported. One of the most pronounced common needs of human beings is the need for substance to maintain life which, in modern society, has been articulated largely in economic terms. The willingness of social scientists and government administrators to preoccupy themselves largely with economic development, at the expense of other social factors, must be interpreted, in part at least, to be a function of the wide consensus that exists throughout human society concerning

the desirability of economic processes capable of providing for human survival and individual viability. Hence, such goals as per capita increase in real income, increase in gross or net produce of economic units, full employment and optimal balance of economic factors are goals that are rather universally appealing to the human mind for they are basic to human existence, and thereby, appeal strongly to the vested interests of individuals and collectives.

However, societal preoccupation with economic goals, even though they are basic to human viability, has too often resulted in an inability to establish optimum social conditions, for we have no alternative goals against which we can weigh our economic development. Clearly what is needed is to direct more of our research effort toward the identification of a range of factors essential for human survival. In fact, we propose that the problem of assessing how well social groups are doing with respect to the basic problems of survival and reproduction is the primary goal of development, no matter whether our focus is social, economic or species development. In turn, any measure of the quality of life could be dangerously misleading if they do not specify the progress we are making in meeting the basic requirements of human existence. The basic challenge of development research is to specify more effectively how individuals and groups provide for and meet their survival needs and the effectiveness with which the provisioning of these needs is distributed through its social forms. This can be done only by broadening our development perspectives far beyond the limited economic focus of past efforts.

Rural Development: Problems and Perspectives

The recent concern with broadening our development perspectives to embrace total social development has come about largely as a reaction to a marked tendency over the past century to conceive of development primarily in economic terms. However, this new emphasis in development must not be viewed as an anti-economic trend, for no one can deny the basic importance of the economic functions to human survival. It should be viewed as a desire to provide a more balanced development of human social conditions by focusing on a more balanced perspective of human social and psychological needs and potentials. For mankind has a vast capacity for creativity and for the expansion of human meaning and understanding in new directions that are, as yet, virtually unexplored. The fact that we now have opportunity to begin to explore new horizons of human meaning has come about because of the economic successes of the past centuries that have allowed mankind in advanced societies to solve much of its productive needs and, thereby, devote more time to total human fulfillment. Therefore, this new emphasis in development priorities seems to suggest a desire to bring economic goals and activities into a better alignment with other social factors.

This need for realignment of development priorities has been brought more clearly into focus in recent history, in part, because of the realization that societal effectiveness in attaining its economic ends are dependent on many other social factors. But it is also due to the growing recognition that the preoccupation of industrial societies with economic functions has allowed many latent consequences to develop that must at times be interpreted as dysfunctional to human well being, and possibly dysfunctional to ultimate human survival. For example, the congestion, environmental contamination, interhuman conflicts and tension that are experienced by our large urban areas must be viewed as constituting, in part, unintended consequences of unbalanced development where social factors are primarily treated as economic constraints, or as unavoidable social adjustments to economic growth.

The need for realignment of policy priorities in development is, perhaps, nowhere so apparent as it is in rural America. National preoccupation with technological growth and economic expansion, without regard for the social consequences of these processes, has required corresponding social adjustments that have placed an unequal share of the burden of social change on rural people. These rural adjustments have not only radically altered farm operation and management practices, but have hit directly at the social foundations and social fabric of rural life. The social problems of rural society, such as declining population, community deterioration, underemployment and inadequate social services, are equally related to these same national economic trends.

The realignment of development priorities have been expressed in at least two important respects in current rural development efforts. One focuses attention on human well being and the impact of social change on individual life conditions. The other focuses attention on organizational well being and the impact of social change on the capacity of that organization to deliver services. In the first case the focus of rural development is directed toward the alleviation of social inequities of recent economic growth. This orientation to development is, in part at least, reflected in a recent paper by Professor Heady (1972: 2, 10) which addresses the problems of rural development:

"The crux of the rural development problem is the distribution of benefits and costs of national economic development. The process of national economic development spews its gains and sacrifices inequitably among geographic, demographic, sectorial and economic groups. Typically rural communities are geographically isolated from the major benefits of economic development in its main forms in a highly advanced country such as the United States. . . Rural community policies and programs should be concerned basically with efficient means whereby these inequities can be erased."

"The challenging task in rural community development is to identify the nature, location and extent of inequities falling on rural communities and various population strata of them; then to evaluate and provide alternative means for alleviating or redressing them."

The concern with problems of inequity in national economic growth is reflective of the growing realization of the extent and breadth to which national preoccupation with the limited goal of technological development and economic expansion has resulted in unintended and dysfunctional consequences in other areas of social concern.

Few social scientists would argue with the thesis that the crux of the problem of rural development is a problem of distribution, and that one of the important concerns of social indicator research is the generation of an "intercommunity objective function or set of social indicators" capable of assessing the "nature, location and extent of inequities falling on rural communities." In fact, the need for this type of research is acute, for very little research is currently directed toward the development of social indicators and social information systems capable of assessing the problems confronted in rural development. Most of the current social indicator efforts focus on the generation of national statistics that are not readily disaggregatable to the level of ecological subunits and population subgroups normally of concern in rural development. The development of social indicators that more adequately demonstrate intercommunity inequities must be considered a major need in current social indicator research.

To focus primarily on aggregated characteristics of rural people in an attempt to assess social inequities, however, is only part of the problem of rural development. A more basic question deals with the problem of erasing or relieving these inequities. There is no doubt that national and state policies and programs will play an important role in rural development; however, the vital factors that will determine success or failure of development programs reside in local communities and their ability to generate the social machinery necessary to mobilize human and physical resources efficiently. This is the perspective of development adopted by the President's Task Force on Rural Development (1970: 5-6). In their report to the President, rural development is described primarily in terms of community action. They suggest:

"The purpose of rural development is to help areas correct their own weaknesses and to help rural people consolidate the strengths of rural living for themselves and others who might live there in the future. . .

The real strength of rural development is that it harnesses local energies and is run by local people who know better than

anyone their own problems, their own capabilities and their own priorities. . ."

If this perspective of rural development is to be taken seriously, as we believe it should, the primary need of rural development is to understand more adequately the organization of rural communities and processes that lead more efficiently toward effective community action within the development framework. Social indicator research, in turn, should focus on the development of social indicators capable of monitoring the operation of these action systems. It is at this point that the greatest need currently exists in social indicator research. Little if any of our current effort is directed toward the establishment of indicators designed to assess the operation of social systems. Nearly all the efforts, thus far, to generate social indicators have focused on aggregated data concerning characteristics of society's members, but very little has been done to develop indicators of social organization. It is this type of research effort that we believe should be a major focus of current social indicator efforts.

Both of these perspectives of rural development must be considered important and the type of information required to meet these development needs must be considered basic problems of social indicator research. In turn, both of these information needs provide an important dimension to the understanding of social development of rural communities. On the basis of these two dimensions an expansion of our interpretive model of a community information system can be developed.

Expanded Model

The discussion advanced, thus far, in this section has specified three basic assumptions underlying the model to be outlined (Figure 2). The first assumption suggests that the primary focus of our model will be limited to attempts to specify indicators of social phenomena that are basic to human survival and viability. This we believe will help to avoid some of the issues surrounding the more controversial and normative dimensions of social development. Secondly, we have suggested that the development process must focus upon and monitor the extent to which the provision of resources necessary for human survival and viability are equitably distributed in human society. Social indicators need to be developed that are designed to monitor inequities in the distribution of the costs and benefits of national development, especially the distribution of resources necessary for human viability. Indicators of this type are primarily aggregated individual data designed to tell us something about the relative well-being or viability of individual members of society. The third assumption concerning information needs in development is the provision of understanding of the community's capacity to deliver services and to mobilize its resources in the process of increasing its capacity

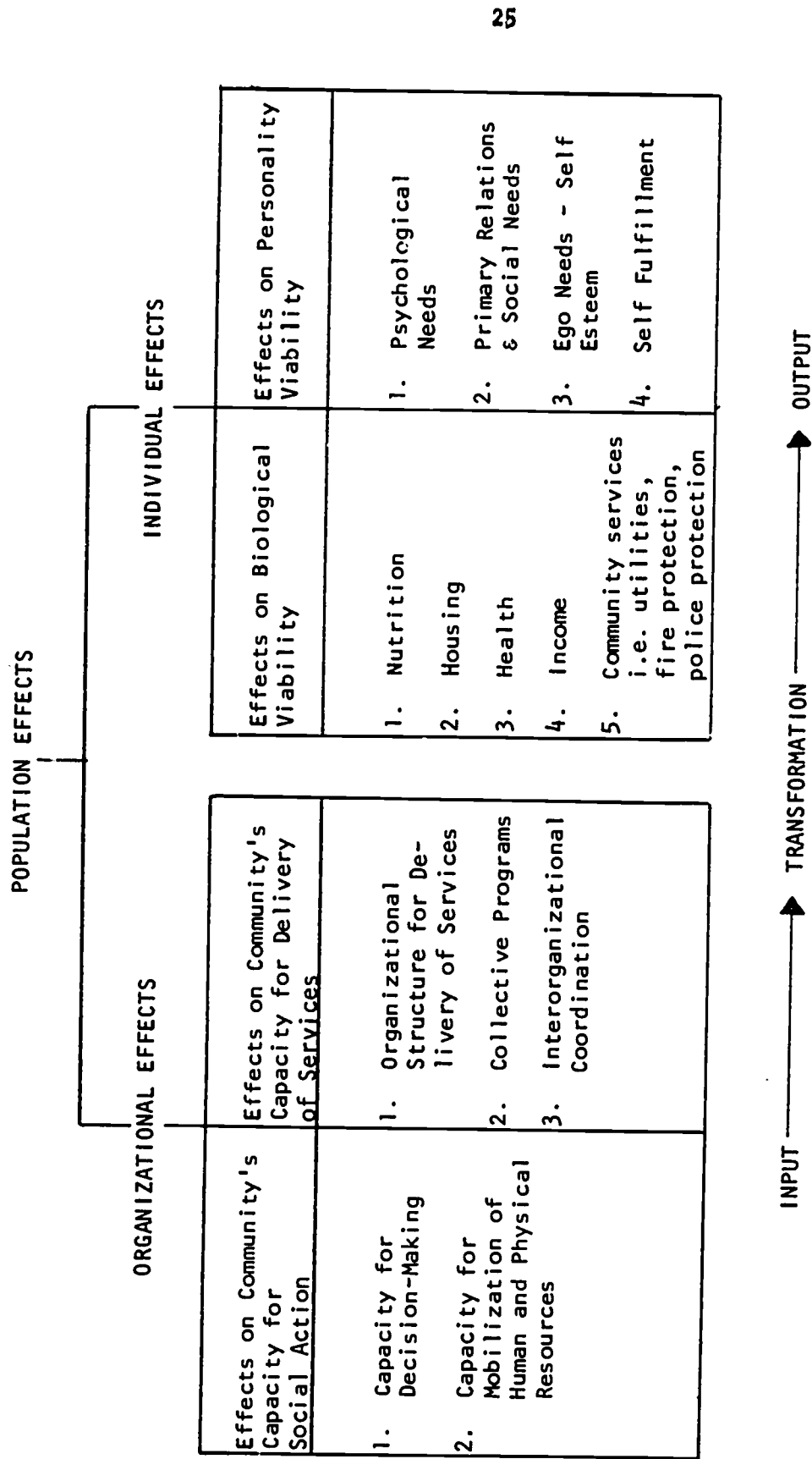


Figure 2. An expanded interpretive model of population changes

to meet individual needs. This concern focuses attention on community viability or organization viability and toward the generation of indicators of organizational performance.

The model presented in Figure 2 represents the expanded interpretive model which attempts to outline important areas of concern in community viability or survival. Attempts have been made to focus attention on organizational process essential to community survival and viability, as well as individual biological and personality needs for human viability. Social organization is viewed, in this model, as the social mechanisms by which individuals enter into cooperative relationships in their efforts to remain viable. Inputs into organizational effectiveness is assumed to come through community action programs designed to formulate goals of collective action and mobilize human and physical resources. The community's capacity to deliver services, in turn, represent the social machinery through which action takes place and through which transformations occur in delivery of services to members of the community. The individual effects represent the output of the community organization to individuals in terms of their biological and personality needs.

Most of the current effort in social indicator research focuses on aggregated characteristics of individuals and, therefore, represents measures of output. As yet, little effort has been directed to the problem of establishing indicators that assess and monitor organizational capacity to deliver services. The focus of the research proposed in this paper is directed toward an overall assessment of these interrelated processes of community organization and its capacity to fulfill man's needs in a limited range of social factors essential for survival and to the assessment of how the community's capacity changes as it undergoes significant population variations.

CONCLUSION

The scope of this paper does not allow for systematic development of the processes involved in these three subprocesses of community development outlined in Figure 2. Each of these subprocesses, however, we believe represents important areas of information needed in planned development, and that preoccupation with only one aspect of community development without equal concern for the other two leads to an information system too restricted to be of an extensive aid in planned development. In this model, we conceive of social organization as cooperative efforts of individuals to meet their basic needs and to gain viability and self fulfillment. Ultimately, community effectiveness will be measured in terms of its performance in meeting these individual biological and personality needs.

Individuals, however, are social beings and must rely on collective effort to provide so much of their basic needs. Therefore, simply to focus on community output to members is not enough. Planned development is dependent upon a great deal of understanding of community structure processes including both its capacity for social action, as well as its capacity to deliver services. In terms of the capacity to deliver services, we have long recognized that one of the early effects of population decline is the loss of institutions and organizations most needed to bring about development. Therefore, we believe indicators need to be developed that measure the organizational structure of communities, and to monitor how these structures change through time. In turn, we need better ways to monitor the types of programs provided through community institutions and organizations and the extent to which these services are coordinated to reduce overlapping and duplicating efforts where resources are limited. There is some evidence, for instance, that programs exist in many communities that are not as effective in servicing the population because of an inability to communicate the nature and eligibility of these services to those that might greatly profit from such service.

The capacity for social action, in turn, opens up a wide array of problems and processes too numerous to attempt to outline in this paper. However, a few basic concerns include such things as community autonomy, centralization of power, conflict, citizens participation, political discrimination etc. The development of indicators of this type of social and organizational phenomena is especially difficult, and yet, these factors must ultimately be conceived as the crucial factors that determine the communities capacity to cope with new demands of a changing environment.

Each of these subprocesses or social concerns in community development, we believe, represents areas of information needed in planned development. The development of social indicators to assess these social processes effectively will not be something that will come about through short-run research efforts. But, by attempting to outline some of the basic processes in social development, it may be possible to provide more significant long-run research effort that may eventually aid in the development of models capable of providing the basic information needs in planning for balanced social development.

Focusing on changes in the capacity of communities to remain viable and effectively meet the needs of its members within the context of population shifts provides an especially good research design for assessing the organization needs in a community's capacity to survive. Over the past fifty years a large number of rural communities have not survived, while others have become growth centers or at least remain fairly stable. The focus of this research is to attempt to assess, through comparative analysis of declining, stable and growing population centers, what is the unique mix of social variables that allow some communities to maintain their viability and community integrity, and what is lacking in other communities that undermine their capacity for perform as population declines.

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ECONOMIC AND SOCIAL INDICATORS OF
RURAL DEVELOPMENT FROM AN ECONOMIC VIEWPOINT

by

Clark Edwards and Robert Coltrane

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INTRODUCTION

A disproportionately large share of our economic development problems, involving maldistributions of population, employment, and income, is found in rural areas. Although these problems directly affect the residents of rural areas, they are linked to economic problems in urban areas. Using per capita income as an indicator of the level of economic development, we can begin to see the differential effects of economic development on the population. For example, per capita incomes of residents outside metropolitan areas are only about 71 percent of those in the urban-oriented ones. In addition, about one-third of all families live in nonmetropolitan areas, but over half of all low income families live there. Further, large geographic areas such as the Appalachian, Mississippi Delta and Ozark regions are below the Nation as a whole in terms of the general level of economic development. These relatively rural regions contain urban centers. Even in these centers, the average resident has not commensurately participated in the benefits derived from our Nation's economic development and growth. Comparisons of per capita income for different years show these maldistributions have persisted for decades.

These comparisons illustrate the range of development problems facing rural as well as urban residents and suggest the need for a set of statistical economic and social indicators that will aid in describing and understanding the problems and in designing and implementing corrective programs. The usefulness of indicators is influenced by such critical elements as: The definitions and concepts of rural development on which the indicators are based; the data series used to construct the indicators; and, the geographic observational units used to construct and report the indicators. Our task in this paper is to discuss our views of these elements that are necessary parts of a framework for constructing a set of statistical economic and social indicators for rural development.

SOME KEY DEFINITIONS

There is often a difference between the meanings we vaguely intend to convey with terms such as economic development, growth, and rural development and our ability to reduce them to operational concepts to use in constructing economic indicators. Our first task, therefore, is to discuss operational definitions of these terms.

* Economists, Economic Development Division, Economic Research Service, U.S. Department of Agriculture. This paper prepared for presentation at the Annual Meeting of the Southern Agricultural Economics Association, Richmond, Va., Feb. 14-16, 1972.

Economic Development and Economic Growth

Economic development implies increases in economic activity, but discussions of increases in economic activity also include references to economic growth. References to the terms economic development and economic growth are often confusing and cause one to wonder whether they have different meanings or are synonyms. We like to think of them as separate processes, each contributing to increases in total economic activity, but in different ways.

The basic factors affecting a region's level of economic activity include natural resources, labor supply, private and public capital supply, institutions, technology, and innovation. The availability of these factors vary in quantity and quality among regions. Further, they are combined in varying scale and proportion among regions and are transformed into economic activity through production processes. The level of activity varies, as shown by regional differences in population concentrations and population growth rates; employment alternatives and employment growth rates; income levels, growth rates, and distribution; and community infrastructure.

An increase in total regional economic activity stems from alternative combinations of the basic factors, changes in quality of the factors, and increases in their quantity. Economic development occurs through changes in the way the basic factors are combined. It amounts to changes in the way of doing things and usually results in changes in the mix of economic activity in a region. Economic growth, on the other hand, generally refers to increases in scale. The combination or mix of basic factors is not changed in the growth process; expansion in economic activity results from the use of greater quantities of the factors in production. Discovering natural resources, inventing techniques, changing the input mix, creating products, innovating organizational arrangements, and tapping markets are associated more with new ways of doing things than with expanding the volume of things done; more with development than with growth.

The usefulness of the distinction between growth and development is in part a function of the structural detail of economic and social characteristics under consideration, as well as of the geographic unit of observation. That is, whether a specific change in economic activity appears to be simple growth, or is a more complex development, depends in part on the level of aggregation of the variables used to describe economic and social processes.

For example, as the Gross National Product becomes larger we tend to refer to this as growth in the economy, not as development. But if we disaggregate the GNP into structural components such as durable goods, nondurable goods, and services then we may speak of development related to the increase in the proportion of expenditures for services. Further disaggregation of expenditures for services into transportation and other, and again transportation service into those for planes, busses, autos, and horses, would reveal vast changes in the composition of purchases over the past few decades reflecting considerable development. The more structural disaggregation is used in presenting a set of economic and social indicators, the more the underlying

changes in the way we do things are revealed. The development process of adding new combinations of basic factors to old combinations multiplies the number of interactions or interdependencies. Viewing these interactions as transactions between sectors as in an input/output matrix, development increases the number of sectors, and the complexity of transactions among sectors. The gain in value of goods and services produced, therefore, may be disproportionate to the gain in basic inputs.

Areal aggregation also affects whether we view a specific process as growth or development. It makes a difference whether we are speaking of indicators for the Nation, a multi-State region, a multicounty region, a neighborhood, or a firm. A significant change in industrial mix in a multicounty planning district may have no noticeable effect on the mix measured at the national level. Hence, what is viewed as development in the district may be viewed as growth in the national aggregates.

We conclude then, that a meaningful set of economic and social indicators for rural development has to be based on careful consideration of the level of structural detail to be shown and also the level of areal aggregation chosen for units of observation.

Rural and Rural Development

Rural is a word with many meanings. Some of the definitions are specific and can be measured empirically, while other definitions are vague and not readily measurable. The Census gives rural a specific meaning. It defines rural areas as the residual of the total geographic area of the Nation after urban areas are determined, that is, people living in places of less than 2,500 persons. Rural characterized as a way of life is an example of a meaningful but vague and unmeasurable definition.

The latter definition is not operational, while the former is operational. But neither these nor related definitions provide an analytical meaning useful for constructing economic indicators for rural development. Although the Census definition is subject to empirical measurement, the definition is not sufficiently compatible with our concept of economic development to provide useful indicators. It is not analytically useful because the Census concept of rural implicitly separates rural activities and functions from urban activities and functions. From an economic development standpoint, rural and urban areas, following the Census definition, are not separate systems but have linkages with respect to economic and social activities. Rural residents depend, to some extent, on an urban center for jobs, consumer goods, credit, factor inputs, and markets for their products. Urban centers, in turn, depend on rural residents to supply labor, other factor inputs and consumers. Thus, urban centers and their interlinked rural hinterlands form semiautonomous local economies. These local economies usually contain more than one county and often cross State boundaries. And the entire multicounty economic and social system may be thought of as having either a rural or an urban character.

An operational definition of rural for development purposes, therefore, should not be limited to a specific place of residence or a way of life. The definition would be more useful for economic development analysis if it described the rural or urban character of the linkages in an entire multicounty local economic and social system. Some multicounty areas have large cities and relatively minor rural hinterlands, others have small central cities or towns and relatively large rural hinterlands, while still others have various combinations of central place and hinterland combined into a functional social and economic system. Thus, an operational definition of rural can be expressed as a multidimensional concept that measures the rural-urban orientation of the entire multicounty area.

Operationally, the rural-urban orientation of an area might take the form of a three-dimensional concept measured by the percentage of population classified as urban, by the population density of the area, and by the size of the largest city in the area. The rural-urban orientation of an area would depend on the proportion of the population in the entire area living in what the Census defines as urban places, on the number of people per square mile for the area as a whole, and on the number of people living in the largest city or town. Areas with smaller proportions of urban residents, lower densities, and/or smaller cities would have a higher rural orientation than areas with larger proportions of urban residents, higher densities, and/or larger cities. Several discrete classes of multicounty areas would evolve from this framework, each having a different rural or urban character.

Once rural is defined in this manner, the whole concept of rural economic development becomes less vague. Rural economic development then becomes an aspect of economic development as defined in the previous section; that is, it is economic development that occurs in rural-oriented multicounty areas. However, this is not to say that the set of specific problems related to economic development are necessarily the same in both rural-oriented and urban-oriented areas. They are likely to be different. For example, the greatest problems in some rural-oriented areas may stem from lack of nonfarm job opportunities, while in some urban-oriented areas, the residents may have easier access to a job market, but the areas may have serious problems related to production efficiency, transportation and other community services.

APPROACHES TO ECONOMIC AND SOCIAL INDICATORS

The above section discusses the need for a set of problem-oriented indicators for rural areas which show variations in economic and social characteristics. We now seek to develop a framework for identifying the role of indicators in measuring the availability and productivity of resources and the attainment of economic and social goals.

Two approaches have been used in setting up systems of economic and social indicators. One gives empirical content to a set of conceptual considerations related to one another by theory. The other might be characterized as "brute

force empiricism"--it has a lot of empirical content, but the separate items of information do not fit into an overall pattern of relationships tied together by theory. A classic example of the former approach is the national income and product accounts of the United States economy. The theory underlying these accounts was developed in part by J. M. Keynes in the early 1930's. The theory was explained by Keynes with little reference to empirical data because the economic indicators his system needed were not available. During the depression, his thesis was adopted in principle by heads of state and used to formulate economic policy--still with little empirical base as to the quantitative effect of a specific policy on income or employment. As a consequence, the Department of Commerce was asked to develop the needed economic indicators for the United States during the early 1940's. The approach was to merge earlier empirical work, particularly that of Simon Kuznets, with the newly derived theoretical demands for data. The needed economic indicators were available for description and analysis about a decade after the theory was first published.

There are many examples of the brute force empiricism approach. One is the publication entitled, "Toward A Social Report," published in 1969 by the U.S. Department of Health, Education, and Welfare. This report is useful because it attempts to describe the status quo for seven classes of social problems including health, mobility, environment, and law and order. Each individual table in the report has potential descriptive interest. However, the various statistics in the report are unrelated conceptually either to one another or to policy instruments that might be used to deal with the described problem areas.

A FRAMEWORK FOR IDENTIFYING INDICATORS

The best theory on which to base a set of rural economic indicators is not clear. Conventional microeconomic concepts could be used but the policy variables in microtheory are controlled by households and firms instead of regional or national policy forming institutions. Alternatively, macrotheory could be used as a basis for analyzing problems in rural-oriented subregions of the Nation. But the policy variables associated with macrotheory are national monetary and fiscal policies which are not regionally selective for rural development. For example, national changes in the level of government spending can be made with a view to impacts on price level or unemployment. But the regional impact such as boom and bust in Seattle as a consequence of changes in defense outlays, are side effects, rather than considered ends of macropolicy. Similarly, monetary policies such as those affecting changes in the level of the Nation's money supply are not regionally selective. A change in the reserve requirements of member banks, for example, applies to all banks, not just to those serving a given region, such as Appalachia. Thus, theories, policies and indicators which work at the national level may not apply to regional development problems.

Both conventional macro- and microtheory have partial contributions to make. Yet they deal inadequately with a lot of the variables which are important in rural economic development processes. Some of these are included in the economic writings of, for example, Schumpeter 1/ and Myrdal. 2/ The relationships these writers discuss include innovation, institutional arrangements, and the nonequilibrium aspect of dynamic development processes. Other variables, including various social and political considerations, are beyond economics entirely. Theories, policies and indicators for rural development may need to contain elements which are beyond conventional macro and micro frameworks and, are, perhaps beyond economics altogether.

While there is no general agreement on the best theory on which to base a set of rural economic indicators, one can agree on certain basic elements the indicators need to measure. For example, we need to measure inputs into the development and growth processes and outputs from the processes. And we would like to be able to measure the status of certain elements at various intermediate stages. Measures of the economic and social variables at each stage may be conceptualized at alternative levels of abstraction. For example, we have specific statistical series such as population, income and employment. Alternatively, we have general concepts. Our impressions about general concepts, such as "level of development" may be formed on the basis of ratios of specific statistical series such as "income per capita." Furthermore, theory is built around general concepts, while empiricism requires operational definitions based on measures of specific variables.

In this spirit, we developed table 1 to schematically depict a framework for identifying economic and social indicators for rural development in a way that various elements in the system can be tied together either tautologically or functionally. The concept of productivity may be defined as the ratio of final goods and services to the size of the labor force. Functionally, the measure of productivity becomes a coefficient in a production function which plays an important role in explaining the economic development process. Such a measure for different subregions of the United States not only allows regional differences to be described, but permits analysis that can lead to alternative prescriptive policy recommendations.

The measure of the size of the labor force in the above example is a specific indicator of the status of an input to the development process. Other specific indicators of inputs include measures of land, investment in plant and equipment, and tax rates. One of the roles of specific indicators is to serve as proxies for general concepts. For example, land is associated with the availability of natural resources, labor is associated with human resources, plant and equipment is associated with capital resources, and tax rates are associated with institutions.

1/ Schumpeter, Joseph A. A Theory of Economic Development. Oxford University Press, London. 1969.

2/ Myrdal, Gunnar. Economic Theory and Under-Developed Regions. Harper Torchbooks, New York, N.Y. 1957.

Table 1.--A framework for identifying economic and social indicators for rural development

Degree of abstraction:	Status of inputs	Differentiating characteristics based on interaction of inputs and outputs in the development process	Status of outputs
	Land		Population
	Water		Employment
	Forest		Capital
	Skilled labor force	Same inputs	Profits
	Unskilled labor force		Rents
	Investment in plant and equipment		Interest
	Hybrid corn		Wages
	Tax rates		Final goods and services by industry
	Degree of competition	Same outputs	Amount of oxygen in streams and lakes
	Farm programs		Schools
	Multicounty planning agency		Roads
			Hospital beds
	Natural resources	Industry mix	Level of development
	Capital resources	Occupational mix	Rate of growth
	Human resources	Productivity	Progress in quality of life
	Institutional arrangements	Migration of people	Rural-urban balance
	Technical knowledge	Migration of capital	Intensity of poverty
	Management	Import and export of products	Regional balance
	Innovation	Regional location of industry	Community infrastructure
		Agglomeration	Environmental quality
		Income elasticity	

The measure of final goods and services in the earlier example is a specific indicator of the status of an output from the development process. Other specific indicators of outputs could include wages, population, and hospital beds (table 1). Annual changes in population, wages, or final goods and services can be associated with the general concept of rate of growth. The specific measure formed by the ratio of wages to population is an indicator of the level of development, a general concept. The specific measure of hospital beds may serve as a proxy for the general concept of community infrastructure.

The concept of productivity in the above example is not an indicator of either an input or an output. It is a characteristic that differentiates the development process of one region from the process of another region. Regional differences in the development process stem from differences in interactions of inputs to outputs; that is, differences in production functions. Other differentiating characteristics include industry mix, migration, and agglomeration. Proxies for these general differentiating concepts can be based on specific measures of inputs, outputs, or both. For example, the ratio of final goods and services from manufacturing to final goods and services from other industries is an indicator of industry mix. And the ratio of a specific output of the development process, population, to a specific input, land, may serve as a proxy for agglomeration, a general regional differentiating concept. The specific measure of an output from the development process, population, taken at two or more points in time for two or more regions can be used to indicate the general differentiating concept of migration.

The framework outlined in this section for identifying economic and social indicators can be adapted to quantify most existing theory, conventional or otherwise. In the Economic Research Service (ERS) we are putting together a set of statistical series from various secondary data sources, such as the census of population, for this purpose.

The adaptability of this framework to serve available economic theories of development is shown by the following considerations. Theories are built up from general concepts, but they demand specific data series to give them empirical content. Theories relate concepts to each other through laws, or functional relationships. For example, final goods and services produced in a region are functionally related to the utilization of land, labor, and capital. Functional relationships can be defined by theory to relate output to input, to relate both outputs and inputs to differentiating characteristics, or to relate general concepts to specific ones. The framework for identifying economic and social indicators in table 1 helps to follow the flows among various sections of the table according to the functional relationships suggested by theory.

The framework serves this purpose even for conflicting or alternative theories. For example, one theory may emphasize direct relationships between outputs and inputs with little concern for attainment of intermediate products or for feedback. Another may make explicit the circular flow from input to

intermediate stages of differentiating characteristics, and back to input again before the final product appears. Finally, the framework can be adapted to theories with altogether different properties such as the view with respect to equilibrium. Some development theories assume an economic system tends to approach equilibrium, while others allow that development be a process in which new positions become more and more divergent. But all kinds of theories draw upon information of the type contained in our proposed framework for identifying social and economic indicators.

UNITS OF OBSERVATION

We discussed alternative definitions of "rural" earlier in this paper. We contend that a useful definition of rural should be multidimensional and account for location in both geographic and economic space. This definition requires that the United States be divided into several subparts.

An example of a definition of rural which fails to account for geographic space is one which divides the United States population into two groups. One group contains about 50 million rural residents, while the other contains over 150 million urban residents. Allocating residents into Standard Metropolitan Statistical Areas (SMSA's) and non-SMSA's is similar conceptually. These delineations are useful for some macroanalyses, but preclude the possibility of comparing rural development problems among regions. For example, they preclude comparing problems in Appalachia with those in the Great Plains. A minimal amount of regionalization is attained by setting up economic and social indicators for the four census regions: Northeast, North Central, South, and West. Although some useful analysis can be made with the large volume of specific data available for these regions, the level of aggregation is high and consequently, many subregional development problems may be averaged out. The process of subregionalization can continue down through the nine census divisions and the 50 States to the 3,000-plus counties and beyond to less-than-county level. At each level, more local development problems are revealed, up to a point. However, if the process goes to county and less-than-county areas, the proposed analytic units may be fractured into areas that do not contain the entire local economic development problem and/or means to help solve the problem. This suggests that analytic units which comprise less than a State but more than a county may be optimal, subject to considerations of economic development theory as to what comprises a region. The general framework shown in table 1 can be used to identify indicators for any geographic aggregation. However, the kind of economic problems of concern in this paper can best be appraised at the multicounty level.

We have argued above that present political delineations, e.g., cities, counties, and States do not necessarily coincide with the geography of the local economic development problem. Therefore, some aggregation of local jurisdictions must be used as units of analysis. Some attempts to deal with delineation problems appear to be unsatisfactory because contiguous counties are aggregated on the basis of homogeneity of economic and social problems,

or on the basis of specific differentiating characteristics such as proportion of residents living outside urban areas. These approaches overlook the interdependencies of people who live, work, shop, and play within commuting range of one another. Residents outside urban centers depend on access to these centers for markets for their products or their labor; for producer and consumer goods; and for various services relative to health, education, and welfare. Urban centers depend on residents of the hinterland as consumers and for their labor.

The concept of functional economic areas has been described by Karl A. Fox. 3/ An empirical effort to delineate the United States into functional economic areas was reported by Brian Berry. 4/ Berry and Fox used journey-to-work patterns both in theory and in practice. Berry's delineation did an excellent job of suggesting functional economic areas for those parts of the United States which had sufficient journey-to-work activity centered on urban places reported in the 1960 Population Census. One weakness in Berry's delineation is that it did not include all areas in the Nation. Berry left out about 4 percent of the United States population. That amounted to more than 7 million rural people in 1960, or about 14 percent of the total 1960 rural population. What is needed is a logical set of areas covering the entire geographic area of the United States. Five such delineations are discussed below.

State Economic Areas

A delineation of all 3,000-plus counties in the 48 States into 507 State Economic Areas was reported by Bogue and Beale. 5/ These areas have the advantage of including the entire population and provide for useful comparisons of economic and social characteristics among areas. However, a homogeneity logic was used rather than a functional interdependence logic. The 507 State Economic Areas were aggregated into 119 Economic Subregions.

Rand McNally Trading Areas

A delineation of all counties in the 48 States into 489 basic trading areas was presented by Rand McNally. 6/ In contrast to the work by Bogue and Beale, these multicounty areas closely approximate functional economic areas

3/ Fox, Karl A., and Kumar, T. Krishna. "Delineating Functional Economic Areas," in Research and Education for Regional and Area Development. Iowa State Center for Agricultural and Economic Development, Iowa State University Press, Ames, Iowa. 1966, pp. 13-55.

4/ Berry, Brian J. L. Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice, Working Paper No. 28. U.S. Dept. of Commerce. June 1968.

5/ Bogue, Donald J., and Beale, Calvin L. Economic Areas of the United States. The Free Press of Glencoe, N.Y. 1961.

6/ 1972 Rand McNally Commercial Atlas and Marketing Guide. Rand McNally and Co., Chicago, Ill.

in the sense of having a dominating central city that influences both the immediate urban area as well as the surrounding rural area. The logic is of trading area linkages rather than the journey-to-work logic of Fox and Berry. The 489 Rand McNally Basic Trading Areas were aggregated into 49 Major Trading Areas.

Office of Business Economics Regions

A delineation of 171 multicounty areas was prepared by the Office of Business Economics. Three basic guidelines were used to delineate these areas: They were to include all counties; they were to be large enough so that estimates of income and other economic and social attributes would have statistical reliability; and they were to conform to functional economic area logic to the extent that limited time and research budgets permitted. These areas are useful units of analysis for many subnational problems, but many of the areas are so large in terms of trading and commuting patterns that local development problems are often averaged out.

Governors' Delineations Under A-95

Another altogether different line of historical development in area delineation followed from efforts by the Bureau of the Budget to coordinate development programs and planning at the Federal level. Guidelines to encourage the use of common boundaries of planning and development districts when Federal assistance is involved appeared in 1967 in Circular A-80. Subsequent circulars, particularly A-95, released in 1969, added further impetus to delineation of multicounty planning and development districts by the governors of the various States. So far, 39 governors have responded by delineating their States into 487 sub-State districts. Estimates by ERS of what is likely to evolve when the other 9 States delineate suggest that this process will result in possibly 509 multicounty districts covering all counties in the 48 conterminous States. The logic underlying the delineation seems to vary from careful application of functional economic logic to application of largely political considerations. In any event, these areas are about the right size on the average and they have the advantage of fitting into a political organization for policy implementation.

There are some practical political and social considerations that suggest that it may be useful to deviate from functional economic logic in delineating multicounty planning districts, such as the governors' delineations. Seven criteria to consider which seek to compromise among the various economic, social, and political forces follow.

1. Let outer border follow county lines (or equivalent).
2. Let the entire area be within one State.

3. Let the area be a politically feasible coalition for planning and implementation of policies with respect to the needs of the governor, the congressman, local government groups, and local centers of economic activity.
4. Where feasible, have an economic base sufficient for planning and growth with respect to human resources, natural resources, communications and transportation, institutions and local urban economy and heterogeneous industrial and occupational mixes.
5. Consider potential as well as present resources, e.g., a 100-percent rural area might be a self-contained planning area if a new town of, perhaps, SMSA size were included in the plan.
6. Consider each area relative to contiguous counties so that, when other areas in a State are delineated later, they will be consistent with what is currently being delineated and each county will belong to a meaningful planning area.
7. Consider functional economic relationships subject to satisfaction of the above requirements in order to allocate hinterland counties to relevant centers and to include all counties of the Nation in meaningful aggregations with respect to commuting patterns, communications, trading areas, and community facilities.

Basic Economic Research Areas

The Economic Research Service of the United States Department of Agriculture has delineated all counties in the 50 States into 482 multicounty areas. There are 472 areas in the 48 contiguous States. Berry's commuting pattern and Rand McNally's trading area logic was considered in this effort. In order to include each county in exactly one multicounty area, ERS also considered size of the largest city and travel conditions so that commuting from the fringe of an area to its center could be feasible whether or not commuting was reported by the Census. Most of the multicounty areas obtained by this procedure appear to conform closely to the idea of a functional economic area with an urban center and an interrelated hinterland. But, of course, it contains several rural areas that are sparsely populated and have villages or small towns as their "center". These areas cross State lines where functional considerations appear to warrant it.

From the several delineations discussed above, we seek one on which to base indicators for rural development. The conditions we imposed were that the delineation selected include all counties in the Nation, and that functional economic considerations form the basis for the delineation. Both the Rand McNally Basic Trading Areas and the Basic Economic Research Areas,

while differing from each other in the operational definition of "functional," meet these two criteria. Also, the governor-designated areas may be functional, but from yet a third meaning of the term. They depend heavily on political and social considerations, and may or may not include economic considerations.

APPROPRIATENESS OF ALTERNATIVE DELINEATIONS

In this section, we hypothesize that the description we get from given indicators for a set of multicounty areas depends upon the delineation used. We also hypothesize that the more structural disaggregation of variables required in an analysis, the more critical the delineation becomes. Acceptance of these hypotheses implies that the results of economic analysis, and subsequent policy recommendations for rural development, may also vary among research projects.

We selected 9 delineations and 12 specific economic indicators for the purpose of examining the consequences of alternative regional delineations. The 9 delineations are for the 48 contiguous States, including the District of Columbia. Listed in order of the number of observational units defined, they are:

1. 3,068 counties (COUNTY)
2. 509 governor delineated districts (A-95) ^{7/}
3. 507 State Economic Areas (SEA)
4. 489 Rand McNally Basic Trading Areas (MCBTA)
5. 472 Basic Economic Research Areas (BERA)
6. 171 Office of Business Economics Regions (OBE)
7. 119 Economic Subregions, which are aggregates of State Economic Areas (SUBSEA)
8. 49 Rand McNally Major Trading Areas, which are aggregates of the Rand McNally Basic Trading Areas (MCMTA)
9. 49 States including the District of Columbia (STATES)

These nine delineations range from individual counties up through States. Counties were used as building blocks in forming each delineation. The logic underlying the delineations varies from functional economic considerations, through homogeneity criteria, to political subdivisions.

The 12 specific economic and social indicators are:

1. Percentage of population urban, 1960 (URBAN)
2. Percentage of population farm, 1960 (FARM)
3. Percentage of employment white-collar, 1960 (WH COL)

^{7/} The governors had, at the time of writing, delineated 487 regions in 39 States. ERS has filled in delineations for the remaining 9 States, using the seven rules for delineation discussed in the previous section.

4. Percentage of employment finance, insurance, and real estate, 1960 (FIRE)
5. Income per capita, 1960 (IN/CAP)
6. Percentage of families, 1960, with 1959 income less than \$3,000 (POVERT)
7. Percentage of housing units sound, 1960 (HOUSE)
8. Percentage of persons age 25 and over with high school or more education, 1960 (EDUCAT)
9. Percentage of commercial farms with sales greater than \$10,000, 1964 (COMFRM)
10. Retail sales per capita, 1963 (RS/CAP)
11. Bank deposits per capita, 1960 (BD/CAP)
12. Local government expenditures per capita, 1962 (GE/CAP)

Relating these variables to the framework in table 1, we see that some of the specific variables are inputs, some are outputs, and some play both roles simultaneously. Furthermore, some of the variables are ratios of input or output, while others are specific differentiating characteristics. Each variable can be associated with general concepts. For example, income per capita is a specific output of the development process associated with the level of development, a general concept. The percentage of population urban is neither an input nor an output but is a differentiating characteristic formed from the ratio of two outputs and serving as an indicator of the general concept agglomeration. Education may be thought of either as an input reflecting the quality of human resources, or as an output associated with changes in the quality of life.

The nine delineations vary from highly disaggregated (3,068 counties) to highly aggregated (48 States and the District of Columbia). Similarly, we can look at each of the 12 specific variables separately or we can aggregate them into fewer variables, even into a single index number. Two general approaches to tests of the appropriateness of the alternative delineations were undertaken. In the first, the 12 specific variables were combined into a single index reflecting the general level of economic development of an area. In the second, properties of each of the 12 variables, and relationships among the variables, were compared for alternative delineations.

When Specific Variables are Aggregated

The 12 specific variables were aggregated into a single index of economic development by means of principal component analysis. The procedure assigns weights to each specific variable. The resulting index can be used to rank subareas. That is, the counties can be ranked from 1 to 3,068, and the States from 1 to 49, in terms of the level of economic development. ^{8/}

^{8/} For a detailed discussion of an index of this type see, Edwards, Clark, Coltrane, Robert, and Daberkow, Stan. Regional Variations in Economic Growth and Development with Emphasis on Rural Areas. U.S. Dept. of Agr., Agr. Econ. Rpt. 205, May 1971.

Principal component weights for each of the 12 specific variables were calculated for each of the nine delineations (table 2). Results obtained for each delineation gave the impression that the principal component computations are not very sensitive to variations in delineations. We calculated the difference each coefficient was from the comparable BERA coefficient in table 2. ^{9/} The absolute differences averaged from less than .01 for the A-95 areas to about .03 for the Rand McNally Major Trading Areas (MCMTA). We do not know of a test of significance for the differences among principal component weights computed from correlation matrices from different populations. What we did instead, was to aggregate the specific variables into an index for individual multicounty areas and then test that the ranks obtained were significantly different.

To do this, we applied each of the nine sets of weights in table 2 to the 472 observational units in the BERA delineation. This gave us nine alternative indexes for the BERA delineation. A test of rank differences between the nine indexes failed to discriminate significantly among the alternative delineations. The smallest rank correlation coefficient, indicating the largest difference in ranks, computed between the BERA's ranking with its own set of weights and with an alien set of weights, was .9992 (table 3). This ranking was the one associated with weights derived from State data. The widest single variation in ranks was found in an instance where a State vector placed an area 42 ranks away from where the Rand McNally Major Trading Area vector placed it.

When Specific Variables are not Aggregated

The nine delineations can be compared for the specific variables to test for differences in computed properties of each variable and for differences in estimated relationships among variables. To examine properties, we compared the mean, variance, and degree of skewness of a specific variable among delineations. To examine relationships, we compared correlation and regression coefficients among delineations.

Descriptive Properties of Specific Variables

The analysis displayed quite a bit of variation in the first, second and third moments for each specific variable for alternative delineations. In the two sections below, we discuss the variations in the first and third moments. The second moment was used in constructing some of the statistical tests.

Means.--Table 4 lists the mean and standard error of the mean for each of the 12 specific variables for the BERA delineation. For the other eight delineations, table 4 shows for each variable, the extent the mean differed from the

^{9/} The BERA delineation was chosen as the basis for comparison because, a priori, it most closely follows the logic of functional economic areas.

Table 2.--Specific variables and their weights used to construct an index of economic development for alternative subregional delineations

Specific variables	Principal component weights										
	COUNTY	A-95	SEA	MCBTA	BERA	OBE	SUBSEA	MCMTA	STATES		
URBAN.....	.2686	.2894	.2954	.2822	.2780	.2792	.2907	.2927	.3050		
FARM.....	-.2178	-.2161	-.2459	-.2027	-.2194	-.1957	-.2268	-.2080	-.2398		
WH COL.....	.3211	.3157	.3156	.2964	.3119	.3110	.3153	.3040	.3197		
FIRE.....	.2744	.2707	.2782	.2458	.2527	.2570	.2810	.2719	.2859		
IN/CAP.....	.3530	.3476	.3421	.3580	.3569	.3503	.3307	.3231	.3412		
POVERT.....	-.3413	-.3343	-.3253	-.3296	-.3403	-.3283	-.3169	-.3041	-.3222		
HOUSE.....	.3498	.3392	.3353	.3438	.3444	.3349	.3265	.3225	.3345		
EDUCAT.....	.3280	.3091	.3038	.3100	.3112	.3042	.2938	.2852	.2612		
COMFRM.....	.2094	.2176	.1988	.2380	.2312	.2358	.2305	.2814	.1932		
RS/CAP.....	.2897	.2845	.2934	.2888	.2766	.2905	.2943	.3097	.2858		
BD/CAP.....	.2503	.2555	.2630	.2672	.2657	.2667	.2702	.2390	.2562		
GE/CAP.....	.2014	.2447	.2303	.2618	.2329	.2733	.2650	.3002	.2839		

Table 3.--Test of difference in ranking of multicounty areas by weights derived from alternative delineations using the BERA delineation as a base

ITEM	COUNTY	A-95	SEA	MCBTA	OBE	SUBSEA	MCMTA	STATES
Rank correlation coefficient.....	.99982	.99992	.99973	.99978	.99969	.99980	.99946	.99917
Rank of coefficient..	2	1	5	4	6	3	7	8
Maximum single deviation from BERA rank	15	7	14	12	13	13	19	27
Rank of deviation..	6	1	5	2	3.5	3.5	7	8

Table 4.--Indicator of differences in means of specific variables for alternative delineations using the BERA delineation as a base

Specific variables	Standard errors from BERA $\frac{1}{2}$											BERA
	COUNTY	A-95	SEA	MCBTA	OBE	SUBSEA	MCFTA	STATES	Mean	Standard error		
URBAN.....	-20.43	-2.71	4.68	2.55	7.37	4.88	15.72	13.98	50.15	.8994		
FARM.....	14.89	2.00	-5.17	-4.01	-4.35	-2.44	-11.11	-9.62	15.11	.5152		
WH COL.....	-18.77	-2.45	2.59	1.38	6.08	2.90	6.84	13.70	35.99	.2639		
FIRE.....	-13.55	-0.56	4.87	1.82	8.97	7.48	19.12	18.06	2.90	.0466		
IN/CAP.....	-12.13	-2.38	1.98	1.20	3.15	-0.18	8.39	10.81	1550.88	16.3949		
POVERT.....	12.73	2.28	-1.59	-2.01	-2.19	1.52	-4.67	-7.88	28.27	.5758		
HOUSE.....	-13.68	-2.36	2.59	2.44	3.53	-0.10	7.59	9.09	64.88	.5869		
EDUCAT.....	-6.73	-2.31	-2.21	-1.30	1.18	-4.35	2.29	5.35	39.34	.4010		
CONFNM.....	-5.48	-2.35	-2.28	-1.81	-0.95	-3.52	-2.91	1.02	41.69	.7880		
RS/CAP.....	-15.13	-3.02	-3.67	-1.68	-0.55	-4.66	-0.90	3.76	1263.54	11.0108		
BD/CAP.....	-9.45	-1.34	0.11	-0.01	2.77	2.50	8.22	13.53	931.50	16.9974		
GE/CAP.....	-5.62	-4.24	-3.85	-3.03	-1.82	-5.16	-1.44	9.05	197.83	2.9215		
Total of absolute values.....	148.59	28.00	35.59	23.24	42.91	39.69	89.20	106.85	-	-		
Mean of absolute values.....	12.38	2.33	2.97	1.94	3.58	3.31	7.43	8.90	-	-		

1/ A mean less than 1.96 standard errors from BERA is not significantly different at the .05 level. A mean less than 2.59 standard errors from BERA is not significantly different at the .01 level.

2/ Computed with the formula, $\frac{\bar{x}_j - \bar{x}}{\text{BERA}}$
Standard error



BERA mean using the BERA standard error as a unit of measurement. For example, the BERA mean for percentage of population urban was 50.15. The COUNTY mean for the same variable was 31.8 percent, 20.43 standard errors smaller than the BERA mean.

An indicator of the degree of closeness of a vector of means to the BERA means was constructed as the sum or absolute values of differences from the BERA means. The Rand McNally Basic Trading Areas (MCBTA) had means which, on average, were closer to the BERA means than any other delineation. The sum for the MCBTA's totaled 23.24, an average of 1.94 standard errors. The A-95 and SEA delineations also have means very close to the BERA means, so BERA, MCBTA, A-95, and SEA delineations would be expected to give about the same average picture of the levels of the specific variables. The size of the indicators for the COUNTY, STATE, and MCMTA delineations suggest altogether different average pictures.

Skewness.--Indicators of differences in skewness of specific variables for alternative delineations, using the BERA delineation as a base, are shown in table 5. The coefficient of skewness was calculated according to the formula:

$$a = \frac{1}{N} \sum \left(\frac{X_j - \bar{X}_j}{s_{X_j}} \right)^3$$

If the sample comes from a normal population it is distributed with a mean of zero and a standard deviation of:

$$s_a = \left(\frac{6}{N} \right)^{1/2}, \text{ when } N \text{ is large.}$$

The ratio, a/s_a , measures the number of standard deviations the observed coefficient of skewness is from zero. This ratio is tabulated for the BERA delineation in table 5. For example, the BERA coefficient of skewness for percentage of population urban was 1.06 standard deviation above zero. A coefficient above zero suggests a distribution that is skewed to the right. However, a ratio less than 1.64 rejects the hypothesis of skewness at the .05 level for large N. So the percent urban variable is apparently not skewed significantly. Following these rules, 8 of the 12 variables are skewed in the BERA delineation. Of these, the quality of housing variable is skewed to the left, the other seven, to the right. The four variables that appear to be normally distributed are percent urban (URBAN), income per capita (IN/CAP), percent with a high school education (EDUCAT), and the percent of commercial farms with sales over \$10,000 (COMFRM).

Table 5.--Indicator of differences in skerness of specific variables for alternative delineations using the BERA delineation as a base

Specific variables	Differences in skerness from BERA $\frac{1}{}$										BERA $\frac{2}{}$
	COUNTY	A-95	SEA	MCBTA	OBE	SURSEA	MCMTA	STATES			
URBAN.....	8.26	.74	-.36	1.80	.06	-.76	-1.47	-.97	1.0648		
FARM.....	5.05	-1.02	1.00	.56	-3.37	-4.25	-6.90	-6.82	7.9503		
WH COL.....	11.80	1.52	-.03	1.33	-1.28	-3.50	-3.82	-3.86	3.6380		
FIRE.....	22.70	1.35	.32	2.45	-6.09	-8.48	-10.92	-10.93	11.7838		
IN/CAP.....	12.12	1.29	-.75	-.08	-.30	-.35	-1.12	-1.01	1.0382		
POVERT.....	.42	-1.47	.35	-.07	-3.76	-4.88	-6.34	-5.94	7.0275		
HOUSE.....	-1.47	.16	-1.26	-.49	2.48	2.82	3.54	3.33	-4.0106		
EDUCAT.....	3.70	.11	.44	1.50	.99	.68	.97	.90	1.1535		
CONFIRM.....	4.82	-.17	.78	.66	.40	.52	-.04	-.68	-0.2130		
RS/CAP.....	-.40	-1.81	-2.76	2.45	-1.18	4.17	-3.05	-1.82	2.7240		
BD/CAP.....	47.06	22.81	3.95	.64	-2.92	-5.10	-12.87	-12.75	15.8740		
GE/CAP.....	36.94	-.63	.38	-.34	-3.61	-4.25	-6.45	-5.56	7.2408		
Total of absolute values:	154.74	33.08	12.38	12.37	26.44	39.76	57.49	54.57	-		
Mean of absolute values:	12.90	2.76	1.03	1.03	2.20	3.31	4.79	4.55	-		
Standard deviation $\frac{3}{}$.....	.0447	.1089	.1086	.1109	.1844	.2199	.7946	.7946	.1127	

1/ Differences in skerness from BERA was computed with the formula, $\frac{s_j}{s_a} - \frac{s_{BERA}}{s_{aBERA}}$, where a = coefficient of skerness and $s_a =$ standard deviation.

2/ The number of standard deviations (s_a) the coefficient of skerness (a) is from zero. This was computed with the formula, $\frac{s_{BERA}}{s_{aBERA}}$.

3/ The standard deviations (s_a) were computed with the formula, $s_a = \sqrt{6/N}$ when N was greater than 200. When N was less than 200, the values for s_a were interpolated from Appendix table A6, page 552 in Snedecor and Cochran, Statistical Methods, Iowa State University Press, Ames, Iowa, 6th edition, 1967.

In table 5, we show for each of the other eight delineations the difference in the ratio of the coefficient of skewness to its standard deviation from the BERA ratio for each of the 12 specific variables. For example, while the BERA coefficient of skewness for the percentage of population urban was 1.06 standard deviations above zero, the comparable coefficient for the counties was 9.32 standard deviation above zero, 8.26 standard deviation higher than BERA. This means this variable was significantly skewed to the right for counties whereas it appeared not to be skewed for the BERA's.

An indicator of the degree of closeness of a vector of coefficients of skewness to the BERA vector was constructed. This indicator was the sum of the absolute value of differences from the BERA coefficients. This sum totaled 12.37 for Rand McNally Basic Trading Areas (MCBTA) and 12.38 for State Economic Areas (SEA), an average difference of only 1.03 standard deviations. The variables in the OBE and A-95 delineations were also close to BERA in terms of skewness. The COUNTY variables had by far the greatest average difference from BERA in skewness.

Conclusions.--We conclude from the shifts in calculated value for means, variances, and coefficients of skewness that the descriptive properties of a specific variable is a function of the delineation. We found that BERA, MCBTA, A-95, SEA and OBE appear to have similar descriptive properties.

Relationships Among Specific Variables

So far, we have found that generating aggregative economic indicators, such as simple rankings of regions in terms of level of economic development, is not particularly sensitive to alternative delineations. But we have found that the descriptive properties of specific variables, such as the mean, variance, and skewness, are sensitive. In this section, we examine whether relationships among variables, such as simple correlations and single equation regressions, are sensitive to alternative delineations. Correlation and regression coefficients are examples of statistics used to quantify the theories for which we earlier expressed concern. Curry has said "the real problems in the study of areal associations are not statistical, but rather the dearth of theory on the processes producing the association."^{10/}

Correlations.--Indicators of differences in simple correlation coefficients for specific variables, using the BERA delineation as a base, are shown in table 6. Simple correlation coefficients were calculated among the 12 variables for each delineation. That is, for each delineation, each variable was correlated with 11 other variables. The 99-percent confidence limits were calculated for each BERA correlation coefficient. Finally, it was determined

^{10/} Curry, L. "A Note on Spatial Association." The Professional Geographer, Vol. 18, 1966.

Table 6.--Indicator of differences in simple correlation coefficients for specific variables for alternative delineations using the BERA delineation as a base

Specific variables	Number of correlation coefficients that were significantly different from comparable coefficient in the BERA delineation 1/								
	COUNTY	A-95	SEA	MCBTA	OBE	SUBSEA	MCMTA	STATES	
URBAN.....	5	5	9	4	1	11	8	9	
FARM.....	2	0	7	2	0	9	5	8	
WH COL.....	1	4	6	5	2	10	7	7	
FIRE.....	2	3	9	2	1	11	6	10	
IN/CAP.....	3	3	6	1	3	9	8	8	
POVERTY.....	3	2	4	1	2	10	7	6	
HOUSE.....	0	1	7	2	3	11	9	8	
EDUCAT.....	2	1	4	0	1	7	6	4	
COMFRM.....	2	0	0	0	0	9	10	5	
RS/CAP.....	8	4	7	0	5	11	10	9	
BD/CAP.....	2	0	4	0	1	9	3	5	
GE/CAP.....	4	1	3	3	7	11	11	2	
Total with double-counting removed	17	12	33	10	13	59	45	44	

1/ The number of correlation coefficients falling outside the 99-percent confidence limits of the BERA correlation coefficients. For each delineation, the maximum number for each variable is 11 and the maximum number for each column total is 66.

Regressions.--Stepwise regressions on the 12 variables provide additional evidence that estimates of economic structure are a function of the regional delineation. The right hand column of table 7 shows the order in which each specific variable entered a stepwise regression, using the BERA delineation. In this regression, income per capita was treated as the dependent variable to be explained by the other 11 variables. The intensity of poverty (POVERT) was the first variable to enter the BERA regression; the percent with a high school education (EDUCAT) was the last to enter. Also shown in table 7 is a measure of the difference from the BERA order that the 11 variables entered regressions for the other delineations. For example, the percent urban variable, which entered fourth in the BERA regression, entered six steps later, or tenth, in the COUNTY regression.

An indicator of the similarity to the BERA order in which variables entered a stepwise regression for the other delineations was calculated by summing the positive differences (table 7). The regression with an ordering closest to the BERA order was the Rand McNally Basic Trading Areas (MCBTA). The A-95 areas were also fairly similar in structure to the BERA areas. The States and the State Economic Areas (SEA) show the greatest difference in economic structure from the BERA areas by this criterion. The magnitude of the difference in the SEA ordering from the BERA ordering is not surprising due to our earlier finding that the correlation coefficients were quite different. This is especially interesting when we recall that the descriptive properties for SEA's and BERA's were quite similar in terms of means, variances, and skewness.

As an alternative to stepwise regression, a single equation model to explain income per capita with five independent variables was fitted for each of the nine delineations. The model was:

$$\text{IN/CAP} = a + b_1 \text{URBAN} + b_2 \text{FIRE} + b_3 \text{POVERT} + b_4 \text{RS/CAP} + b_5 \text{BD/CAP}.$$

In view of what we said about the importance of theory in constructing economic and social indicators for rural development, one might hope that this equation was deduced from economic development theory. But it was not. It is the equation obtained from the first five steps in the stepwise regression using the BERA areas.

Using this model, four of the nine delineations generated coefficients which were statistically significant at the .01 level for all five independent variables. One delineation, of course, was BERA. The other three were A-95, MCBTA, and SEA (table 8). Only three of the five coefficients were significant at this level for States and for Rand McNally Major Trading Areas (MCMTA).

Not only were the coefficients for BERA, A-95, MCBTA, and SEA all significantly different from zero (table 8), they were also not significantly different from each other (table 9).

whether each corresponding coefficient for the other eight delineations fell within the confidence limits for the BERA coefficients. Table 6 shows the number of correlation coefficients for each specific variable that were outside the confidence interval for the comparable BERA coefficients.

Five of the 11 correlation coefficients for the percent urban variable in the COUNTY delineation fell outside the 99-percent confidence limits for the BERA coefficients. For the percent urban variable, the SUBSEA delineation had the most coefficients (11) that were significantly different, while the OBE delineation had only one coefficient falling outside the confidence limits.

An indicator of the degree of closeness of the correlation coefficients for the eight alternative delineations to BERA was constructed by summing the number of coefficients for each delineation that was significantly different from BERA. This total for the Rand McNally Basic Trading Areas (MCBTA) with double counting removed, was 10. This indicates that the correlation matrices for the Rand McNally Basic Trading Areas and for BERA are relatively similar. The governors' districts under A-95 and the Office of Business Economics delineation (OBE) also had correlation matrices similar to the BERA matrix. The State Economic Area (SEA) matrix was quite dissimilar from the BERA matrix with 33 coefficients, or half of the 66 computed, significantly different. Thus, while the SEA delineation earlier showed little difference from BERA's in terms of descriptive properties of each variable such as central tendency, here it shows considerable difference in terms of structural interrelationships. We believe this is because the SEA's were delineated on the basis of homogeneity of specific attributes, whereas the BERA's were delineated on the basis of functional economic considerations. Hence, both have about the same descriptive content but are structurally dissimilar. The delineation that showed the greatest difference in the correlation matrix from the BERA matrix was the Economic Subregions (SUBSEA), where 59 of the 66 elements were significantly different (table 6).

The problem of correlation coefficients varying among areal units was discussed by King. ^{11/} He cites several studies that also discuss the problem. King quotes Yule and Kendall ^{12/} as saying that "correlations will ... measure the relationships between the variates for specified units chosen for the work. They have no absolute validity independently of those units, but are relative to them." We agree with Yule and Kendall in general, but we find that measures of relationships between variables have some validity for other observational units delineated with similar criteria. For example, we might get by using MCBTA correlations, but not SEA correlations, to analyze BERA units. Or, stated another way, we would get about the same results using either MCBTA or BERA correlations, but we would get different results using SEA correlations.

^{11/} King, Leslie J. *Statistical Analysis in Geography*. Printice-Hall Inc., Englewood Cliffs, N.J. 1961, pp. 154-7.

^{12/} Yule, G. V., and Kendall, M. G. *An Introduction to the Theory of Statistics*. Hafner Publishing Co., New York, N.Y. 1950, p. 312.

Table 7.--Order in which specific variables enter a stepwise regression for alternative subregional delineations using the BERA delineation as a base for comparisons

Specific variables ^{1/}	Differences from BERA order ($x_j - x_{BERA}$)									
	COUNTY	A-95	SEA	MCBETA	OBE	SUBSEA	MCMTA	STATES	BERA	order
URBAN.....	-6	-7	-4	0 *	0 *	-4	-4	-6	4 *	4 *
FARM	-4	-1 *	-4	-3 *	-2	-4	-4	4 *	7 *	7 *
WH COL.....	0 *	2 *	4 *	0 *	4 *	1	0	-2	6 *	6 *
FIRE.....	0 *	0 *	-8	0 *	-9	0 *	0 *	-7	2 *	2 *
POVERT.....	0 *	0 *	0 *	0 *	0 *	0 *	0 *	-5	1 *	1 *
HOUSE.....	2 *	0 *	5 *	2 *	-1	5 *	-1	8 *	9	9
EDUCAT.....	8 *	5 *	5 *	0	6 *	4	7 *	4	11	11
COMFRM	1 *	0	1	2 *	3 *	1	3	-1	10	10
RS/CAP.....	-5 *	0 *	-4 *	0 *	0 *	-3	-2 *	1 *	3 *	3 *
BD/CAP.....	1 *	0 *	2 *	0 *	-3 *	2 *	-4	1 *	5 *	5 *
GE/CAP.....	3 *	1 *	3 *	-1 *	2 *	-2	5 *	3	8 *	8 *
Total of positive values.....	15	8	20	4	15	13	15	21	-	-

^{1/} Income per capita was the dependent variable.

* Specific variables which would have been in an equation selected by stepwise regression such that each variable in the equation is significant at the .05 level.

Table 8.--Constant terms, partial regression coefficients and coefficients of determination for alternative subregional delineations ^{1/}

Subregional delineation	Relative frequency of significant variables			Constant term	Partial regression coefficients ^{2/}					Coefficient of determination
	*	**			URBAN	FIRE	POVERT	RS/CAP	BD/CAP	
COUNTY.....	1	0	4	1,746.008	0.193 (0.143)	51.055 (3.357)	-18.865 (0.238)	0.096 (0.011)	0.066 (0.009)	.85
A-95.....	0	0	5	1,580.331	1.961 (0.405)	39.211 (7.156)	-18.934 (0.637)	0.183 (0.030)	0.066 (0.017)	.91
SEA	0	0	5	1,591.522	1.926 (0.366)	28.139 (6.275)	-19.093 (0.620)	0.194 (0.030)	0.090 (0.017)	.92
MCBTA.....	0	0	5	1,465.273	2.971 (0.390)	41.004 (6.171)	-18.725 (0.580)	0.215 (0.028)	0.072 (0.016)	.91
BERA	0	0	5	1,502.328	2.484 (0.417)	33.017 (7.234)	-18.475 (0.655)	0.207 (0.030)	0.095 (0.019)	.90
OBE.....	0	1	4	1,255.269	4.728 (0.691)	22.215 (11.216)	-17.678 (1.056)	0.328 (0.049)	0.072 (0.024)	.94
SUBSEA	1	0	4	1,367.816	3.489 (0.869)	17.899 (15.180)	-16.856 (1.284)	0.262 (0.071)	0.108 (1.027)	.95
MCMTA.....	1	1	3	1,107.007	4.179 (1.609)	-2.358 (30.600)	-16.347 (2.632)	0.493 (0.157)	0.114 (0.039)	.95
STATES.....	2	0	3	951.350	6.926 (1.519)	18.767 (26.727)	-15.071 (2.275)	0.440 (0.092)	0.048 (0.036)	.94

^{1/} Income per capita was the dependent variable.

^{2/} Values in parentheses directly below the partial regression coefficients are the corresponding standard errors (s_b).

* t value significant at the .05 percent level.

** t value significant at the .01 percent level.

Table 9.--Test of differences in regression coefficients derived from alternative delineations using the BERA delineation as a base

Subregional delineation	Significance of differences from BERA regression coefficients					
	URBAN	FIRE	POVERT	RS/CAP	BD/CAP	
COUNTY.....	*	-	**	-	*	*
A-95.....	*	**	**	**	*	*
SEA.....	*	**	**	**	*	**
MCBTA.....	*	*	**	**	*	*
OBE.....	-	*	*	-	*	*
SUBSEA.....	-	-	-	*	*	**
MCMIA.....	-	-	-	-	*	**
STATES.....	-	*	-	-	-	-

- Coefficient is more than 2 standard deviations from BERA coefficient.
- * Coefficient is more than 1 and less than 2 standard deviations from BERA coefficient.
- ** Coefficient is less than 1 standard deviation from BERA coefficient.

Conclusions.--The discussion of correlation coefficients and stepwise regressions suggested that three delineations, BERA, MCBTA and A-95 were much alike in terms of an apparent economic structure that reflects relationships among specific variables. Structure estimated for one of these delineations might be used for analysis of relationships in the other two.

The structure estimated with the SEA delineation was different from the estimated structure of the BERA, MCBTA and A-95 delineations. However, when the specific, five independent variable model was fitted for all delineations, the SEA's generated coefficients which were close to those found for the BERA, A-95 and MCBTA delineations. The SEA's gave the right answers for the wrong reasons. They have an underlying structure different from the BERA structure because 10 of the 15 correlation coefficients involved in the model were significantly different from the BERA correlation coefficients. Further, 11 independent variables entered a stepwise regression equation in a different order than the variables entered in the BERA equation. Thus, it seems the SEA's were able to generate about the same estimates of structure for the five independent variable model as the BERA's because: (1) the model was imposed on the SEA's, (2) the descriptive properties of the five explanatory variables were about the same as the BERA's in terms of means, variances, and skewness, and (3) there was a high correlation between some of the independent variables for the SEA delineation with some variables not in the equation--WH COL was highly correlated with URBAN and FIRE in the SEA's.

The OBE delineation had a structure somewhat similar to the BERA structure. Fifty-three of the 66 correlation coefficients computed for the OBE regions were not significantly different from the BERA coefficients. Further, the OBE data reproduced the BERA coefficients for the regression model fairly well. However, there was enough difference in the order in which the variables entered the stepwise regression model for the OBE regions to warn against applying conclusions drawn from analyzing OBE regions to problems defined for the BERA's. The States seemed to diverge most from the BERA's in terms of relationships among specific variables.

SUMMARY

Valid economic and social indicators form a useful background for developing and implementing policies for rural development by explaining and describing rural development problems. They can be used to empirically evaluate specific goals for rural economic development policy and point to instrumental goals to serve as aids to policy implementation. Such indicators can be used to evaluate national development targets and to suggest required elements of a program which needs to be coordinated in reaching targets. They can help in tailoring national policies to the needs of local multicounty areas with different economic and social structures, such as those that are more rural-oriented or that have a lower level of agglomeration.

We discussed reasons why indicators are needed and we proposed definitions for related terms. We discussed five difficulties that might limit the usefulness of a proposed set of economic and social indicators. (1) Indicators must be problem-oriented in order to make relevant problems more visible and better understood. (2) Indicators must be rooted in development theory and contain operational definitions of general theoretical concepts in order not only to describe but also to analyze and explain. (3) Indicators must be capable not only of summarizing the general status of one region relative to another, but also of providing considerable detail in order to identify differentiating characteristics that tell us whether one region is displaying a different way of rising to a higher general level of activity than another. (4) Indicators must be reported for carefully chosen observational units, which contain the local development problem and have internal means to help solve the problem, because empirical results of research are a function of the observational units chosen. (5) Indicators must be based on current, reliable statistical series uniformly available for all 3,000-plus counties in order to apply the results to all residents of the United States.

PART V

RACE AND CULTURE

This section contains a series of papers documenting various research efforts dealing with minority group concerns. While the "Civil Rights Movement" is into its third decade of activity, it has been primarily an urban movement. Only recently has there been much impact on change in attitudes and behavior on the part of the majority as well as the minority group members in isolated rural areas. Kuvlesky and Dietrich report on a longitudinal study of the perception of race relations by the minority group.

Domestic workers are representative of a specialized work group in our society. Among the several unique characteristics of this work group are some that are similar to other specialized work groups, especially agricultural workers. They generally have low skill, as perceived by the larger labor market. They generally have a high level of loyalty to their employer. They are relatively isolated from one another in the work setting. Thomas identifies these and other factors as he assesses the potential for organizing domestic workers to potentially improve their lot in life.

Barnes and Harper report on the problems associated with the potential for changing the racial composition of the faculty in an institution of higher education. Mookherjee and Hess are investigating community participation on the part of Negroes and comparing these patterns with those of whites in the same communities.

The relation between minority and majority groups will continue to be a legitimate concern for the Sociologist until all perceived and real differences are eliminated. Until that time, the Sociologist has the obligation to continue to study the phenomenon in the hopes of pointing a direction towards the resolution of the various problems while at the same time he is sharpening his theoretical and analytical tools and thus enhancing the utility of his discipline for other areas of concern in the society.

A LONGITUDINAL STUDY OF BLACKS' PERCEPTIONS OF RACE RELATIONS:

A STUDY OF VILLAGE BLACKS IN A SOUTHERN AREA*

William P. Kuvlesky and Katheryn (Thomas) Dietrich**

Abstract

The intent of this research was to explore the dynamics of race relation orientations among blacks using recent panel data from a sample of 52 black homemakers residing in two selected East Texas villages. Investigation of the respondents' orientations toward perception of racial prejudice among whites, desire for racial integration, and perception of opportunity for integration at two points in time, one year apart (70-71), provided the focus for analysis.

A general and consistent change was observed for all three orientations toward race relations to become less extreme over the one year: although still perceiving high white prejudice in 1971, it decreased from 1970; the polarized state of the respondents toward extreme positions on desire for integration in 1970 softened in 1971; there was a tendency for fewer blacks to desire a high degree of racial integration; by 1971 almost all respondents perceived integration as possible in most social contexts, except the church. Other more specific findings were reported on change relative to specific situational contexts and suggestions offered for future research.

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**Associate Professor and Research Associate, respectively, in the Department of Agricultural Economics and Rural Sociology, Texas A&M University.

The Problem

A few months ago, we reported findings from a recent study (Kuvlesky and Cannon, 1971) of differences between small town and village blacks in their perceptions of race relations. The purpose of this paper is to report findings from a follow-up of the village respondents carried out to₁ explore the stability of attitudes and perceptions about race relations.

As A. Lee Coleman (1965) pointed out several years ago--and as we confirmed in the review of research done for the paper mentioned above--there is almost a total lack of empirically based knowledge about how rural blacks in the South face and react to situations involving interracial associations. Until very recently, Rural Sociologists and other researchers have found it convenient or necessary to ignore this important part of their seemingly legitimate area of investigation. In the past several years, however, some researchers in the South have begun to probe this problem area as evidenced by several papers presented at these meetings the last several years (Rural Sociology Section, ASAW Proceedings, 1970 and 1971).

As far as we can ascertain, there is no reported research on the dynamics of prejudice or perceptions of it among black populations (Kuvlesky and Cannon, 1971). Given the existing concerns, with black separatism movements and racial conflict, this subject seems a very pregnant and timely area for empirical investigation. How stable are these phenomena? How are blacks' perceptions of prejudice and attitudes toward interracial relations changing, if they are at all? This report explores data from East Texas village homemakers, contacted at two points in time, one year apart, that can begin providing answers to these questions. More specifically, we will describe the extent of changes noted between spring, 1970 and spring, 1971 in the respondents':

- (1) Perceptions of racial prejudice directed toward them by local whites.
- (2) Desire for racial integration.
- (3) Perception of possibility for racial integration in the local area.

Review of Relevant Literature

As was mentioned previously, no directly relevant reports of data on dynamics of blacks' orientations toward race relations could be found. However, some general knowledge has been reported on the nature of differentials in blacks' orientations toward race relations that should be useful as a context in which to view the findings reported from these respondents. The evidence indicates that among blacks, females have stronger racial prejudices than males, that Southerners have stronger feelings than Northerners, and that rural dwellers have more intense orientations than metropolitans (Kuvlesky and Cannon, 1971). Consequently, if these generalizations are valid, the population we are concerned with here represents a group with some of the strongest and most intense feelings and orientations about race in the country--black women from the rural South.

The Subjects of Study

The data for this investigation came from part of a more comprehensive study of the nature of black families in selected communities of nonmetropolitan East Texas. We purposely selected one county that was judged to be fairly representative of the predominantly agricultural, nonmetropolitan eastern section of the state that is pervaded by the traditional southern culture. This county was predominantly rural (75%), had a disproportionately high rate of low-income families relative to Texas as a whole, and was about one-fourth Negro. A more detailed description of this county can be found in Appendix A.

Within this county, we selected two all-black, open-country villages as the universe for drawing our respondents. Our respondents were designated to be black homemakers having children in the household, not over 65 years of age, and not under 18 (unless they were the mother of at least one child). In both communities, about 50% of the black households were screened as relevant for this study, and we first interviewed all but one of the homemakers in these selected units during June of 1970. These selection criteria obviously produced a study population unrepresentative of the total black population in these centers: the prime population segments excluded were males, children, and old women. Usable responses were available from 51 of the 52 respondents interviewed in 1970 and 48 of these people were reinterviewed (using identical instruments) about one year later.

A rather thorough description of respondent attributes and living conditions is provided in the Kuvlesky and Cannon (1971) report mentioned earlier. The following key observations will provide a sketch of the population involved. The two villages selected were all black and physically isolated. Their schools were "integrated" only in the past two years. The majority of respondents were part of intact families averaging about six members, with family incomes of less than \$6,000. Few of the respondents had completed high school, and of those employed, most held unskilled jobs. Their average age was about 40 years and most were born in the area of present residence. County unit data indicate that black families are more disadvantaged than white families.

Instruments and Measurements

Three dependent variables are involved in this analysis: (1) perception of racial prejudice directed toward blacks by local whites; (2) desire for racial integration, and (3) perception of the possibility for racial integration in the local area. Instruments used to tap each of these variables consisted of multi-item inventories (scales)--see Appendix B.

Perception of Prejudice

According to Mann (1958:16), prejudice can be defined as "a tendency to believe that (a) some racial groups are superior to and therefore more socially desirable than others, and (b) members of one's own group are particularly desirable". Of course, prejudice can be either positive or negative and, according to Williams (1964:28), can be one of three types: cognitive, affective, and evaluative. The instrument we have constructed to measure blacks' perception of prejudice directed toward them by whites involves

only negative, cognitive (stereotyped) prejudice.⁴ Williams also cautions that negative prejudgments vary in inclusiveness relative to the target population (they may or may not include all segments of a particular population). The items used in our instrument specifically direct the black respondents' judgments to people in their local areas--"White people around here". See Appendix C for distribution of item responses.

Five forced-choice items were used, indicating stereotypes or attitudes towards blacks which are often held by whites: (1) "White people around here judge Negroes by the worse type of Negroes", (2) "White people around here don't like to be around Negroes", (3) "White people around here don't like white kids to play with Negro kids", (4) "White people around here never let you forget they are white and you are Negro", and (5) "White people around here think they are cleaner than Negroes". The respondents were asked to respond to the extent with which they agreed that whites in their local areas held each of these by indicating a preference for one of four scaled options: (1) "strongly disagree", (2) "tend to disagree", (3) "tend to agree" and (4) "strongly agree". By adding the scale values of individual items (according to the numbers shown above for the response alternatives), total scale score was achieved for "perceived prejudice". Potential variation in scores ranged from 5-20.

Desire for Racial Integration

Desire for integration was indicated by six forced-choice items calling for an indication of the respondent's preference for interacting with "Negroes Only" or "Negroes and Whites" in the following social contexts: church, children in school, children at play outside of school, living in the neighborhood, "close personal friendships", and ownership of stores patronized. These contexts cover a range of degree of informality--formality in social relations, which had been found to influence racial attributes among both blacks and whites (Williams, 1964:253 and 297-298). A total score was derived to indicate "desire for integration" by adding scores of the six individual items ("Negroes Only" = 1; "Negroes and Whites" = 2). The potential range in variation of total scores was 6-12.

Perception of Possibility for Integration

Perception of possibility for integration was elicited by an instrument which included items representing the same contextual situations as those described above for desire for integration except store ownership. The respondent was asked to indicate whether it was possible or not for Negroes and whites to interact in the five social situations specified. Possible was scored "1" and not possible "2", and the scores were summed to produce a total scale score indicating perceived degree of possibility for integration. The potential range in scores is 5-10 (the lower the score, the higher the possibility).

Analysis - Findings

Perception of Racial Prejudice

At the time of the first contact--spring, 1970--the respondents generally perceived a high degree of negative racial prejudice among local whites (Table 1). One year later, the black females perceived somewhat less prejudice directed toward blacks by local whites, as indicated by a substantial decrease of more than one point in the mean Perceived Prejudice Scale (PP) score over the one-year period. Still, most of the blacks continued to perceive a high degree of racial prejudice in 1971: two-thirds of respondents still perceived whites to hold most or all of the stereotyped negative attitudes about blacks considered in the study.

The nature of the distribution of the respondents according to the degree of prejudice perceived also changed over the one-year period (Table 1). Considerable dispersion existed in both 1970 and 1971; however a clear change away from a tendency to perceive extremely high degrees of prejudice took place as indicated by the following observations: the proportion expressing the strongest possible degree of perceived prejudice (PP score of 20) decreased from almost 1/5 in 1970 to almost none in 1971; the proportion exhibiting a high degree of prejudice (PP score of 16 to 20) decreased from over 1/2 in 1970 to only 1/3 in 1971. It can be concluded that from 1970 to 1971 the respondents were generally moving away from extreme positions on the amount of prejudice perceived, particularly in reference to high degrees of prejudice.

Analysis of responses to the individual items reveals less agreement in 1971 with each of the items except, "White people around here think they are cleaner than Negroes". This general trend indicates that the pattern of change previously described for the PP scores reflects a change involving almost all racial stereotypes used (Table 2). The most extreme changes in responses to the individual items were observed in reference to the only two items indicating prejudice relative to interracial contact--"being around Negroes" and "children playing with Negroes". In both cases, about 20% fewer of the respondents perceived whites to be prejudiced in 1971 than in 1970. The only item not following the general pattern of change noted above, implying whites think that Negroes are dirty, still attracted strong endorsement from almost all the respondents. The more detailed picture of distribution of the original responses to these individual prejudice items (given in Appendix C) clearly indicates a general trend toward movement of responses from "Strongly Agree" (most prejudice) to "Tend to Disagree".

Desire for Integration

Although the mean DI scale scores suggest only a very slight overall change in desire for integration, the distribution of respondents' scores indicated that there was a shift in 1971 from the positive to the neutral and negative portions of the scale (Table 3): the proportion of those generally desire integration over a broad spectrum of social contexts (DI scores of 10-12) decreased from 41% in 1970 to 29% a year later.

Table 1. Percentage Distribution of "Perceived Prejudice" Total Scores by Year of Contact.

PP Score		Spring, 1970 (N=51)	Spring, 1971 (N=48)
-----Percent-----			
Generally Did <u>Not</u> Perceive Prejudice	5 (-)	2	0
	6	2	0
	7	(10) 0	(10) 2
	8	4	2
	9	2	6
	10	6	4
	11	(16) 0	(21) 4
	12	10	13
Generally Perceived Prejudice	13	4	11
	14	(20) 2	(36) 6
	15	14	19
	16	10	11
	17	19	8
	High 18	(54) 2	(33) 2
	19	4	8
	20 (+)	19	4
Total		100	100
Mean		15.24	14.17
No Information		1	

Perhaps more significant was the trend away from extreme responses to neutral (DI=9) and moderate responses: note that the two polar extreme score categories (6 and 12) both decreased by 10% over the one-year period. It can be concluded that the rather marked polarization of the respondents in 1970 over the issue of racial integration was softening by 1971.

An examination of responses to the six individual contexts of social interaction will give some idea of the consistency of the general patterns noted above relative to different situations (Table 4). These are described by the nature of change as follows:

No Change

School: The population was about equally split on integration at both contacts.

More in Favor of Integration

Stores (buy from): A very substantial shift in those favoring buying from integrated stores over segregated ones.

More Opposed to Integration

Church: About two-thirds of the group opposed integration in 1970 and over 80% in 1971.

Children at Play: A substantial increase in the proportion opposed, but the group is still roughly split on integration.

Neighborhood and Friendship: Very slight increases in proportion opposed to integration. It is difficult to attribute much significance to this given the small absolute numbers involved.

In summary, the pattern of change over the individual social contexts examined was mixed. However, the 1971 profile appears to be pointing at a developing pattern of differentiation in attitudes toward the preference for racial integration in social situations calling for formal, impersonal situations (i.e., stores and schools) and for segregation in informal social relationships.

Perceived Possibility for Integration

The blacks changed less in their perceptions of the possibility for integration than in the other sets of perceptions studied. Again, however, there was movement in 1971 away from scale extremes (Table 5). The movement was most marked at the positive, or low, end of the scale; proportionately fewer respondents perceived integration to be possible in every situation specified. Nevertheless, the overwhelming majority of respondents perceived integration to be possible in most of the situations. This proportion increased in 1971 to include almost the entire village population--96% of them.

An examination of the individual social context items indicates that the black homemakers did not judge all social situations to be the same in reference to the possibility of integration in either year (Table 6). In general, the patterning of responses by social context was similar in both

Table 2. Summary of Affirmative Responses (Strongly Agree and Agree) to Perceived Prejudice Items by Year of Contact.*

Item	Spring, 1970	Spring, 1971	Change 70-71
-----Percent Affirmative-----			
1. Judge Negroes by Worst	72	62	-10
2. Don't Like to be Around Negroes	70	50	-20
3. Don't Like White Kids to Play With Negro Kids	66	44	-22
4. Never Let You Forget You Are a Negro	80	69	-11
5. Think They Are Cleaner Than Negroes	82	87	+ 5

*Positive responses indicate perception of prejudice on the part of local whites.

Table 3. Percentage Distribution of "Desire for Integration" Total Scores by Year of Contact.

DI Score	Spring, 1970	Spring, 1971	
	(N=52)	(N=48)	
	-----Percent-----		
Desire Segregation In Most	6 (-)	31	21
	7	(49) 10	(54) 10
	8	8	23
	9	10	17
Desire Integration In Most	10	9	8
	11	(41) 9	(29) 8
	12 (+)	23	13
Total	100	100	
Mean	8.79	8.56	

Table 4. Preference For Racial Integration as Opposed to Segregation in Six Different Social Contexts by Year of Contact.

Social Context	Prefer Racial Integration		Change 70-71
	Spring, 1970	Spring, 1971	
	-----Percent-----		
Stores (Buy From)	48	69	+21
Church	37	17	-20
School	56	58	+ 2
Children (Play)	54	40	-14
Neighborhood	44	40	- 4
Friendship (Close)	40	33	- 7

Table 5. Percentage Distribution of "Perceived Possibility for Integration" Total Scores by Year of Contact.

PPI Score	Spring, 1970 (N=52)	Spring, 1971 (N=48)
	-----Percent-----	
Possible In Most	5 (+) 54	38
	6 (88) 19	(96) 27
	7 15	31
Impossible In Most	8 6	2
	9 (12) 6	(4) 2
	10 (-) 0	0
Total	100	100
Mean	5.90	6.04

Table 6. Perceived Possibility for Integration in Different Social Contexts by Year of Contact.

Social Context	Perceived as Possible		Change 70-71
	Spring, 1970	Spring, 1971	
-----Percent-----			
Church	65	46	-19
School	100	100	0
Children (Play)	88	96	+ 8
Neighborhood	88	94	+ 6
Friendship (Close)	67	60	- 7

years but more distinct in 1971. There was slight increase in perceived possibility for integration in the neighborhood and in regard to black and white children playing together. The most dramatic change was a marked decrease in regard to the possibility of racial integration in church. In fact, by 1971 the church was the only social context of the five considered in which the majority of the blacks viewed integration as impossible. A slight decrease in perception of the possibility for integration in close friendships was noted, but a majority still were optimistic about possibilities for integration in this context. By 1971 almost all respondents judged integration to be possible in schools, in neighborhoods, and among children at play.

Desire vs. Opportunity for Integration

A summary comparison of aggregate proportions of respondents desiring integration as opposed to those perceiving it as possible in each of five social contacts reveals a relatively stable and consistent pattern of much more perceived opportunity for racial integration than desire for it (Table 7). A marked trend toward greater divergence between desire and opportunity for racial integration was observed in the case of "children at play" and, to a lesser extent, "neighborhood". From this it can be concluded that there is a perceived deficiency of desire for racial integration relative to what is perceived as possible. Furthermore, this discrepancy either remained stable or increased over time.

A summary of the observations pertaining to desire for integration and perception of opportunity for integration by social context indicates that the patterns of change for these two types of orientations were not markedly dissimilar (Table 8): a marked decrease in desire and perception of opportunity was noted in reference to the church and similar but less substantial decreases in reference to close friendships. Also, in both cases there was little change in reference to the school. Substantial marked disparity in nature and degree of change between desire and perceived opportunity for integration was observed clearly only in reference to children at play--in which case, desire decreased and perception of opportunity increased. A similar but less marked pattern of divergence was noted for the neighborhood.

Summary and Conclusions

Summary: Patterns of Change

A major finding that cuts generally across all three race orientations of the black females studied here is that their orientations tended to become less extreme over the one-year period investigated. There was a tendency to move from both ends toward the middle in reference to all three scale measures-- Perception of Prejudice, Desire for Integration, and Perceived Possibility of Integration (Table 9). The tendency for the group to polarize into opposing camps on perception of prejudice and desire for integration in 1970 was softened considerably in 1971. And, the rather extreme optimism about the possibilities of racial integration evidenced in 1970 increased slightly for some situations but decreased dramatically in reference to the

Table 7. Comparison of Aggregate Differences for Each Social Context Considered in Proportion of Respondents Desiring Integration as Opposed to Proportion Perceiving its Possibility in 1970 and 1971.

Social Context	1970			1971		
	Possible	Integration Desire	Difference	Possible	Integration Desire	Difference
-----Percent-----						
Church	65	37	-28	46	17	-29
School	100	56	-44	100	58	-42
Children (Play)	88	54	-34	96	40	-56
Neighborhood	88	44	-44	94	40	-54
Friendship	67	40	-27	60	33	-27

Table 8. Summary of Nature and Degree of Change Between 1970-1971 in Desire and Perception of Opportunity for Racial Integration Relative to Five Social Interaction Situations.

Social Context	Desire		Opportunity	
	Nature (70-71)	Magnitude (Change in %)	Nature (70-71)	Magnitude (Change in %)
Church	-	20	-	19
School	+	2	None	0
Children (Play)	-	14	+	8
Neighborhood	-	4	+	6
Friendship	-	7	-	7

Table 9. Summary of General Changes in Respondents' Orientations Toward Race Relations

	<u>1970</u>	<u>1971</u>	<u>Change</u>
Perception of Prejudice	High	Moderately High	--
Desire for Integration	Polarized	Moderately Low	Slight -
Possibility for Integration	Very High	Very High	Slight -

church. The vast majority of the black respondents still perceived integration to be possible in most situations.

Patterns of more specific change worthy of note were gleaned from individual item analysis of the inventories used for each of the three variables represented:

- (1) Only one item of the five prejudicial items investigated failed to be perceived less in 1971 than in 1970--the one implying that blacks are dirty.
- (2) Desire for shopping in racially integrated stores increased markedly, while desire for integrated churches and children's play groups declined sharply and desire for integration in close friendships and neighborhood declined slightly.
- (3) Perception of the possibility for integration remained relatively high for all social contexts except for church, where it declined markedly.
- (4) Differences between desire for integration and perception of opportunity increased in reference to neighborhood and children at play.

Summary: Stable Patterns

Given the general trends of change noted above, it should be pointed out that certain very broad similarities persisted in these orientations of the respondent over the one-year period involved:

- (1) A marked majority perceived racial prejudice directed toward them by local whites.
- (2) A marked majority preferred segregation to integration in most social contexts.
- (3) Almost all perceived racial integration to be possible in most social contexts.
- (4) Many more respondents saw integration as possible than desired it.

Conclusions

It can be concluded that perception of prejudice directed toward blacks by whites declined substantially over the one-year period but still remained high, that preference for integration declined slightly in general but that considerable variation existed in the extent to which it was desired by the respondents, and that little significant change occurred in the generally optimistic perception of the possibility for racial integration. Also, it can be concluded that the respondents as a whole became more moderate in their orientations toward race relations between 1970 and 1971. In addition, it can be concluded that the nature of the social context of interracial associations influenced the nature of changes observed in the respondents' desire for integration (or, conversely, segregation) and their perception of its possibility in their local areas. This contextual variation was clearly patterned in reference to desire for integration--integration becoming more desirable in formal contexts of association and less so in those normally considered as informal.

Discussion

Because of the inherent limitations of the data at hand, one must be very cautious about generalizing from the observations reported here on the dynamics of blacks' orientations toward race relations. The question raised by our findings are more significant than any general statements about the phenomena we might stretch our necks to offer. More specifically, the limitations are a small, homogeneous population and a short time span (one year). Still, the report is deemed of particular significance as a focal point for comparison of future sets of observations due to the total lack of empirical knowledge about historical change in blacks' orientations toward race relations.

Our findings suggest some very definite trends of historical change in the black homemakers' orientations over the one-year period involved. Additional research is needed to test the validity and reliability of our measures with identical or similar populations located elsewhere in the rural South and to determine whether these patterns can be generalized to include other segments of the population--adult black males and black youth residing in similar places, other residence types (including metropolites) and blacks living in other regions. Also, we need to extend the period of time over which observations are made of the same respondents--one year is hardly sufficient to determine whether or not we are perceiving lasting patterns or just short-term fluctuations.

Our findings raise other questions which, hopefully, will stimulate future research of significance and relevance. What explains the variability observed, particularly in reference to desire for integration and perception of opportunity, among the relatively homogeneous respondents studied here: age, SES, past racial experiences, values? What accounts for the variation in the desirability of racial integration among different social contexts? Our findings appear to indicate that the informal-formal variation in structure of the interaction is involved.

Do we have a good body of theoretical and research knowledge about dynamics of racial prejudice and orientations toward race relations? As far as we can determine, we do not! Our observations point at some directions future attempts to meliorate this situation might take as a start:

- (a) Why does actual integration or perception of its possibility decrease desire in some contexts and increase it in others? Why does this tendency occur in some informal situations and not in others?
- (b) What other factors (independent or mediating) are involved in changing perceptions and desires? What kinds of exposure precipitate change? What contexts of interaction with whites produce positive and what contexts, negative effects? What of the effects of mass media? How much and what kind of change can be attributed to it?
- (c) How much do changes in perceptions of white prejudice and of possibilities for integration reflect changes in the actual nature and degree of interracial social contact.

Obviously the answer to such questions will require a much larger investment of research resources than we have made in the past. Our own investigation is too small in scope and numbers to be of much utility in providing anything other than gleams of insight in reference to complex questions of the kind just posed.

The findings of our study, because they were gleaned from villages which are probably typical of many Negro settlements throughout the rural South, offer provocative suggestions of trends which may be occurring in this region of the United States:

1. Institutional integration (especially school integration) has not been accompanied in the short run by increased desire for integration in informal social contexts.
2. Segregation is still very salient in informal social contexts and is likely to remain so, given blacks' desires and irrespective of their positive perceptions of opportunity for it to take place.
3. Blacks' sensitivity to white prejudice--reflecting, too, their own prejudice--and concomitant feelings of hostility may be lessening. Thus, the violence which has accompanied integration in urban areas throughout this country is unlikely to erupt in the rural South.

The implications of such trends could have considerable relevancy for race relations theory and policy-making. The fact that there has been no comparable, empirical investigations to establish what trends exist demonstrates an abysmal failure of sociologists to scientifically address what is perhaps the most critical social issue of our time. The time has come when we can no longer excuse the lack of involvement in researching this problem area because of lack of administrative support and facilitation and high personal and professional risks. Valid scientific knowledge is a prerequisite to ordered, rational meliorative action. It is our task to build the knowledge base relative to interracial problems in the rural South.

Footnotes

1. The Texas 1970 study includes other residence types but only the village dwellers were followed as a panel in 1971. In truth, the longitudinal follow-up was not originally intended and money for an extensive follow-up did not exist. However, because we had interviewers with ample experience (trained for the 1970 survey) still residing in the area, a follow-up on the small number of village respondents could be done with little cost. With little cost and little difficulty, we could at least begin to satisfy our curiosity about the dynamics of the phenomena under scrutiny.
2. The fact that our respondents are Southern, black females and predominantly lower-class would indicate that they should be more highly prejudiced on the average than most other social groupings, according to the literature reviewed above. It is quite possible that some more select subsamples of rural black women in the South might be more extreme than the population involved here. Certainly, poor black youth from both rural and urban regions of the South might represent populations with more extreme orientations and views.
3. The race relation instruments used here were piggy-backed onto a set of instruments on family structures, processes, and resources developed in collaboration with a number of other researchers participating in an interdisciplinary, interstate study (NC-90) which attempts to discover family-related factors involved in the inter-generational perpetuation of poverty. The screening criteria described above were decided upon by this larger research group relative to needs of the larger study. The Texas Agricultural Experiment Station accepted responsibility for the representation of a sample of Southern, rural Negroes in the larger project. Other state Experiment Stations collaborating on this project are California, Hawaii, Illinois, Indiana, Iowa, Kansas, Missouri, Nebraska, Nevada, Ohio, Vermont, and Wisconsin.
4. This is a modification of a scale reported by Works (1961), which he indicated had high face validity. Perceptions of prejudice projected at a group by others is, itself, an indicator of cognitive prejudice on the part of the subject groups. Consequently, the degree of prejudice blacks perceive directed toward them is, at least in part, an indicator of their prejudice toward whites and has been used as such in past research (Works, 1961).
5. Store ownership was not used in the perception of opportunity inventory, although it was in the desire for integration inventory. Otherwise the social context items in the two inventories are comparable. Store ownership was added to the DI scale after the other comparable relationship types were decided upon as a test of its utility. Although we did not originally plan to use it in calculating the total DI scale, it did differentiate well--it was more useful than the school item in this regard--so we decided to use it.

6. Similar to most of our colleagues in the South, we take the position that Sociologists' greatest possible contribution to society will come from producing a better knowledge about race relations rather than from their own direct action in leading social change. For a different point of view, see a recent article by Norman in Phylon (1971).

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APPENDIX A

Description of the Study County

A significant correlate of the cultural type of the "Old South" is a negative attitude toward the process of school integration. The study county has clearly exhibited this attitude: One of the major independent school districts in the area was among the 46 in Texas which was still not racially integrated at the end of the 1969-70 school year. Only when threatened by a federal law suit (which it was almost certain to lose) did this district finally desegregate.

The study county is economically dependent upon cattle, broilers, and lumber. It is heavily rural, with only one urban place (i.e., community of 2,500 or more in population) and one other town of slightly more than 1,000 people. Though the percentage of rural residents has declined slightly in the last decade, still about 75% of the population lives in rural areas (Upham, 1971). Twenty-two percent of the total employed males are in farming, (1960 Census, Vol. 1 - 45:535), and 58% of the families have an income of less than \$3,000 per year (Kuvlesky and Wright, 1970:31): these figures are slightly higher than would be typical in most counties of East Texas.

The proportion of blacks in the study county is 25% of the population (1970 Census of the Population, Advance Report on Texas General Population Characteristics:41). As one would expect in this area, there are significant differences in standard of living between the black and white populations. An overwhelming 79% of the nonwhite population in the study county lives in poverty (i.e., annual income less than \$3,000 yearly) (1960 Census, Vol. 1 - 45:599). The occupational profile of the nonwhite population is similar to that for Texas in general: blacks are sparsely represented in the higher prestige job categories, while there are disproportionate numbers of black service and private household workers and black laborers, especially farm (Lever and Upham, 1968:106-107). Likewise, the blacks in the study county have substantially fewer years of schooling: almost 62% received less than eight years of schooling, compared to 43% of the total Shelby population (1960 Census, Vol. 1 - 45:513 and 590).

APPENDIX B: RACE RELATIONS

INSTRUMENTS

1. Perception of Prejudice Directed Toward Negroes by Whites.

Please tell me how much you agree or disagree with the following statements:
(Indicate the four alternatives to the respondent before reading the statements.
Circle one number for each. FORCE A RESPONSE.)

- (a) "White people around here judge Negroes by the worse type of Negroes."

4	3	2	1	
				(A-20)
Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	

- (b) "White people around here don't like to be around Negroes."

4	3	2	1	
				(A-21)
Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	

- (c) "White people around here don't like white kids to play with Negro kids."

4	3	2	1	
				(A-22)
Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	

- (d) "White people around here never let you forget they are white and you are Negro."

4	3	2	1	
				(A-23)
Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	

- (e) "White people around here think they are cleaner than Negroes."

4	3	2	1	
				(A-24)
Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	

(A-25, 26)

2. Desire for Racial Integration:

If it were possible, would you prefer:
 (Read this statement prior to each item.)

Negroes
Only OR Whites
 and

(Read this after each item.)

- | | | | |
|---|---|---|--------|
| (a) To go to church with | 1 | 2 | (A-30) |
| (b) To have my children attend school
with | 1 | 2 | (A-31) |
| (c) Outside of school, to have my children
play with | 1 | 2 | (A-32) |
| (d) To live in a neighborhood with | 1 | 2 | (A-33) |
| (e) To have <u>close</u> , personal friendships with | 1 | 2 | (A-34) |
| (f) To buy from stores owned by | 1 | 2 | (A-35) |

(A-36, 37)

3. Perception of Possibility of Racial Integration:

Which of the things mentioned below do you think are really possible
now where you live?

- | | <u>P</u> | <u>NP</u> | |
|---|----------|-----------|--------|
| (a) For Negroes and Whites to attend
church services together | 1 | 2 | (A-40) |
| (b) For Negro and white children to
attend the same school | 1 | 2 | (A-41) |
| (c) For Negro and white children to
play together outside of school | 1 | 2 | (A-42) |
| (d) For Negroes and whites to live
close together in the same neighborhood | 1 | 2 | (A-43) |
| (e) For Negroes and whites to have <u>close</u> ,
personal friendships | 1 | 2 | (A-44) |

(A-45, 46)

Part I: Distribution of Responses to "Perceived Prejudice" Items By Village Dwellers in 1970 and 1971

Table 1. Item 1a: Responses to "White people around here judge Negroes by the worst type of Negro."

	1970 (N=51)	1971 (N=48)	% Change 70-71
-----Percent-----			
1. Strongly Disagree	8	2	-6
2. Tend to Disagree	20	36	+16
3. Tend to Agree	31	29	-2
4. Strongly Agree	<u>41</u>	<u>33</u>	-8
TOTAL	100	100	

Table 2. Item 1b: Responses to "White people around here don't like to be around Negroes."

	1970 (N=51)	1971 (N=48)	% Change 70-71
-----Percent-----			
1. Strongly Disagree	8	6	-2
2. Tend to Disagree	22	44	+22
3. Tend to Agree	41	33	-8
4. Strongly Agree	<u>29</u>	<u>17</u>	-12
TOTAL	100	100	

Table 3. Item 1c: Responses to "White people around here don't like white kids to play with Negro kids."

	1970 (N=51)	1971 (N=48)	% Change 70-71
-----Percent-----			
1. Strongly Disagree	6	10	+4
2. Tend to Disagree	28	46	+18
3. Tend to Agree	35	36	+1
4. Strongly Agree	<u>31</u>	<u>8</u>	-23
TOTAL	100	100	

Table 4. Item 1d: Responses to "White people around here never let you forget they are white and you are Negro."

	1970 (N=51)	1971 (N=48)	% Change 70-71
-----Percent-----			
1. Strongly Disagree	6	4	-2
2. Tend to Disagree	14	27	+13
3. Tend to Agree	33	33	0
4. Strongly Agree	47	36	-11
TOTAL	100	100	

Table 5. Item 1e: Responses to "White people around here think they are cleaner than Negroes."

	1970 (N=51)	1971 (N=48)	% Change 70-71
-----Percent-----			
1. Strongly Disagree	6	0	-6
2. Tend to Disagree	12	13	+1
3. Tend to Agree	31	54	+23
4. Strongly Agree	51	33	-18
TOTAL	100	100	

PROBLEMS AND PROSPECTS IN ORGANIZING
BLACK DOMESTIC WORKERS IN A SOUTHERN CITY

By George Thomas

In recent years the concept of self help has been re-discovered and proclaimed a bright new hope for lifting the poor beyond their present circumstances. Self initiated-- or at least self administered--collective action has been portrayed as a new solution to the seemingly intransigent plight of the worst off among us.¹

This wave of opinion is not wholly reassuring in light of other evidence. Investigators of CAP agencies concluded recently, for example, that there was a virtual absence of poor people from decision-making and leadership roles in such programs throughout the nation.² Others, on observing collective actions taken by AFDC mothers against Welfare Departments in New York City, rather gloomily concluded that far too many drop out immediately after their most pressing grievances are assuaged.³ Indeed, specific to domestic and allied workers, anything less than an extremely tight labor market might make collective bargaining for job improvements quite hazardous.⁴ During

¹Riessman, F., "Self-Help Among the Poor: New Styles of Social Action," Trans-Action 2:6 (Sept./Oct., 1965), pp. 32-37; Paull, J. E., "Recipients Aroused: The New Welfare Rights Movement," Social Work 12:1 (April, 1967), pp. 101-106; Katz, A. H., "Self Help Organizations and Volunteer Participation in Social Welfare," Social Work 15:1 (January, 1970), pp. 51-60; Levy, C. S., "Power Through Participation: The Royal Road to Social Change," Social Work 15:3 (July, 1970), pp. 105-108.

²Marris, P. and Rein, M., Dilemmas of Social Reform (New York: Atherton Press, 1969), pp. 167-68.

³Cloward, R. A., and Piven, F. F., "Migration, Politics, and Welfare," Saturday Review (November 16, 1968), pp. 31-35.

⁴Tobin, J., "On Improving the Economic Status of the Negro" in: T. Parsons and K. Clark (eds) The Negro American (Boston: Beacon, 1967), pp. 451-477.

periods of high unemployment competition for unskilled jobs increases which in turn may help dissuade those still employed from making job demands that might lead to dismissal.

STUDY DESIGN

Against this backdrop of theoretical pros and cons, a study was launched in the spring of 1970 in a Southern city of approximately 100,000 population, specifically aimed at assessing the potential for collective action among black women currently employed in households and organizations in domestic and allied types of jobs.

The city and surrounding area utilizes a large number of persons of both sexes in such types of work, probably owing to the fact that its economy is based in government, university, trade, and commercial activities. At the time of the study, the local office of the State Employment Service estimated about 5,500 persons employed in domestic and allied jobs in the city and surrounding areas. There is a suspicion, but no proof that this source of employment serves as a potent attraction pulling large numbers of poor rural blacks into the city.

To assess potential for undertaking actions in one's own behalf and for participating in collective actions to achieve self improvement, information was sought on how these women have responded to problematic situations at three levels, as follows:

1. The Personal Level, as measured in responses to temporary personal crises:
2. The Job Level, as measured in responses to personally recognized needs for job related improvements;
3. The Community Level, as measured in patterns of knowledge about and participation in relevant local issues which had provoked social action during the time of the study.

Additionally, enough respondents were sought representing both household and service jobs⁵ to allow for some beginning comparisons between these two groups of women.

⁵ Service workers are those employed in formal organizations in activities similar to those engaged in by household domestics. In this study, 10 service workers were employed by local universities and 14 by government offices and commercial establishments.

The importance of such comparisons for assessing the organizability of women in these jobs generally is underscored by Sheppard's recent work on rural to urban migrant black women.⁶ His study suggests that younger black women are likely to be better educated, more self-assertive, and less likely to accept employment in household domestic occupations upon reaching the city than their predecessors.

Should this be so, the differences between service household workers might be so profound as to outweigh similarities, thereby undercutting the bases for uniting in collective actions.

SAMPLE

Under the direction of the author, seven graduate students in social work⁷ undertook a systematic door-to-door campaign in Frenchtown, the major black enclave, to locate all women residents employed in domestic type jobs. Generally, the students worked in pairs and proceeded from a clearly demarcated border to contact every household along the four main streets of the enclave.

Time limitations prevented even a close approximation of an enumeration by this method. Thus, on a preestablished date the search was terminated. By that time approximately 20 percent of the area had been covered and 70 interviews had been completed utilizing a standard questionnaire which took roughly 2 hours to administer. Sixty-five interviews were found usable, 41 for household workers and 24 for service workers.

Because of the thoroughness of the canvas of the area covered, the fact that no refusals were encountered, and that analysis of census tract data for 1960 revealed no essential socio-economic differences between the covered and uncovered areas of the enclave, we believe

⁶ Sheppard, H. L., New Perspectives on Older Workers (Kalamazoo, Michigan: The Upjohn Institute, May, 1971).

⁷ The students were: Tom Boswell, Tim Carabello, Betty Franklin, Mel Kessinger, Caroline Mack, Mary Ann Reed, and Gloria Walker.

the findings to have general utility for pointing up problems and prospects in organizing domestic workers in this particular Southern city.

FINDINGS

Personal Backgrounds

All the women in the study were born in the South, and most were of local origin, 77 percent originating in the state of current residence. Most were also raised in rural areas. Seventy-four percent gave tenant farming as the chief occupation of one or both parents.

Generally, the women were middle aged and poorly educated, 52 percent having completed less than 8 years of schooling. Most (71 percent) did not have a man in the house, but in spite of this were surprisingly stable. Over two-thirds of the women had either never moved or had changed residences only once in the last decade, and, 57 percent were buying or currently owned their own homes.

Specifically, service workers were both younger on the average (43 vs 48 years of age) and slightly better educated (8.5 vs 7.2 years of formal schooling). Household workers, reflecting their greater average age were more likely to be widowed, and service workers were more likely to have never married. Also, a higher proportion of service workers were born out of state while household workers were almost entirely of local origin.

Job Conditions

Household workers (N=41) tend to have been with their current employers much longer and to have much more varied work schedules than their counterparts employed in organizations. Over half of them had been with the same employer over 7 years while less than one third of service workers worked a regular 40 hour week (either all days or all nights) nearly a third of household workers said their hours fluctuate from less than 20 to over 40 from week to week. Household workers are also found to work holidays, evenings, and weekends more frequently, mostly at the impromptu requests of employers.

At the same time, these flexible schedules seem tailored to some pronounced needs of household workers. For example, over one third of the household workers said serious illness caused them to miss work for periods exceeding two weeks in the last year, while no service worker indicated missing such a long period of work. Clearly such long periods off did not jeopardize the household worker's continued employment. It remains a moot point

whether the service workers attendance records reflect generally superior health or fear of loss of job should they absent themselves for extended lengths of time.

Income, Benefits, and Job Expenses

Service workers tend to be much better paid but also to receive fewer benefits and to absorb more expenses related to employment. About 83 percent of service workers earned over \$50 per week while only about 15 percent of household workers fell in this category. One third of service workers and over two thirds of household workers fell below \$3,000 in total family income. All service workers who fell below this mark were receiving supplemental public assistance payments, compared to less than one fourth of household workers.

Table 1 illustrates the differences in frequencies of job benefits received by the two groups.

TABLE 1

Percentage of Workers Receiving Job Benefits to Which Employer Contributes

	Household Worker (N=41)	Service Workers (N=24)
Social Security	76 %	79 %
Sick leave with pay	63	63
Extra pay for overtime	49	42
Vacation with Pay	49	42
Meals on job	88	17
Paid time off for personal business	49	33
Transportation costs	51	

Household workers are not only more heavily subsidized in some matters (e.g. meals and transportation costs), they also pay out less in way of expenses. For example, of those covered by social security all service but only half of household workers share in the cost. Again, while about three fourths of service workers are required to have uniforms at their own expense, two thirds of household workers have uniforms provided without cost.

An insight into the personalized quality of the employer-employee work relationships experienced by household workers is also afforded in the disclosure of one leading white citizen that "toting privileges" are commonly considered a job benefit in such work locally. "Toting privileges" constitute the unspoken agreement of the employer that the employee may appropriate household foods and sundries for her own use as long as the cost does not become outrageous. It is unlikely that any such "benefit" is assented to in organizations.

Unmet Family Needs

It is surprising at first blush that 73 percent of the total sample indicated experiencing no unmet basic needs (food, clothing, shelter) during the previous 12 months. This was also true when basic needs were extended to cover health and medical care. In this matter, 71 percent said they had no health or dental needs which went unattended in the last year.

On the other hand, living expenses are low for these women in general. For example, among the 42 percent who rent (N-37), most paid around \$50 per month or less for housing. Considering job related benefits in the bargain, it is understandable that, even among those indicating unmet needs, clothing was the only item consistently mentioned, and this mostly by women who had to meet their own on-the-job uniform expenses.

When it comes to medical care, it would seem that these women have established relationships with local doctors which enable them to meet medical expenses by working out individualized payment plans. Over 80 percent of the total sample said they have a family doctor upon whom they can rely and who will accept payment whenever it can be made.

In sum, low housing costs, employment benefits, and individualized medical bill payment plans may help meet

some basic needs which could otherwise be expected to go unmet given prevailing low incomes.

But this is not to say that these women are necessarily satisfied with their present circumstances or complacent about the future. Yet this data should be kept in mind in assessing levels of self-initiative disclosed in responding to concerns of personal, job, and community magnitude, presented in the remainder of the paper.

Response to Temporary Personal Crises

The course of action these women would take depends on the nature of the crisis confronted, differing persons being utilized as resources for differing problems. Yet, there are important differences in some ways between household and service workers.

For example, if confronted with an unexpected lay-off more women in both groups would turn to the State Employment Office than anywhere else. Again, for those with children (N=31), the need for emergency child care would most often be met by turning to family members or close friends.

Of greater interest is the heavy reliance household workers place on their employers when faced with other kinds of short term crises. Forty-seven percent of household workers said they would first turn to their employers if they needed a small (less than \$25.00) loan until payday compared to 16 percent of service workers. When faced with an emergency need regarding transportation to work, 42 percent of household workers said they rely upon their employers while no service worker said she turns to her employer for help.

A fact of some importance to which we will return later is that when we asked these 65 women whom they rely on in 4 different types of temporary personal crises (a total of 260 possible choices) in only three instances did a respondent cite reliance upon her church or neighborhood organization.

A further glimpse of the highly personalized nature of the household worker's employer-employee relationship is afforded in responses to a series of questions designed to gauge respondents' beliefs about employers' willingness to assist in temporary crises. The data in Table 2 indicate household workers believe very strongly in employers' considerateness and willingness to help across a variety of situations.

TABLE 2

	Household Worker (N=41) % yes	Service Worker (N=24) % yes
Would employer make small (25.00) loan in personal emergency?	93 %	54%
Would employer provide emergency transportation to work?	98	25
Would employer allow paid time off in personal emergency?	64	42
Would employer allow use of his name as credit reference to get loan, credit card, etc.?	76	50
Would employer give two weeks or more notice in case of lay-off?	59	42

What seems evident here is that qualitatively different employer-employee relationships are perceived by service and household workers. Recalling also previous information on more flexible work schedules, more substantial subsidization of some benefits, seemingly greater employer tolerance for time off for health reasons, and "toting privileges", a composite picture begins to form of a rather intense and personalized employer-employee relationship as perceived by household workers. In times of temporary personal crises, the collective impression is that household workers consider their employers their main resource, whereas a similar conclusion cannot be drawn for service workers.

Response to Needed Job Improvements

Job satisfaction was measured in a variety of ways, including respondents' satisfaction with present salaries and work conditions as well as their predispositions and past actions toward either changing jobs or changing present job conditions.

While the great majority cited no unmet basic needs in the previous year, 71 percent of service workers and 61 percent of household workers said they felt they were not getting paid what they were worth. However, in regard to work conditions, only one condition needing improvement was mentioned with any regularity, this being in the general area of fringe benefits.

Issues related to better work schedules, shorter hours, improved equipment, better relationships with supervisors or employers, among others, were not of common concern. Only those benefits which would yield additional cash in pocket seemed to draw a response of any size. For example, roughly one third of each group expressed dissatisfaction with such things as sick leave pay, vacation pay, and so on. In short, whatever the level of job dissatisfaction, expression of dissatisfaction was universally converted to the concrete terms of inadequate money. Gauging by percentages dissatisfied with present salaries, it could be reasonably assumed that job dissatisfaction was rather high in both groups of workers.

Response to dissatisfaction was less than impressive, however, judging by our measure of the actions these workers had taken or are contemplating taking, particularly for household workers. For example, few household workers have ever directly discussed salary or raises with employers. While 71 percent of service workers said the subject of periodic wage increases was raised with their employers at point of hiring and that 54 percent of them initiated the discussion, the percentages for household workers were 39 and 27 respectively.

Moreover, during the period of subsequent employment, 75 percent of service and 83 percent of household workers said they had not broached the subject of wage increases. While this percentage is understandable for service workers-- it would be pointless to approach the subject if increases had been arranged in advance--the figure for household workers indicates a high level of reticence toward taking direct action to relieve their dissatisfactions over present wage levels.

A similar pattern appears relative to actions taken to relieve poor working conditions. While dissatisfaction appeared low in this area generally, 58 percent of service workers said they had at some time in the past raised one or more issues related to bad work conditions with their employers. By contrast, 75 percent of household workers said they had never raised any issue over dissatisfaction with work conditions during their terms of employment.

Other avenues to redress besides directing actions toward employers exist, the most obvious being changing jobs and/or seeking further training to prepare for a different kind of job. In this regard, a closer association appears between levels of dissatisfaction and contemplated action, particularly among service workers. Over half of the service workers said they were actively seeking another job at the time of the study, and 75 percent said they would be interested in vocational training which could prepare them for new and better jobs. This compares to only 23 percent of household workers actively seeking new jobs and 55 percent interested in vocational training.

It is of interest that aspirations in the vocational training area seem realistic. Service workers state preferences for training in restaurant cooking, sales, and nurses aid jobs, while household workers express interest in preparing for sales, clerical, and tailoring work. But this can be misleading given the facts that most of this training was already available to these women at convenient hours at a local vocational training school, and that no women in the sample was registered at the school during the time of the study, although almost all knew of its existence, location, and program.

In regard to the options of direct actions toward current employers and/or seeking or preparing for a new job, the picture is not overly bright. A final option would seem to have been open to these women at the time of the study short of organizing for collective action themselves; namely, the option of bringing their grievances individually to interested neighborhood and local organizations to gain support and representation. Several neighborhood organizations were at the time openly concerned with job exploitation among low paid blacks. Additionally, the local State Employment Service might have had legal obligations to intervene in some cases where wages were below minimum wage law levels and/or conditions did not meet health and safety standards. Concurrently, the Urban League was being promoted in the community as a new agency concerned with housing and work related problems of low income people.

This background suggests that representation was available, at least in selective cases. It is apparent from the responses of these women, however, that this option was either unknown to many of them or felt to be irrelevant to their needs. Only 4 of 65 women said they knew of a local organization which might be capable of favorably influencing their employers to change their wages or practices. Half of the women said there definitely was no such organization upon which they could rely, and, probably reflecting substantial uncertainty on the matter of community

resources, the remainder said they simply didn't know. Importantly, of the 4 women who said they knew of such a resource, 3 were service workers who said their unions could be relied upon to provide needed assistance with current grievances.

Response to Relevant Community Issues

A number of major controversies were raging in the city during the time the study was being conducted. The usual heat from political campaigns as election time for local offices neared only added to the general intensity of community concerns. Other, more prominent, and even sensational matters often overshadowed battles for political office.

During the spring of 1970, housing and jobs for low income people were pressing local issues. A movement among a number of well known citizens was underway to bring the Urban League to realization as a community resource. This drive was climaxed by the appearance of Whitney Young during that time. Also, several leaders of local black organizations were demanding a re-examination of an HUD proposal for a major housing and renewal project in Frenchtown. Resistance was developing around losses envisioned to low income, but land owning, blacks who could be displaced by the rental housing project.

The school integration issue also hit the scene with renewed intensity following the U. S. 5th Court of Appeal's rejection of the city's present plan for its public schools. A rising debate was developing over the implications of this rejection relative to having to adopt a forced busing plan for the coming year.

Finally, a local citizen was nominated for a seat on the U. S. Supreme Court and a strong pro and con reaction was beginning to take shape locally over this nomination. During this period, several mass marches composed mostly of university faculty, students, and black church members occurred publicly proclaiming opposition to the nomination.

These events provided an unusually apt context for assessing awareness of and participation in events of major pertinence to many of the women we talked to.

Awareness is one thing, but participation in any capacity seems to be quite another. Table 3 indicates many in both groups of workers had some awareness of the three issues which reasonably could be conceived to be of concern to them as local citizens, residents of Frenchtown, and blacks. However, Table 4, directly following, suggests that these women engaged very little in activities surrounding these events and issues.

TABLE 3

Percentage with Some Awareness of Prominent Social Issues

Have you heard about:	Household Workers (N=41) %yes	Service Workers (N=24) %yes
Controversy over Fed. Housing Proposals for Frenchtown	88 %	88 %
Forced busing controversy for coming school year	51	79
Controversy surrounding U. S. Supreme Court Nomination	37	50

Table 4

Percent Participating in Selected Local Events in Spring 1970

	Household Workers (N=41) % participating	Service Workers (N=24) % participating
Served in some capacity in local political campaign	5 %	13 %
Marched against U. S. Supreme Court Nominee	0	0
Helped in Organizing activities for Local Urban League	2	8
Attended neighborhood meetings in Frenchtown Housing Proposals	0	8
Attended PTA or neighborhood meetings on forced Busing	15	40
Participated in church and church sponsored (e.g., Boy Scouts) activities	24	67

Service workers seem slightly more aware of issues and somewhat more inclined to participate. However, levels of participation are very low all things considered: 86 percent of household and 92 percent of service workers said they participated in 2 or fewer organized activities in the last year. And participation was mostly of the followship variety: in only 15 percent of all instances of participation did respondents attribute to themselves a leadership role such as in holding a recognized office or having helped in organizing program activities.

The Church

Table 4 also indicates that participation was heaviest in church related activities although even here household workers report low involvement. Participation also seems generally limited to activities which have already won wide community approval, such as the Scouts. Only 6 women in the entire sample indicated that they had in some way supported a local black minister associated with the SCLC in the last year in his more radical community activities in behalf of the black community.

The Church, then, constitutes the major activity engaged in by these women. About 70 percent of each group of workers describe themselves as official church members and well over half indicate they attend the same church as the majority of their friends. When we consider in conjunction with these data the fact that 95 percent of household and 75 percent of service workers state that most of their friends live within walking distance in Frenchtown, it becomes obvious that these women commonly have small and narrow networks of contacts within their community.

The overall impression is one of low engagement in community affairs and issues, the lone possible exception being church related activities. When patterns of church participation are examined it also becomes clear that, in so far as church activities are socially related, these women select either churches or activities--or both--which are benign in outlook and commitments.

Concluding Observations

What then seem to be the prospects and problems in organizing domestic workers in this Southern City? The general impression is that prospects are far outweighed by problems.

It is clear that many of these women are not entirely satisfied with their current circumstances. It is equally clear, however, that, however, that far too few of these women in far fewer instances have evidenced a propensity toward--or actual engagement in--self initiated action aimed at changing

things, either individually or as participants in existing organizations.

Organizing for collective action must initially at least capitalize on existing levels of personal willingness to act, or promote this willingness among prospective participants. In turn, to promote willingness to get involved, those organizing for collective action must hit upon areas of common interest and concern.

With these women, it seems likely that collective action would have to begin at the level of generating within them a greater commitment to personal involvement. Yet, what common concerns could be played upon to produce this result?

The data here suggest that the concerns as well as the patterns of action taken in response to them differ markedly between service and household workers, with the possible exception of common dissatisfaction with present wages.

Household workers in particular evidence strong, highly personalized relationships with their employers. They rely upon employers in times of temporary crises and strongly believe that they will help out whenever possible. At the same time, they indicate practically no willingness to place direct demands upon their employers for improved conditions and wages. Very likely, this orientation grows out of special considerations of a rather personal or at least individualized nature conceded household employees, such as flexible time and work schedules, subsidized uniforms, meals, transportation, etc.; and, perhaps "toting privileges".

It is possible to conjecture here that the lack of demands placed on employers represents a fear among household workers that in doing so some highly prized benefits and/or aspect of the employer-employee relationship might be lost. In short, direct and perhaps more formalized demands might yield better wages and conditions, but in the process, employers might retract the more or less paternalistic considerations and expressions of personal concern now seemingly enjoyed by these workers.

Service workers seem to have less to lose in this regard, experiencing as they do more formalized, impersonal relations with their employers in business and government organizations. Whether their higher propensity to act directly to improve their conditions reflects the quality of this relationship or a differently oriented type of person who selects this type of work rather than household work cannot be determined. It does seem from our small sample, that service workers have more to gain and less to lose in taking direct action and that this, indeed, may influence differences in their approaches to needed changes.

In terms of community issues and activities, neither group participates much. This may reflect an antipathy toward organized action in itself. At the very least it indicates that these women are not conversant with or practiced in fulfilling roles in the context of organized action. Above all, leadership qualities, if they exist, are unpracticed in this group of women.

In sum, commonalities in concerns are fewer than differences between these two groups of women, and prospects are dim for self initiated and/or led collective action even if a common concern (e.g., wages) could be found to bring these women together initially. If this is where these women are presently, then those who would seek to help them by moving them toward collective action on matters of mutual concern have a long and hard job ahead. With many of these women the job may have to begin with convincing them that self initiated help in collective form is possible. Planning and introducing a program of collective action on the assumption that most of these women already believe this might well be a serious if not a fatal error.

"STATUS INCONSISTENCY, DISTRIBUTIVE JUSTICE, AND STATUS ANXIETY: THE BLACK COLLEGE PROFESSOR IN THE RURAL SOUTH."

J. Franklin Barnes and D. Wood Harper, Jr.

Introduction

E. Franklin Frazier once observed that "more attention has been given to the study of historical, political, and psychological aspects of racial desegregation than to the sociological aspects," (Rose, 1962, p. 609). Research dealing with the effect of the black community on desegregation is also limited. Furthermore, what little research that has been accomplished has focused on the impact of desegregation on whites, some on blacks (Crockett, 1957) and practically none on the "forgotten man" the black educator, (Barnes, 1960; Barefoot, 1968).

There are some exceptions, however, Dwyer, (1957) in seven school districts in central Missouri, examined the problem of the future of black teachers whose schools were closed and who were left without teaching assignments. He accurately located the problem in the racist attitudes of school administrators, white teachers, and according to his data white parents presented the greatest opposition to desegregation. Black teachers in Dwyer's study revealed ambivalent attitudes toward desegregation in as much as they were enthusiastic in their support of integration but were in favor of total desegregation only if they were included.

More recently, Jackson has studied the attitudes of black college teachers toward faculty desegregation (1967). Her study emphasizes a socio-occupational situation in which white teachers are in the minority. She found that while black college teachers tended to favor hiring white teachers they expressed concern about such issues as the motives of whites who seek employment in predominantly black institutions; the possibility of unequal distribution of rewards (particularly in the area of position and salary); and the consequent impact on faculty morale.

It may be concluded from available literature on the topic that the black colleges and universities in the rural South are experiencing inroads by white academicians who, as often as not, pose a status threat to the black majority. The presence of white educators removes the black college or university from being exclusively a black

status granting social organization. What seems to be lacking in the literature is some consistent theory to explain the situation of the black academician in the black colleges who is confronted with the uncertainty of desegregation.

Theoretical Orientation

The purpose of this paper is to test some theoretical formulations concerning the problems of attitude formation and change as it relates to the aforementioned problem. Alexander and Simpson refer to these formulations as balance theory (1964). One such formulation is Homan's theory of distributive justice (1961). The essence of Homan's theory may be conceived in terms of the balance situation involving person, his reward-to-cost ratio (in terms of his investment in the system and the rewards received from it), and the reward-to-cost ratio of a significant other. Therefore, using Homan's analysis, the black teacher's perception of his position in the system (his reward-to-cost ratio) and his perception of the position of white teachers (the reward-to-cost ratio of a significant other), largely shape his attitudes toward faculty desegregation. If the black professor feels that there will be an unjust distribution of rewards with faculty desegregation, and cost is constant, then he will try to avoid activities that would get him into unjust situations (total faculty desegregation).

From this perspective two major theoretical propositions emerge.

1. The greater the probability the black professor will experience an imbalance in his reward-to-cost ratio in relation to the white professor, the more negative will be his perception of the consequences of desegregation.

2. The greater the probability the black professor will experience an imbalance in his reward-to-cost ratio in relation to the white professor, the higher his perception of status threat.

Operationally, reward-to-cost ratio was viewed as the individuals investment in the system and the rewards received from it. Tenure, professional qualifications and age were employed in the research as reflexive of this ratio.

Tenure was used because it was thought that the longer the black college professor had been involved in black higher education the greater

his status investment in the system and the more he stands to lose in a changed system. Thus, he would be likely to experience a higher level of status anxiety.

Professional qualifications were also employed because it was felt that the higher the qualifications of the black college professor the more at ease he is likely to be in a desegregated academic environment. At the same time it is likely that this relationship could be confounded by higher qualified blacks occupying the more prestigious, and rewarding positions in the black college, thereby, in a sense, having more to lose in a desegregated system. To control for this age was introduced as a test factor. The position taken being that the older, less qualified would perceive the greatest status threat in a desegregated system because they would stand to lose the most.

The Data

The data for the study were collected at a state-supported predominantly black college in the deep South. All of the students at "Deep South College" were black at the time of this study. Most of the members of the faculty were also black. The white faculty members were mostly part-time commuters from predominantly white educational institutions in the state.

The schedule employed for data collection was a questionnaire consisting of a series of general items designed to elicit biographical information, professional and academic standing, perceived status threat, and perceived consequences of desegregation. Included in the research instrument is a set of items developed by Jackson (1967) to measure a unidimensional attitude toward desegregation for black teachers. An index derived from these items was developed to yield a measure of attitude for the present population. In addition, a set of items developed by the present writers should yield a measure of perceived status threat.

The statistical measure of association chi-square is used to determine whether or not the independent variables (tenure, academic qualifications, and age) are associated with the dependent variables of perceived consequences of desegregation and perceived status threat (.05 level).

Perceived consequences of desegregation was operationalized by the following item: "If schools were desegregated, would many black teachers lose their jobs?" This item attempts to measure perception of the consequences of desegregation, thus giving an indication of readiness to desegregate. Respondents who agreed with the above statement were classified as those expressing a negative perception of the consequences of desegregation.

Perceived status threat is measured by the following five-item judgemental scale:

1. Does the general public respect white teachers more than black teachers?

SA A U D SD*

2. Are school boards more responsive to the needs of white teachers than the needs of black teachers?
3. Do white teachers at black colleges receive preferential treatment from black administrators?
4. Do white teachers receive higher salaries than black teachers at black colleges, even though both may have similar qualifications?
5. Do white teachers have to work as hard to "prove themselves" as black college teachers?

Responses on the above judgemental scale were assigned weights according to the attitudinal direction of each item. For example, items 1-4 were assigned weights as follows: SA=5; A=4; U=3; D=2; SD=1. For item 5 the weights were reversed. Thus, the higher the score, the higher the degree of perceived status threat.

*SA=strongly agree; A=agree; U=undecided; D=disagree; SD=strongly disagree.

Respondents with a total score of 17 or less were classified as "low" in perceived status threat. Persons scoring 18 or more were classified as persons perceiving high status threat.

Description of the Study Population

Table 1, which contains relevant descriptive information on this study population, suggests a faculty that is predominantly male (72%), relatively young (mean age: 39) with over four-fifths (87%) possessing a Masters degree or higher, native Southern (87%) and stable in employment (5+ years) at "Deep South College."

Table 1. Background characteristics of the Population

Characteristic	%	Characterstic	%
Sex: Male	71.7	State of Birth:	
Female	28.3	Southern	86.9
		Non-Southern	13.1
Age: (Years)		Total Tenure:	
25-34	41.3	0-4	47.8
35-44	30.4	5-9	15.2
45-54	23.9	10-14	23.9
55-64	2.2	15-19	8.8
65 & over	2.2	20 & over	4.3
(mean=38.08)		(mean = 7.3)	
Education		Local Tenure	
Highest earned degree		0-4	60.9
Bachelors	13.1	5-9	15.2
Masters	71.7	10-14	19.6
Doctorate	15.2	15-19	4.3
		(mean = 5.3)	

The Consequences of Desegregation

Respondents were classified by tenure (i.e. the number of years rs. have taught in predominantly black colleges), into two groups: long tenure was defined as 10+ years, short tenure as 9 or less years; qualification (i.e. the highest academic degree earned by rs.) into two groups: high qualification was defined as Masters or Doctorate with low qualification as Bachelors or less and age (i.e. chronological age) groups: young was defined as forty and younger and old as forty-one and older. Table 2 summarized the association among these variables and the respondents perceived consequences of desegregation. 369

Table 2. Perceived Consequences of Desegregation by
Tenure, Academic Qualifications and Age (N=46)

Consequences of Desegregation	Tenure					
	Short		Long		Total	
	N	%	N	%	N	%
Positive	11	37.0	2	11.8	13	28.2
Negative	18	62.1	15	88.2	33	71.8
$\chi^2 = 2.515^*$						
C = .22**						
	Qualifications					
	Low		High		Total	
	N	%	N	%	N	%
Positive	3	50.0	10	25.0	13	28.2
Negative	3	50.0	30	75.0	33	71.8
$\chi^2 = .540^*$						
C = .10						
	Age					
	Young		Old		Total	
	N	%	N	%	N	%
Positive	10	34.5	3	17.6	13	28.2
Negative	19	65.5	14	82.4	33	71.8
$\chi^2 = .802$						
C = .190						

While no statistically significant association can be demonstrated between tenure, qualification, age, and perceived consequences of desegregation the C values indicate that the hypothesized relationships are in the predicted direction.

In the case of age, older educators expressed a greater negative perception of the consequences of desegregation, the relationship between age and perceived consequences of desegregation is not strong on the bases of chi-square. However, since age is directly related to tenure, and since black educators in this study do not fear desegregation as a threat to their positions, older educators may hold more secure administrative or quasi-administrative positions than their younger colleagues.

Status Anxiety

Table 3 summarizes results with regard to relationship of status threat to tenure, academic qualifications and age.

Table 3. Perceived Status Anxiety by Tenure, Academic Qualifications and age. (N=46)

Perceived Status Anxiety	Short		Long		Total	
	N	%	N	%	N	%
	Low	17	58.6	9	52.9	26	56.5
High	12	41.4	8	47.1	20	43.5

Perceived Status Anxiety	Low		High		Total	
	N	%	N	%	N	%
	Low	5	83.3	21	52.5	26	56.5
High	1	16.7	19	47.5	20	43.5

Perceived Status Anxiety	Young		Old		Total	
	N	%	N	%	N	%
	Low	17	56.6	9	56.6	26	56.5
High	13	43.4	7	43.8	20	43.5

$\chi^2 = .003$ N.S

Qualifications

$\chi^2 = .940^*$

N.S

C = .140

Age

$\chi^2 = 0$ N.S

The data presented fail to support the hypothesized relationship. Only in the case of qualifications is the relationship in the predicted direction.

It is apparent that black teachers in this study do not look at desegregation as an immediate threat to their positions. Instead, their perceptions of status threat may be based on the existing segregated dual system, and not on their positions in the total academic marketplace. Furthermore, it appears that a greater level of homogeneity obtained among rs. than was anticipated or predicted.

Summary and Discussion

An examination of the attitudes of black college teachers toward faculty desegregation reveals that the data do not support the two major propositions presented. However, educators with a higher vested interest in the segregated system were more negative in their attitude toward desegregation. Persons who were older, higher qualified, and had longer tenure tended to be more negative in both their perception of the consequences of desegregation and their perception of status threat.

Even though close inspection of the data reveals that the relationship between variables is in the direction hypothesized, results of the chi-square test of significance and the contingency coefficient seem to suggest that there are other variables which may further explain the nature of the relationship.

A study of the attitudes of any group depends primarily upon the attitudinal measure employed and the reliability of the response to the measuring instrument. Several items included in the research instrument were designed to elicit the attitudes of black college teachers toward desegregation. However, the items only measured ideological readiness to desegregate and were not utilized in the analysis because of unanimous ideological acceptance of desegregation by the respondents. Therefore, attitude toward desegregation were measured in terms of perceived consequences of desegregation and perceived status threat.

This study is limited in scope in that data from only one college is included. In addition, no interracial comparisons can be made because the sample is all black.

Perhaps a cross-sectional study of the attitudes of black college teachers will enhance our present knowledge about this group of educators. In addition, longitudinal bi-racial studies of faculty desegregation may add to our present knowledge of faculty desegregation and attitude change.

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SOCIAL STATUS AND COMMUNITY PARTICIPATION OF NEGROES
IN TWO COMMUNITIES OF THE DEEP SOUTH¹

Harsha Nath Mookherjee
Department of Sociology and Philosophy
Tennessee Technological University, Cookeville, Tennessee

and

George M. Hess
Department of Sociology
Southeastern Louisiana University, Hammond, Louisiana

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The Association of the Southern Agricultural Workers meeting at
Richmond, Virginia, February 13-16, 1972.

SOCIAL STATUS AND COMMUNITY PARTICIPATION OF NEGROES
IN TWO COMMUNITIES OF THE DEEP SOUTH¹

Different studies have shown that participation in organized activities and in primary groups is highly related to social status and becomes a channel of mobility; particularly in a society where social status is largely achieved. Furthermore, in the context of community development, where change is involved in every phase of life: in attitudes, institutions, and group life, social participation plays an important role in raising one's social status through the mobility process.²

In community development, a progression of events is planned by the participants to serve goals they progressively choose. The events point to changes in a group and in individuals can be indicative of growth in social sensitivity and competence. Through these gradual changes, the values of the local society are modified or changed, and in turn, these changes of values influence the changes in the stratification structure.

With this theoretical orientation, it has been conceptualized that change is not only involved in community development but also is apparent in the stratification structure of Negroes in American society. Furthermore, when change is implemented through a coordinative developmental style all segments of the population must be allowed to share in the decision making processes and have complete access to the participation structures.

The Problem and Objectives

The present study was an attempt to delineate the social status of Negroes and their mode of community participation in two southern communities. The primary objectives were to view participation in organized activities as a component of social status and/or a channel of mobility, and to find out how much the participation structure in the larger community has been opened to the Negro population.

In other words, the main emphases were given (1) to describe the participation of Negroes in certain aspects of the larger community with respect to their social status, (2) to describe the extent of participation in comparison with that of whites, and (3) to make comparisons and generalizations concerning participation of Negroes in the two communities.

Area and Method

The data utilized in this study came from a larger, long term research project, 'Community Structure and Involvement', conducted by

the Social Science Research Center of Mississippi State University in 1965, under a grant from the National Institute of Mental Health (MHO 1229). Data were collected from two communities of the Deep South, Old City and Hill City,³ which are multicounty trade centers with populations in the 20,000 to 30,000 class. These cities are approximately 300 miles apart and have had rapid industrialization over the past two decades. Although one-half of the population of Old City as compared to one-fourth of that of Hill City is Negro, many of the demographic characteristics of the two populations were found to be similar.

A two-stage, stratified random sampling procedure was adopted, and sample populations of 279 and 249 household heads were taken from Old City and Hill City respectively.⁴ Of these sample populations 101 from Old City and 72 from Hill City were Negroes. Both samples involved the same structured interview.

Social Status and Community Participation

Social Status

"Social Status" is defined in this research as the evaluation of the social positions an individual holds as a member of the society. It is considered in a hierarchical order with respect to other's social status and hence it is used synonymously with "social rank".

An abundance of literature concerning social status and social class of Negroes indicates education and occupation as the two important valid factors for determining social status or social rank.⁵ In this study, social status was determined by using a composite measure, the Typological Index of Social Class,⁶ which was composed of the two variables, occupation and education, were not only considered as directly related to the prestige of the individual in the community but also the most important socioeconomic status determinant factors of the measures available.

A systematic procedure was adopted to categorize the occupational titles of the sample populations. Through different stages of combinations of logically similar occupational groupings on the basis of the nature of duties and the median of income the following three categories were resulted:

- Occupation I - Professionals and Businessmen.
- Occupation II - White collars -- Officials, Managers, Supervisors, Salesmen, Agents, and Officials.
- Occupation III - Blue collars and Services -- Craftsmen, Foremen, Operatives, Laborers, Private House Workers, and Service Workers.

Educational categories were based on the total years of formal education the individual had completed. The following five distinctive categories were thought to be of great importance to the American society as well as highly representative of styles of life:

- Education I - College graduates and above, 16 years of education or more.
- Education II - Some college education, 13-15 years of education.
- Education III - High school graduates, 12 years of education.
- Education IV - Some high school education, 9-11 years of education.
- Education V - Grade school education or below, 0-8 years of education.

By adopting a systematic analytical procedure on the above two factors with their respective categories, five distinctive social status types were developed. Table 1 presents the distributions of the household heads on this two-factor typological index of social status. Negroes were found primarily in the bottom two ranks in both communities with 92 percent and 89 percent in Old City and Hill City respectively.

The typical "man-on-the-street" in both communities would have probably tended to rank all Negroes lower than any whites, but the concern here was in being more objective. Even though the majority of Negroes were ranked in the lower two strata, a small percent appeared in all strata, indicating that the two-factor measure of rank differentiated among Negroes rather than arbitrarily lumping them into one stratum.

Community Participation

It has been noted earlier that one's position in the stratification structure influences the degree to which he participates in his community. Kahl states that every study of formal associations shows the same trend: people of higher prestige or status belong to more voluntary associations than people of lower status.⁷

Community participation was operationalized through community involvements in terms of attitudes and overt behavior of the individuals. Overt behavior was studied from four standpoints: namely, (1) the number of local organizations in which the informant was a member at the time of data collection; (2) the number of local organizations in which the informant was a member and held position; (3) the number of interest areas in which he was involved at that time; and (4) the religious-secular typology of the membership organizations. Attitudes and opinions toward the community actions and activities

were analyzed to obtain an impression about the covert behavior of the individuals. An index was also employed which measured the awareness of community members regarding the top community leaders.

The present study emphasized the participation of the Negroes with respect to their social status. Table 2 presents the percentage distribution of the Negro respondents of two communities on social status and their participation as members of formal organizations. Data from both communities indicated a somewhat similar distribution on local organizational memberships. It was also evident from the distribution that people in the higher stratum were more involved in community organizations than those in the lower stratum.

Leadership position in organizations was considered by counting the number of local organizations in which an individual held an office during the last ten years. Table 3 presents the percentage distribution of the Negro respondents of the two communities by their social status and the leadership position. A somewhat similar pattern of leadership positions was found in both the communities, and it was also evident that people in the upper stratum were holding more positions, indicating more community involvement than those of the lower stratum people.

It was assumed that involvement of community members in different interest areas⁸ would indicate the extensiveness of their community activities. A cross-class distribution of the percent of Negro household heads of the two communities on number of interest areas and the social status is presented in Table 4. It is evident from the distribution that the people in the upper stratum were involved in community activities more extensively than those respondents in the lower stratum. About 50 percent of the respondents in the upper stratum were involved in more than one interest area. By comparing the two communities, respondents in Hill City were found more involved in community activities than the respondents in Old City. In Hill City, only 10 percent of the people from the lowest stratum were not involved in any community activities; whereas in Old City, 18 percent of the sample population were not participating in any kind of community activities. Although a majority of this 18 percent came from the lowest stratum, a notable percentage of these individuals were from strata III and IV.

Types of organizations in which the individuals participated were also found to be highly correlated with their social status. In addition this factor indicated the extent of involvement of the individuals in community activities. For purposes of this study all organizational memberships were divided into three broad categories, namely, (1) religious organizations, (2) secular or non-religious organizations, and (3) both religious and secular organizations. The informants from different strata were classified into these broad categories on the basis of their organizational affiliations. Table 5 presents a social status distribution of the Negro respondents, in percent frequencies. The upper strata showed higher percents of respondents were active in religious and secular organizations, but least actives were from the lower strata. Very few participations

were noted in secular organizations only. Participation in religious organizations only were found to a greater degree among people in the lower strata.

The above findings on community participation, in terms of overt behavior in community activities, indicated that the higher the social status of an individual the greater was the involvement in community participation.

From a social psychological point of view, community involvement was measured in this study in terms of attitudes and opinions. Attitudes concerning community activities were measured through 16 selected statements of the interview schedule by adopting the Guttman scaling technique.⁹ The scale scores were categorized into four broad divisions of 'high', 'medium', 'low', and 'no support' on the basis of the score values of 9-12, 5-8, 1-4, and 0 (zero) respectively.¹⁰ The percentage distributions of the Negro respondents of the two communities by social status and the scale scores are presented in Table 6. Although the distributions indicated low community support by the respondents of Old City, irrespective of social status, a remarkably high community support was noted in Hill City with respect to the respondent's social status.

The respondents were asked to rate seventeen institutions and community services on a five point scale to measure their community involvement in terms of covert behavior. An average rating was computed for each respondent on the basis of his total ratings, and this was termed here as the "community services satisfaction index scores". The score values were classified into six broad categories of 'high satisfaction', 'high-medium', 'medium', 'low-medium', 'low satisfaction', and 'no satisfaction'.¹¹ Distributions of the Negro respondents of the two communities on the community service satisfaction index scores by respective social ranks are presented in Table 7. All of the respondents in both communities were found in the medium categories of the community service satisfaction index. Although social status indicated a positive correlation with the community service satisfaction index scores, these were not considered remarkable.

To determine the awareness of the community members regarding the top community leaders, an assumption was made that individuals who were more aware of the community activities and actions would be better able to identify the top community leaders. Accordingly, the number of leaders identified by the respondents were noted for each respondent to measure their awareness regarding community leadership.¹² Table 8 presents the percentage distributions of the respondents by their social status and the number of top leaders identified. It was noted from the distributions that a higher proportion of the respondents were not aware of the leadership pattern. However, it was evident that people from higher social status were more aware of the top community leaders. Furthermore, a higher percentage of respondents from the higher social ranks in Hill City indicated more awareness by identifying more than one top community leaders.

Community Participation: A Comparison Of Negro and White

Shibutani and Kwan¹³ have indicated the most promising departure for a comprehensive theory of ethnic stratification is one that is historical and comparative. This point of view was considered in this study although by no means exhausted. Perhaps this alternative is a possibility when seeking to theorize concerning the stratification structure of Negroes in the South.

Comparisons were made at this stage on the basis of race, that is Negro and white, and between the communities. Community participation was considered with reference to the following measures: (1) currently active membership; (2) interest area involvement; (3) extent of participation; (4) awareness of top community leaders; and (5) attitudes toward community.

Currently Active Memberships

Table 9 presents the percentage distribution of the respondents of two communities on race and their community participation as active members of local organizations. It is evident from the table that the participation of the Negroes differed more between communities than did the participation of the whites. In Hill City, 87 percent of the Negroes were participating in one or more organizations as compared with 77 percent of Negroes in Old City. Whites had more memberships than did Negroes. Of the whites, 27 and 29 percent held four or more memberships while only 2 percent of Negroes in each community held the same.

Interest Area Involvement and Extent of Participation

Several interest areas were considered here as a means of judging Negro and white involvement in their communities. Table 10 indicates primarily that Negroes were involved in one or two interest areas. The participation of whites was noticeably higher with a sizable proportion in three or more interest areas. Interest areas with almost no Negro involvement were: professional and trade; civic and community; health, education, and welfare; and leisure time. Fraternal and religious participation were the most important participation for Negroes.

Table 11 indicates that the Negro respondents were highly involved in religious associations. On the other hand, whites were found highly involved in religious and secular organizations. Whites were also found participating more in secular organizations only than those of the Negro respondents. While comparing the two communities a higher proportion of respondents in Old City were found participating in both religious and secular organizations than those respondents in Hill City. More religious participation was noted in Hill City than that of Old City. Similarly, a higher percent of Negro respondents participated in religious organizations only, in Hill City than those of the Negroes in

Old City. Negroes were predominantly Baptist while whites were distributed somewhat more evenly among several denominations, especially in Old City. Participation in fraternal lodges was the same in each community for the total population. For Negroes it was much higher in Hill City and for whites higher in Old City.

Awareness of Top Community Leaders

A percentage distribution of the respondents by race and community is presented in Table 12. The information in the above table would seem to indicate that Negroes had little consensus or awareness of the top leaders since about 80 percent of the Negro respondents in both the cities could not identify any one of the top community leaders. On the other hand, about 63 and 39 percents of the white respondents of Hill City and Old City respectively could identify two or more top leaders.

It was also interesting to note that among the top leaders, 10 in Old City and 13 in Hill City, none was a Negro. Accordingly, when a white respondent was asked to name the top community leaders he named a white person, irrespective of whether the person was one of the top leaders or not. On the other hand, although whites were named more often in Old City by the Negro respondents as leaders in the whole community, some Negroes were also identified as the top community leaders, as well as being named leaders among Negroes. In Hill City, whites were always named as the leaders of the whole community by the Negro respondents.

The most striking finding appeared to be that in neither community were whites named by a majority of the Negro respondents as leaders among Negroes. In Old City, a white priest in an all Negro Catholic Church was named as a leader among Negroes by few Negro respondents. Professionals were generally named in both of these cities. Among Negroes more pastors were named in Old City and more teachers in Hill City.

Attitudes Toward Community

In view of the Negro and white comparisons in participation one might ask about the difference in attitude as expressed by the Negroes and the whites in the two communities. Table 13 presents the distribution of the respondents regarding a general attitude toward community, measured by the community support index.

For the total population Hill City as compared with Old City had much the larger percent of respondents with high scores, 69 and 39 respectively. Negro respondents had decidedly lower scores than the white respondents. About 62 and 21 percents of the Negro respondents in Old City and Hill City respectively had scores of four or less. Negroes in Hill City had much higher scores than did those in

Old City. In the former, 79 percent had scores of five or more as compared with only 38 percent in the latter.

The above finding may be viewed as consistent with the slightly greater participation of Negroes in Hill City, suggesting the greater the participation of an individual the more positive his attitude toward his community. While race was still the important factor, differences in communities were apparent here for both white and Negro.

Summary and Conclusion

The objectives of this study were (1) to delineate the participation pattern of Negroes with respect to their social status, and (2) to describe the extent of their participation in comparison with those of the whites in two southern communities, Old City and Hill City. An attempt was made to view community participation as a component of social status and a channel of mobility, and to find out how much the participation structure in the larger community has been opened to the Negro population.

The two-factor index of rank was utilized in this study to determine the social status of an individual. The analysis showed that almost all Negroes were at the bottom ranks, which indicated the lack of mobility and suggested the existence of barriers in the communities for Negroes. Both occupation and education data from the sample indicated the existence of a differential access to these privileges.

Participation in the sense of long term and current involvement illustrated the break which exists between Negro and white in these two communities. Community participation in terms of attitudes and overt behavior was found positively correlated with social status.

A comparison of participation of Negroes and whites in community life showed a cleavage existed between Negro and white. The only interest areas showing significant participation of Negroes were religious and fraternal, whereas whites were found involved in all types of interest areas: professional and trade; civic and community; health, education, and welfare; fraternal; religious; and leisure time. Participation of Negroes in the Church was pronounced. The level of participation in Church life by Negroes in the two communities indicated their communal as well as associational character.¹⁴ However, suggestions of a difference in communities appeared with Negroes in Hill City showing greater participation and a positive attitude toward their community.

In this study, leadership was conceptualized as a type of participation. Two groups of top leaders were identified by the Negro respondents in each of these communities, Old City and Hill City.

One of these groups was identified as being leaders for the community as a whole, while the other group was identified as the leaders for the Negroes in the community only. Leaders in the community as a whole consisted primarily of whites, while the leadership among the Negroes only, in both communities showed no white involvement, perhaps indicating a stronger ethnic identification among the Negroes in these two communities.

The single most significant variable in participation was found to be race. In controlling for race the differences between Negro and white participation in each community were found to be greater than were the differences of participation patterns between the two communities. Hill City showed greater participation of Negroes in organizational activities along with a more positive attitude toward community than did the Negroes of Old City.

An important question appeared to be whether behavior as influenced by the stratification structure among Negroes can be studied at the same comparative level with those of whites. It is probably true that the whites influence the stratification structure of the Negroes more than do Negroes for whites. Therefore, it is suggested that the basis of evaluation in the two situations is not the same and hence, allowance must be made in making comparisons between Negro and white, as long as the differential treatment exists.

TABLE 1 : Household Heads by Two-factor Typological Index of Social Status, Race, and Community.

Social Status Ranks*	Number						Percent					
	Old City			Hill City			Old City			Hill City		
	W	B	T	W	B	T	W	B	T	W	B	T
Rank I	46	2	48	23	2	25	26	2	17	13	3	10
Rank II	85	4	89	43	3	46	48	4	32	24	4	18
Rank III	15	2	17	42	3	45	8	2	6	24	4	18
Rank IV	19	22	41	44	23	67	11	22	15	25	32	27
Rank V	13	71	84	25	41	66	7	70	30	14	57	27
Total	178	101	279	177	72	249	100	100	100	100	100	100

W = Whites
 B = Negroes
 T = Total

*SOCIAL STATUS RANKS

Ranks	<u>Combinations of Occupation and Education Categories</u>	
	<u>Old City</u>	<u>Hill City</u>
Rank I	01E1	01E1
Rank II	01E2, 01E3, 01E4, 01E5, 02E1, 02E2, 02E3	01E2, 01E3, 01E4, 01E5, 02E1
Rank III	02E4, 02E5, 03E2	02E2, 02E3
Rank IV	03E3, 03E4	02E4, 02E5, 03E2, 03E3, 03E4
Rank V	03E5	03E5

TABLE 2 : Percent Distribution of Negro Respondents of Two Communities by Social Status, and Membership in Local Organizations.

No. of Organizational Memberships	Old City						Hill City					
	Social Status Ranks						Social Status Ranks					
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Six or more	-	-	-	-	-	-	-	-	-	-	-	-
Four-five	50	-	-	-	-	1	50	-	-	-	-	1
Two-three	50	50	-	50	38	41	-	67	100	18	19	24
One	-	50	50	36	42	40	50	33	-	22	64	55
None	-	-	50	14	20	18	-	-	-	-	17	10
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 3 : Percent Distribution of Negro Respondents of Two Communities by Social Status, and Leadership Position held in Local Organizations.

No. of Organizations where Position held	Old City						Hill City					
	Social Status Ranks						Social Status Ranks					
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Six or more	-	-	-	-	-	-	-	-	-	-	-	-
Four-five	-	-	-	-	-	-	50	-	-	-	-	1
Two-three	-	25	-	5	8	8	-	33	100	18	12	18
One	100	-	-	27	16	19	50	67	-	41	50	46
None	-	75	100	68	76	73	-	-	-	41	38	35
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 4 : Percent Distribution of Negro Respondents of Two Communities by Social Status, and Number of Interest Areas.

No. of Interest Areas	Old City					Hill City						
	Social Status Ranks					Social Status Ranks						
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Four or more	--	--	--	--	--	--	50	--	--	--	--	1
Three	50	--	--	9	1	4	--	--	33	--	--	1
Two	--	25	--	27	27	26	--	67	67	18	19	23
One	50	75	50	50	52	52	50	33	--	82	14	65
None	--	--	50	14	20	18	--	--	--	--	17	10
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 5 : Percent Distribution of the Negro Respondents of Two Communities by Social Status, and the Typology of their Membership Organizations.

Typology of Membership Organizations	Old City						Hill City					
	Social Status Ranks						Social Status Ranks					
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Religious and Secular Organizations	50	25	-	36	28	30	50	67	100	18	19	25
Secular Organizations only	-	-	-	9	4	5	-	-	-	-	2	1
Religious Organizations only	50	75	50	41	48	47	50	33	-	82	62	64
No Organizations	-	-	50	14	20	18	-	-	-	-	17	10
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 6 : Percent Distribution of the Negro Respondents of Two Communities by Social Status, and Community Support Index scores.

Community Support Index Scores	Old City						Hill City					
	Social Status Ranks						Social Status Ranks					
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Nine-twelve	-	-	-	4	13	10	-	-	33	18	33	26
Five-eight	-	25	-	32	28	28	100	67	33	59	48	53
One-four	50	25	50	50	48	47	-	33	34	5	9	10
Zero	50	50	50	14	11	15	-	-	-	18	10	11
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 7 : Percent Distribution of the Negro Respondents of Two Communities by Social Status, and Community Service Satisfaction Index.

Community Service Satisfaction Categories	Old City					Hill City						
	Social Status Ranks					Social Status Ranks						
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
High	-	-	-	-	-	-	-	-	-	-	-	-
High Medium	-	-	-	4	16	12	-	33	-	9	7	8
Medium	-	25	50	50	51	49	50	33	100	59	67	64
Low Medium	100	75	50	46	32	37	50	34	-	32	21	26
Low	-	-	-	-	1	1	-	-	-	-	-	-
No Satisfaction	-	-	-	-	-	-	-	-	-	-	5	2
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 8 : Percent Distribution of the Negro Respondents of Two Communities by Social Status, and Number of Top Community Leaders Identified

Number of Top Community Leaders Identified	Old City					Hill City						
	Social Status Ranks					Social Status Ranks						
	I	II	III	IV	V	Total	I	II	III	IV	V	Total
Four or more	-	-	-	-	-	-	50	-	-	-	-	1
Three	-	-	-	-	-	-	-	-	-	-	-	-
Two	-	-	-	-	1	1	-	33	33	-	-	3
One	50	75	50	14	13	17	-	-	33	27	12	17
None	50	25	50	86	86	82	50	67	34	73	88	79
Total	100	100	100	100	100	100	100	100	100	100	100	100
Sample size	2	4	2	22	71	101	2	3	3	23	41	72

TABLE 9 : Percent Distribution of Respondents Currently Participating in Local Organizations by Community and Race.

Currently Active Memberships in Organizations	Race						Total
	Negro			White			
	Old City (N = 101)	Hill City (N = 72)	Old City (N = 178)	Hill City (N = 177)	Old City (N = 279)	Hill City (N = 249)	
Four or more	2	2	27	29	17	22	
One-three	70	85	55	56	61	54	
None	23	13	15	15	18	14	
No information	5	-	3	-	4	-	
Total	100	100	100	100	100	100	100

TABLE 10 : Percent Distribution of the Respondents of Two Communities by Race, and Number of Interest Areas.

No. of Interest Areas	Race				Total	
	Negro		White			
	Old City (N = 101)	Hill City (N = 72)	Old City (N = 178)	Hill City (N = 177)	Old City (N = 279)	Hill City (N = 249)
Three or more	4	3	45	35	30	26
One-two	78	87	47	62	59	69
None	18	10	8	3	11	5
Total	100	100	100	100	100	100

TABLE 11 : Percent Distribution of Respondents of Two Communities by Race, and Typology of their Membership Organizations.

Typology of Membership Organizations	Race				
	Negro		White		Total
	Old City (N = 101)	Hill City (N = 72)	Old City (N = 178)	Hill City (N = 177)	
Religious and secular organizations	30	25	67	53	53
Secular organizations	5	1	9	8	8
Religious organizations only	47	64	16	36	27
No organizations	18	10	3	3	12
Total	100	100	100	100	100
					Old City (N = 279)
					Hill City (N = 249)
					45
					6
					44
					5
					100
					100

TABLE 12 : Percent Distribution of Respondents of Two Communities by Race, and Number of Top Community Leaders Identified.

Number of Leaders Identified	Race					
	Negro		White		Total	
	Old City (N = 101)	Hill City (N = 72)	Old City (N = 178)	Hill City (N = 177)	Old City (N = 279)	Hill City (N = 249)
Two or more	1	4	39	63	25	45
One	17	17	28	18	24	18
None	82	79	33	19	51	35
Total	100	100	100	100	100	100

TABLE 13 : Percent Distribution of Respondents of Two Communities by Race, and Community Support Index scores.

Community Support Index Scores	Race					
	Negro		White		Total	
	Old City (N = 101)	Hill City (N = 72)	Old City (N = 178)	Hill City (N = 177)	Old City (N = 279)	Hill City (N = 249)
Nine-twelve	10	26	55	86	39	69
Five-eight	28	53	24	9	25	22
One-four	47	10	12	4	25	6
Zero	15	11	9	1	11	3
Total	100	100	100	100	100	100

FOOTNOTES

¹This is Social Science Research Center Journal Paper No. 48. The authors are grateful to the Research Center for allowing them to analyze this body of data. The present study is partly supported by the Institutional Research Fund of Tennessee Technological University, Tennessee.

²Cf. Robert M. MacIver and C. H. Page, Society, (New York: Holt, Rinehart, and Winston, Inc., 1949), Chs. 2 and 17; Harold F. Kaufman, et. al., Poverty Programs and Social Mobility, (Miss. State University, S.S.R.C, Preliminary Report No. 13, 1966), p. 12; Harold F. Kaufman, and Satadal Dasgupta, "The Community Association and Comprehensive Development", paper presented at the ASA meetings, August 1968, p. 2.; David Brokensha and Peter Hodge, Community Development: An Interpretation, (San Francisco: Chandler Public Co., 1969), p. 47; William W. Biddle and Loureide J. Biddle, The Community Development Process: The Rediscovery of Local Initiative, (New York: Holt, Rinehart, and Winston, 1965), p. 79; S. N. Eisenstadt (ed.), Comparative Perspectives on Social Change, (Boston: Little, Brown and Company, 1968); p. xvii; Arnold M. Rose, "The Concept of Class and American Sociology", in Thomas E. Lasswell, John H. Burma, and Sidney H. Aronson, Life in Society: Readings in Sociology, (Glenview, Ill.: Scott, Foresman and Company, 1965), p. 547; Harold F. Kaufman and Kenneth P. Wilkinson, Community Structure and Leadership: An Interactional Perspective in the Study of Community, (State Coll.: Miss. State University, S.S.R.C. Bulletin 13, 1967), pp. 39-47; Kenneth P. Wilkinson, "The Community as a Social Field", Social Forces, 48 (March, 1970), pp. 311-322.

³"Old City" and "Hill City" are the pseudonyms used here for the communities under study.

⁴For detailed information regarding "data collection procedure" and "sampling procedure" adopted in this study, see Jerry W. Robinson, Jr., Residential Stratification in Old City: Its Substantive Meaning and Predictive Value, (unpublished Ph.D. dissertation, Miss. State University, August, 1966), pp. 17-33.

⁵Cf. W.E.B. DuBois, The Philadelphia Negro: A Social Study, (New York: Schocken Books, 1967), pp. 6-8, 309 ff. and 396; E. Franklin Frazier, Black Bourgeoisie: The Rise of A New Middle-Class in The United States, (New York: The Free Press, 1957), Charles S. Johnson, Growing Up in the Black Belt: Negro Youth in the Rural South (New York: Schocken Books, 1967); Allison Davis and John Dollard, Children of Bondage: The Personality Development of Negro Youth in the Urban South, (Washington, D.C.: American Council of Education, 1940); Hylan Lewis, Blackways of Kent, (Chapel Hill , N C.: Univ. of N.C. Press, 1955); Allison Davis, Burleigh B. Gardner, and Mary R. Gardner, Deep South, Abridged Edn. (Chicago: University of Chicago Press, 1965); John Dollard, Caste and Class in a Southern Town, (New York: Doubleday-Anchor, 1957); Oliver C. Cox, Caste, Class, and Race: A Study in Social Dynamics, (Garden City, New York: Doubleday and Co., 1948); Floyd Hunter, Community Power Structure, (Chapel Hill, N. C.: Univ. of

N. C. Press, 1953); G. G. Edwards, The Negro Professional Class, (New York: The Free Press, 1959); Gerhard E. Lenski, Power and Privilege: A Theory of Social Stratification, (New York: McGraw-Hill Book Co., 1966), pp. 85-88, 408-410; Hortense Powdermaker, After Freedom: A Cultural Study in The Deep South, (New York: The Viking Press, 1939); Leonard Broom and Norval D. Glenn, Transformation of the Negro American, (New York: Harper & Row, Pub., 1965), pp. 105-134.

⁶Harsha N. Mookherjee, "A Typological Index of Social Stratification: A Highly Predictive Measure for Community Analysis", paper presented at the Rural Sociological Society meetings, August 1971.

⁷Joseph A. Kahl, The American Class Structure, (New York: Holt, Rinehart, and Winston, 1961), p. 147.

⁸MacIver and Page, (Op. cit.), suggest that through the analysis of institutional and associational interest areas the notion of the breadth of the sociocultural structure of the locality can be obtained.

Kaufman classified the interest areas into six major categories on the basis of "three structural dimensions, namely (1) degree of community relevance, (2) degree of formalization or institutionalization of an activity, and (3) level of participant involved". -- See Harold F. Kaufman, "Interest Area Classification", mimeographed notes.

⁹For scaling technique, see Warren S. Torgerson, Theory and Methods of Scaling, (New York: John Wiley and Sons, 1958), pp. 298-345.

¹⁰For further elaboration, see Harsha N. Mookherjee, A Typology of Socioeconomic Status, (unpublished Ph.D. dissertation, Miss. State University January, 1971), pp. 102-103.

¹¹For further elaboration, see Mookherjee, Ibid, pp. 103-108.

¹²For further elaboration, see George M. Hess, Participation of Negroes in Community Life in Two Small Southern Cities, (unpublished Ph.D. dissertation, Miss. State University, January, 1971), pp. 62-87.

¹³Tamotsu Shibutani and Kian M. Kwan, Ethnic Stratification: A Comparative Approach, (New York: The Macmillan Co., 1965), pp. 20-23, 133-134.

¹⁴Cf. Gerhard Lenski, The Religious Factor: A Sociological Study of Religion's Impact on Politics, Economics, and Family Life, Revised Edn. (Garden City, New York: Doubleday & Co., 1961), p. 20.

PART VI

POPULATION

Perhaps one of the most visible contributions of Rural Sociology in the past has been in the assembly and analysis of population data. The four papers appearing in this section are a sample of the work in this tradition.

Sharma charts the changes in the population of Alabama between 1950 and 1970. Brown looks at population change in the Southern Appalachian counties during the period 1960 - 1970. Hirzel reports on the investigation of population change within a specific metropolitan area.

As a representation of the continuing quest for improving the tools of the population scientist, McLean reports on the potential of a new methodological tool.

While the Rural Sociologist will perhaps continue to be called upon to provide this level of population data analysis, he is being joined by many of his students who are now agency employees who are charged with the assembly and analysis of this level of data. In the future he may find that his most effective contribution can be in the areas that are closest to his professional responsibilities, primarily the development and refinement of theory and methodological tools.

CHANGES IN ALABAMA'S POPULATION. 1950-1970*

by
Prakash C. Sharma**

INTRODUCTION

Analysis of changes in population are useful in various types of demographic studies and in the planning of action programs. They indicate areas where population has decreased, increased, or stabilized. Among the programs making use of such measures are those dealing with manpower utilization, location of industry, recruitment for the armed forces, and the interrelationships of agribusiness and the farm population. According to 1970 Census, the population of Alabama was 3,444,165. This figure represents an increase of 177,425 or 5.5 percent from 3,266,740 inhabitants enumerated in the 1960 population census. During the decade 1950-1960, the state experienced an increase of 204,997 or 6.7 percent. Although Alabama had a gain in the total population during 1960-1970, the percent gain during this decade was lower as compared to percent gain during 1950-1960. This study is an attempt to analyze changes in Alabama's population during 1950-1970.

OBJECTIVES

The major objectives of this study are:

- (1) To analyze changes in the total population of Alabama, by county during the decades 1950-1960 and 1960-1970
- (2) To study the changes in the distribution and factors affecting the distribution of population in Alabama during 1950-1970.
- (3) To study the changes in Alabama's population by race and metropolitan and nonmetropolitan residence during 1960-1970.
- (4) To analyze changes in the rural-urban composition of the population of Alabama by county for the period 1960-1970.

DATA COLLECTION AND SOURCES

Data for this study were obtained from secondary sources. The main sources were U.S. Population Censuses of 1950, 1960, and 1970 for Alabama. Supplementary sources were the population studies by South Alabama Planning and Regional Commission, and various demographic and economic studies by Alabama State Planning and Industrial Development Board.

ANALYSIS AND INTERPRETATION OF DATA

Table 1 and Figure 1 reveal the changes in the total population of Alabama by county for the decade 1950-1960. According to the 1950 Population

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** Department of Sociology, University of South Alabama, Mobile, Alabama.

Census, the population of the state was 3,061,743 as compared to 3,266,740 in 1960, representing an increase of 204,997 or 6.7 percent. Between 1960-1970 (Table 2 and Figure 2) the population of Alabama grew from nearly 3,267,000 to 3,444,000, an increase of 177,000 or 5.4 percent. This rate of increase is below the rate of increase of 6.7 between 1950-1960. It is also substantially below the rate of increase in the entire United States (13.3 percent) and in the South region (14.2 percent) in which Alabama is located. The population increase of 117,000 in the 1960-1970 decade was the result of a natural increase (births minus deaths) of 410,000 and a net outmigration of 233,000. The net outmigration was equivalent to about 7 percent of the 1960 population. The net outmigration of Whites was negligible while the net outmigration of Negro and other races was 228,000. This figure is equivalent to 23 percent of the 1960 population of Negro and other races.^{1/}

Insofar as the population of 67 counties during 1950-1960, Table 1 and Figure 1 reveal that of the total 67 counties in the state, only 22 (one-third) experienced a gain in population and the remaining 45 (two-thirds) had population loss. With the exception of Mobile, Baldwin, Dale, and Houston Counties located in the southern part of the state, generally this gain in county population was concentrated in North Alabama. When compared with the analysis of county population changes during the decade 1960-1970, one gets a different picture. Of the 67 counties in Alabama, 35 (over 50 percent) gained population and 32 lost population during the same period. Ten counties had rates of growth above the national average of 13.3 percent and 12 counties experienced population declines exceeding 10 percent. Every county in Alabama experienced a natural increase during this decade. In 32 counties (those losing in population), net migration was greater than natural increase. Only 9 counties gained population through both natural increase and net immigration, and only 2 of these counties had substantial amounts of net immigration. One was Madison County (where Huntsville is located) which had a net immigration of 38,000. The other was Dale County (where Fort Rucker is located) which had a net immigration of 14,000. In most of the other 7 counties experiencing a net immigration, the major cause was the extension of suburban development beyond the county in which the central city of the metropolitan area is located. At the other extreme, in the 12 counties which had a population decline exceeding 10 percent, the demographic changes can best be portrayed by treating the 12 counties as an aggregate located in the southwestern part of the state that are predominantly rural. Further, the percent loss in county population during both decades, 1950-1960, and 1960-1970, indicates that the losses were generally concentrated in the South more than in North Alabama. Of the 32 counties that had a decline in population during 1960-1970, nearly three-fourths of them are located in South Alabama. This can be attributed to migration of people from the South to the Northern urban industrial centers of Alabama and other states.

Table 3 illustrates changes in the population of Alabama by race and metropolitan and nonmetropolitan residence during 1960-1970. During this decade, the population of metropolitan areas increased by 110,526 persons (6.5 percent). Two-thirds of this increase occurred in the Huntsville SMSA which grew rapidly because of heavy immigration inspired by the Redstone Arsenal facility. It had a 48 percent increase in population during the decade 1960-1970 and passed the Montgomery SMSA in population to become the third largest metropolitan area in the state. The growth rates of the

^{1/}Bureau of the Census, Census of Population and Housing: 1970. General Demographic Trends for Metropolitan Areas, 1960-1970. Final Report PHC (2)-2, Alabama. U.S. Government Printing Office, Washington, D.C., July, 1971.

metropolitan and nonmetropolitan populations in Alabama were about the same, and as a result, the proportion of the total population living in metropolitan areas remained at 52 percent. In the nation as a whole about two-thirds of the population live in metropolitan areas. Only 1.0 percent of the increase in the metropolitan population occurred in central cities,^{2/} a total of nearly 10,000 persons. All central cities in the state annexed territory during the 1960-1970 decade; if the populations in these annexed territories are excluded, the central cities would show a net population loss of 23,000, instead of a gain (Table 4).

The rates of population change by race differed sharply in Alabama during the decade 1960-1970. The White population increased 10.7 percent while the non-White population (predominantly Negro) decreased by 6.9 percent (Table 3). As a result, the proportion of non-White population in the total population declined from 30 to 27 percent. Among Whites the rates of increase in metropolitan and nonmetropolitan areas were about equal while among non-Whites, there were decreases of 3 percent in metropolitan areas and 12 percent in nonmetropolitan areas.

Table 5 illustrates changes in rural-urban composition of Alabama's population by county during 1960-1970. In 1960 there were 12 counties in Alabama which were exclusively rural. By 1970 one county (Cleburne) had more than 25 percent of the population as urban and was no longer composed of a totally rural populous. In 1970 nearly two-thirds of Alabama's population was urban^{3/} and the trend towards urbanization appears to be on the increase since in 1960 it was only 55 percent. However, the urban population of Alabama in 1950 was far below the national average. In 1960 the percent urban of the total population for the United States was 69.9 as compared to only 55.0 percent in Alabama. By 1970 the total United States urban population had increased by 3.6 percent for a total of 73.5 percent while the increase in Alabama's urban population (58.4 percent) was behind the national average.^{4/} Although a rise in the urban population of only 3.4 percent may appear to be insignificant, analyzation of particular counties reveals a very marked increase of urbanization between 1960-1970 (Madison 14.7, Macon 18.2, Autauga 18.3, Cleburne 26.1, and Dale 31.6). These percent increases are well above the increase of 3.6 percent that occurred nationally from 1960-1970. There were 12 counties (Dallas, Elmore, Lauderdale,

2/ Included among the central cities of Alabama (1970) are Birmingham, Mobile, Montgomery, Huntsville, Tuscaloosa, and Gadsden.

3/ According to the definition adopted for use in 1970, the urban population is comprised of all persons living in urbanized areas and in places of 2500 inhabitants or more outside urbanized areas. An urbanized area generally contains at least one city of 50,000 inhabitants or more and includes that portion of the surrounding territory, whether incorporated or unincorporated, which meets specified criteria relating to population density.

4/ U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1971, U. S. Government Printing Office, Washington, D. C.

Mobile, Montgomery, Pickens, Russell, Talladega, Tallapoosa, Walker, Winston, and Escambia) which had a decrease in their urban population, however, an average of their figures reveals that their rural population increased by only 2.9 percent.

SUMMARY AND CONCLUSIONS

Analysis of changes in population are useful in various types of demographic studies and in the planning of action programs. The major objectives of this study are: (1) to analyze changes in the total population of Alabama, by county during the decades 1950-1960 and 1960-1970. (2) to study changes in the distribution and factors affecting the distribution of population during 1950-1970; (3) to study the changes in Alabama's population by race and metropolitan and nonmetropolitan residence during the decade 1960-1970; and (4) to analyze changes in the rural-urban composition of Alabama's population by county for the period 1960-1970. Data for this study were collected from secondary sources. The main sources were U.S. Population Censuses of 1950, 1960, and 1970, for Alabama. Supplementary sources were the population and demographic studies by South Alabama Regional Planning Commission and Alabama State Planning and Industrial Board.

The study reveals that the population of the state of Alabama increased by 5.4 percent during the decade 1960-1970, as compared to 6.7 percent during the decade 1950-1960. Although Alabama had a gain in population during 1960-1970, the percent gain (1960-1970) was lower than in the 1950-1960 decade. The rate of increase during 1960-1970 is substantially below the rate of increase in the entire United States (13.3 percent) and in the South region (14.2) percent in which Alabama is located. During 1950-1960, only 22 (one-third) Alabama counties gained in population and 45 (two-thirds) had population loss. Between 1960-1970, there was an increase of population in 35 counties leaving only 32 counties with a declining population. The population increase of 117,000 in the 1960-1970 decade was the result of a natural increase (births minus deaths) of 410,000 and a net outmigration of 223,000. The net outmigration was equivalent to about 7 percent of the 1960 population. The net outmigration of Whites was negligible while the net outmigration of Negro and other races was 228,000. This figure is equivalent to 23 percent of the 1960 population of Negro and other races. Percent loss of population has been more concentrated in the southern counties than in Northern Alabama during both decades. The growth rates of metropolitan and nonmetropolitan areas have increased at approximately the same rate. The study shows that the White population increased by 10.7 percent while the non-White (Negro and other races) decreased by 6.9 percent during 1960-1970. Alabama also possesses a somewhat higher rural population than the national average. In fact, in 1970, there remained 11 counties (one-sixth) which were completely rural. The loss of population in southern counties of Alabama and concentration of population in the northern part of Alabama can perhaps be attributed to migration of people from the South to Northern urban industrial centers of the state of Alabama. Further research needs to be undertaken of the various factors associated with the growth and decline of population in the state. Also further research is needed to determine the effects of national rural development programs upon the stabilization of the rural population. Obviously new and expanded industry in rural areas would not only enhance local economies but also tend to redistribute the population and lessen the flow of rural population to urban centers.

TABLE 1
Changes in Total Population by County, Alabama,
1950-1960

COUNTY	POPULATION		CHANGE (1950-1960)	
	1950	1960	Number	Percent
Autauga	18,186	18,739	553	3.4
Baldwin	40,997	49,088	8091	19.7
Barbour	28,892	24,700	-4192	-14.5
Bibb	17,987	14,357	-3630	-20.2
Blount	28,975	25,449	-3526	-12.2
Bullock	16,054	13,462	-2592	-16.1
Butler	29,228	24,560	-4668	-16.0
Calhoun	79,539	95,878	16,339	20.5
Chambers	39,528	37,828	-1700	-4.3
Cherokee	17,634	16,303	-1331	-7.5
Chilton	26,922	25,693	-1229	-4.6
Choctaw	19,152	17,870	-1282	-6.7
Clarke	26,548	25,738	-810	-3.1
Clay	13,929	12,400	-1529	-11.0
Cleburne	11,904	10,911	-993	-8.3
Coffee	30,720	30,583	-137	-0.5
Colbert	39,561	46,506	6945	17.6
Conecuh	21,776	17,762	-4014	-18.4
Coosa	11,766	10,726	-1040	-8.8
Covington	40,373	35,631	-4742	-11.7
Crenshaw	18,981	14,909	-4072	-21.5
Cullman	49,046	45,572	-3474	-7.1
Dale	20,828	31,066	10,238	49.2
Dallas	56,270	56,667	397	0.7
DeKalb	45,048	41,417	-3631	-8.1
Elmore	31,649	30,524	-1125	-3.6
Escambia	31,443	33,511	2068	6.6
Etowah	93,892	96,980	3088	3.3
Fayette	19,388	16,148	-3240	-16.7
Franklin	25,705	21,988	-3717	-14.5
Geneva	25,899	22,310	-3589	-13.9
Greene	16,482	13,600	-2882	-17.5
Hale	20,832	19,537	-1295	-6.2
Henry	18,674	15,286	-3388	-18.1
Houston	46,522	50,718	4196	9.0
Jackson	38,998	36,681	-2317	-5.9
Jefferson	558,928	634,864	75,936	13.6
Lamar	16,441	14,271	-2170	-13.2
Lauderdale	54,179	61,622	7,443	13.7
Lawrence	27,128	24,501	-2627	-9.7

Table 1 - contd.

County	Population		Change (1950-1960)	
	1950	1960	Number	Percent
Lee	45,073	49,754	1681	10.4
Limestone	35,766	36,513	747	2.1
Lowndes	18,018	15,417	-2601	-14.4
Macon	30,561	26,717	-3844	-12.6
Madison	72,903	117,348	44,445	61.0
Marengo	29,494	27,098	-2396	- 8.1
Marion	27,264	21,837	-5427	-19.9
Marshall	45,090	48,018	2928	6.5
Mobile	231,105	314,301	83,196	36.0
Monroe	25,732	22,372	-3360	-13.1
Montgomery	138,965	169,210	30,245	21.8
Morgan	52,924	60,454	7530	14.2
Perry	20,439	17,358	-3081	-15.1
Pickens	24,349	21,882	-2467	-10.1
Pike	30,608	25,987	-4621	-15.1
Randolph	22,513	19,477	-3036	-13.5
Russell	40,364	46,351	5987	14.8
St. Clair	26,687	25,388	-1299	- 4.9
Shelby	30,361	32,132	1770	5.8
Sumter	23,610	20,041	-3569	-15.1
Talladega	63,639	65,495	1856	2.9
Tallapoosa	35,074	35,007	- 67	- 0.2
Tuscaloosa	94,092	109,047	14,955	15.9
Walker	63,769	54,211	-9558	-15.0
Washington	15,612	15,372	- 240	- 1.5
Wilcox	23,476	18,739	-4737	-20.2
Winston	18,250	14,858	-3392	-18.6
TOTAL	3,061,743	3,266,740	204,997	6.7

Source:

- (1) U. S. Bureau of the Census, Census of Population: 1950, General Population Characteristics, Final Report, Alabama, U. S. Government Printing Office, Washington, D. C.
- (2) U. S. Bureau of the Census, Census of Population: 1960, General, Social and Economic Characteristics, Final Report P C (1)-2C, Alabama, Table 82, pp. 190-196. U. S. Government Printing Office, Washington, D. C.

TABLE 2

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Changes in Total Population by County, Alabama, 1960-1970

COUNTY	POPULATION		CHANGE (1960-1970)	
	1960	1970	Number	Percent
Autauga	18,739	24,460	5721	30.5
Baldwin	49,088	59,382	10,294	21.0
Barbour	24,700	22,543	-2157	- 8.7
Bibb	14,357	13,812	- 545	- 3.8
Blount	25,449	26,853	1404	5.5
Bullóck	13,462	11,824	-1638	-12.2
Butler	24,560	22,007	-2553	-10.4
Calhoun	95,878	103,092	7214	7.5
Chambers	37,828	36,356	-1472	- 3.9
Cherokee	16,303	15,606	- 697	- 4.3
Chilton	25,693	25,180	- 513	- 2.0
Choctaw	17,870	16,589	-1281	- 7.2
Clarke	25,738	26,724	986	3.8
Clay	12,400	12,636	236	1.9
Cleburne	10,911	10,996	85	0.8
Coffee	30,583	34,872	4289	14.0
Colbert	46,506	49,632	3126	6.7
Conecuh	17,762	15,645	-2117	-11.9
Coosa	10,726	10,662	- 64	- 0.6
Covington	35,631	34,079	-1552	- 4.4
Crenshaw	14,909	13,188	-1721	-11.5
Cullman	45,572	52,445	6873	15.1
Dale	31,066	52,938	21,872	70.4
Dallas	56,667	55,296	-1371	- 2.4
DeKalb	41,417	41,981	564	1.4
Elmore	30,524	33,535	3011	9.9
Escambia	33,511	34,906	1395	4.2
Etowah	96,980	94,144	-2836	- 2.9
Fayette	16,148	16,252	104	0.6
Franklin	21,988	23,933	1945	8.8
Geneva	22,310	21,924	- 386	- 1.7
Greene	13,600	10,650	-2950	-21.7
Hale	19,537	15,888	-3649	-18.7
Henry	15,286	13,254	-2032	-13.3
Houston	50,718	56,574	5856	11.5
Jackson	36,681	39,202	2521	6.9
Jefferson	634,864	644,991	10,307	1.6
Lamar	14,271	14,335	64	0.4
Lauderdale	61,622	68,111	6489	10.5
Lawrence	24,501	27,281	2780	11.3

Table 2 contd.

County	Population		Change (1960-1970)	
	1960	1970	Number	Percent
Lee	49,754	61,268	11,514	23.1
Limestone	36,513	41,699	5186	14.2
Lowndes	15,417	12,897	-2520	-16.3
Macon	26,717	24,841	-1876	-7.0
Madison	117,348	186,540	69,192	59.0
Marengo	27,098	23,819	-3279	-12.1
Marion	21,837	23,788	1951	8.9
Marshall	48,018	54,211	6193	12.9
Mobile	314,301	317,308	3007	1.0
Monroe	22,372	20,883	-1489	-6.7
Montgomery	169,210	167,790	-1420	-0.8
Morgan	60,454	77,306	16,852	27.9
Perry	17,358	15,388	-1970	-11.3
Pickens	21,882	20,326	-1556	-7.1
Pike	25,987	25,038	-949	-3.7
Randolph	19,477	18,331	-1146	-5.9
Russell	46,351	45,394	-957	-2.1
St. Clair	25,388	27,956	2568	10.1
Shelby	32,132	38,037	5905	18.4
Sumter	20,041	16,974	-3067	-15.3
Talladega	65,495	65,280	-215	-0.3
Tallapoosa	35,007	33,840	-1167	-3.3
Tuscaloosa	109,047	116,029	6982	6.4
Walker	54,211	56,246	2035	3.8
Washington	15,372	16,241	869	5.7
Wilcox	18,739	16,303	-2436	-13.0
Winston	14,858	16,654	1796	12.1
TOTAL	3,266,740	3,444,165	177,425	5.4

Source:

- (1) U. S. Bureau of the Census, Census of Population: 1960, General, Social and Economic Characteristics, Final Report PC (1) - 2 C Alabama, Table 82, pp. 190-196. U. S. Government Printing Office, Washington, D. C.
- (2) U. S. Bureau of the Census, Census of Population: 1970, General Population Characteristics, Final Report PC (1) -B2, Alabama. U. S. Government Printing Office, Washington, D.C.

TABLE 3

Population by Race and Metropolitan and Nonmetropolitan Residence:
1970 and 1960

The State Metropolitan and Non- metropolitan Residence	Population		Change		Percent Distribution	
	1970	1960	Number	Percent	1970	1960
Total	3,444,165	3,266,740	177,425	5.4	100.0	100.0
Metropolitan residence..	1,801,095	1,690,569	110,526	6.5	52.3	51.8
Inside central cities.	881,825	871,882	9,943	1.1	25.6	26.7
Outside central cities	919,270	818,687	100,583	12.3	26.7	25.1
Nonmetropolitan residence	1,643,070	1,576,171	66,899	4.2	47.7	48.2
White	2,528,983	2,283,609	245,374	10.7	73.4	69.9
Metropolitan residence .	1,297,450	1,173,239	124,211	10.6	37.7	35.9
Inside central cities.	595,573	581,971	13,602	2.3	17.3	17.8
Outside central cities	701,877	591,268	110,609	18.7	20.4	18.1
Nonmetropolitan residence	1,231,533	1,110,370	121,163	10.9	35.8	34.0
Negro and other races	915,182	983,131	-67,949	-6.9	26.6	30.1
Metropolitan residence.	503,645	517,330	-13,685	-2.6	14.6	15.8
Inside central cities	286,252	289,911	- 3,659	-1.3	8.3	8.9
Outside central cities	217,393	227,419	-10,026	-4.4	6.3	7.0
Nonmetropolitan residence	411,537	465,801	-54,264	-11.6	11.9	14.3

Source

U. S. Bureau of the Census: Census of Population and Housing:
1970, General Demographic Trends for Metropolitan Areas,
1960 to 1970. Final Report, PHC (2)-2, Alabama, Table A. p. 4,
July 1971.

TABLE 4

Change in Population of Central Cities Through Annexation:
1960-1970

Central Cities	1970 Population			1960 popu- lation	Change 1960 to 1970 in 1960 Area
	Total	In 1960 Area	In Annexed Area		
Birmingham.	300,910	298,440	2,470	340,887	-42,447
Mobile.	190,026	189,594	432	194,856	- 5,262
Montgomery.	133,386	118,498	14,888	134,393	-15,895
Huntsville.	137,802	120,436	17,366	72,365	48,071
Tuscaloosa.	65,773	60,554	5,219	63,370	- 2,816
Gadsden.	53,928	53,179	749	58,088	- 4,909

Source:

U. S. Bureau of the Census; Census of Population and Housing:
1970, General Demographic Trends for Metropolitan Areas, 1960-1970,
Final Report PHC (2)-2, Alabama, Table B, p. 5, July 1971.

TABLE 5

Changes in the Rural-Urban Composition of Population, by County, Alabama, 1960-1970

County	1960			1970			Percent Urban of the Total	
	Total	Urban	Rural	Total	Urban	Rural	1960	1970
STATE	3,266,740	1,795,269	1,471,571	3,444,165	2,011,941	1,432,224	55.0	58.4
Autauga	18,739	6616	12,123	24,460	13,116	11,344	35.3	53.6
Baldwin	49,088	12,994	36,144	59,382	15,813	43,567	26.4	26.6
Barbour	24,700	8357	16,343	22,543	9,102	13,441	33.8	40.4
Bibb	14,357	--	14,357	13,812	--	13,812	0.0	0.0
Blount	25,449	4136	21,313	26,853	4,390	22,463	16.3	16.3
Bullock	13,462	3704	9,758	11,824	4,324	7,500	27.5	36.6
Butler	24,560	6894	17,666	22,007	8,033	13,974	28.1	36.5
Calhoun	95,878	53,217	42,661	103,092	66,130	36,962	55.5	64.1
Chambers	37,828	15,914	21,914	35,356	15,892	20,464	42.1	43.7
Cherokee	16,303	--	16,303	15,606	--	15,606	0.0	0.0
Chilton	25,693	5,683	20,010	25,180	5,868	19,312	22.1	23.3
Choctaw	17,870	--	17,870	16,589	--	16,589	0.0	0.0
Clarke	25,738	8,141	17,597	26,724	9,726	16,998	31.6	36.4
Clay	12,400	--	12,400	12,636	--	12,636	0.0	0.0
Cleburne	10,911	--	10,911	10,996	2,872	8,124	0.0	26.1
Coffee	30,583	15,731	14,852	34,872	20,225	14,647	51.4	58.0
Colbert	46,506	26,569	19,937	49,632	28,850	20,782	57.1	58.1
Conecuh	17,762	3703	14,059	15,645	3,924	11,721	20.8	25.1
Coosa	10,726	--	10,726	10,662	--	10,662	0.0	0.0
Covington	35,631	18,809	16,822	34,079	19,286	14,793	52.8	56.6
Crenshaw	14,909	--	14,909	13,188	--	13,188	0.0	0.0
Cullman	45,572	10,883	34,689	52,445	12,601	39,844	23.9	24.0
Dale	31,066	9534	21,532	52,938	32,979	19,959	30.7	62.3
Dallas	56,667	28,385	28,282	55,296	27,379	27,917	50.1	49.5
Dekalb	41,417	7029	34,388	41,981	8,435	33,546	17.0	20.1
Elmore	30,524	6843	23,681	33,535	7,190	26,345	22.4	21.4
Escambia	33,511	16,993	16,518	34,906	15,040	19,866	50.7	43.1
Etowah	96,980	68,970	28,010	94,144	67,868	26,276	71.1	72.1

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TABLE 5 contd.

County	Population				1970		Percent Urban of the total	
	1960		1970		Urban	Rural	1960	1970
	Total	Urban	Rural	Total				
Fayette	16,148	4227	11,921	16,252	4,707	11,545	26.2	29.0
Franklin	21,988	6628	15,360	23,933	7,814	16,119	30.1	32.6
Geneva	22,310	3840	18,470	21,924	7,046	14,878	17.2	32.1
Greene	13,600	2784	10,816	10,650	2,805	7,845	20.5	26.3
Hale	19,537	3081	16,456	15,888	3,371	12,517	15.8	21.2
Henry	15,286	5174	10,112	13,254	5,541	7,713	33.8	41.8
Houston	50,718	31,440	19,278	56,574	36,733	19,841	62.0	64.9
Jackson	36,681	9355	27,326	39,202	12,232	26,970	25.5	31.2
Jefferson	634,864	537,240	97,624	644,991	570,402	74,589	84.6	88.4
Lamar	14,271	--	14,271	14,335	--	14,335	0.0	0.0
Lauderdale	61,622	31,649	29,973	68,111	34,031	34,080	51.4	50.0
Lawrence	24,501	--	24,501	27,281	--	27,281	0.0	0.0
Lee	49,754	31,939	17,815	61,268	41,794	19,474	64.2	68.2
Limestone	36,513	9330	27,183	41,699	14,360	27,339	25.6	34.4
Lowndes	15,417	--	15,417	12,897	--	12,897	0.0	0.0
Macon	26,717	7009	19,708	24,841	11,028	13,813	26.2	44.4
Madison	117,348	74,970	42,378	186,540	46,564	39,975	63.9	78.6
Marengo	27,098	9893	17,205	23,819	10,348	13,471	36.5	43.4
Marion	21,837	2907	18,930	23,788	6,241	17,547	13.3	26.2
Marshall	48,018	22,459	25,559	54,211	26,304	27,907	46.8	48.5
Mobile	314,301	270,711	43,590	317,308	260,480	56,828	86.1	82.1
Monroe	22,372	3632	18,740	20,883	4,846	16,037	16.2	23.2
Montgomery	169,210	142,893	26,317	167,790	138,983	28,807	84.4	82.8
Morgan	60,454	34,217	26,237	77,306	45,399	31,907	56.6	58.7
Perry	17,358	3807	13,551	15,388	4,289	11,099	21.9	27.9
Pickens	21,882	3194	18,688	20,326	2,851	17,475	23.7	14.0
Pike	25,987	12,757	13,230	25,038	14,191	10,847	49.1	56.7
Randolph	19,477	5288	14,189	18,331	5,251	13,080	27.1	28.6
Russell	46,351	27,630	18,721	45,394	25,281	20,113	59.6	55.7
St. Clair	25,388	4486	20,902	27,956	5,646	22,310	17.7	20.2
Shelby	32,132	2778	29,354	38,037	6,398	31,639	8.6	16.8
Sumter	20,041	2932	17,109	16,974	3,044	13,930	14.6	17.9

TABLE 5 contd.

County	1960		1970		Percent Urban of the total	
	Total	Urban	Total	Urban	1960	1970
Talladega	65,495	35,483	30,012	34,748	54.2	53.2
Tallapoosa	35,007	17,843	17,164	16,610	51.0	49.1
Tuscaloosa	109,047	76,815	32,232	85,875	70.4	74.0
Walker	54,211	13,983	40,228	13,548	25.8	24.1
Washington	15,372	--	15,372	--	0.0	0.0
Wilcox	18,739	--	18,739	--	0.0	0.0
Winston	14,858	3740	11,116	4,134	25.2	24.8

Source:

- (1) U. S. Bureau of the Census. Census of Population: 1970, Final Population Counts, Alabama, Advance Report PC (V1)-2, Table 1, U. S. Government Printing Office, Washington, D. C. 1970.
- (2) U. S. Bureau of the Census. U. S. Census of the Population: 1960. General, Social and Economic Characteristics, Alabama. Final Report PC (1)-2C, Table 91. U. S. Government Printing Office, Washington, D.C., 1961.



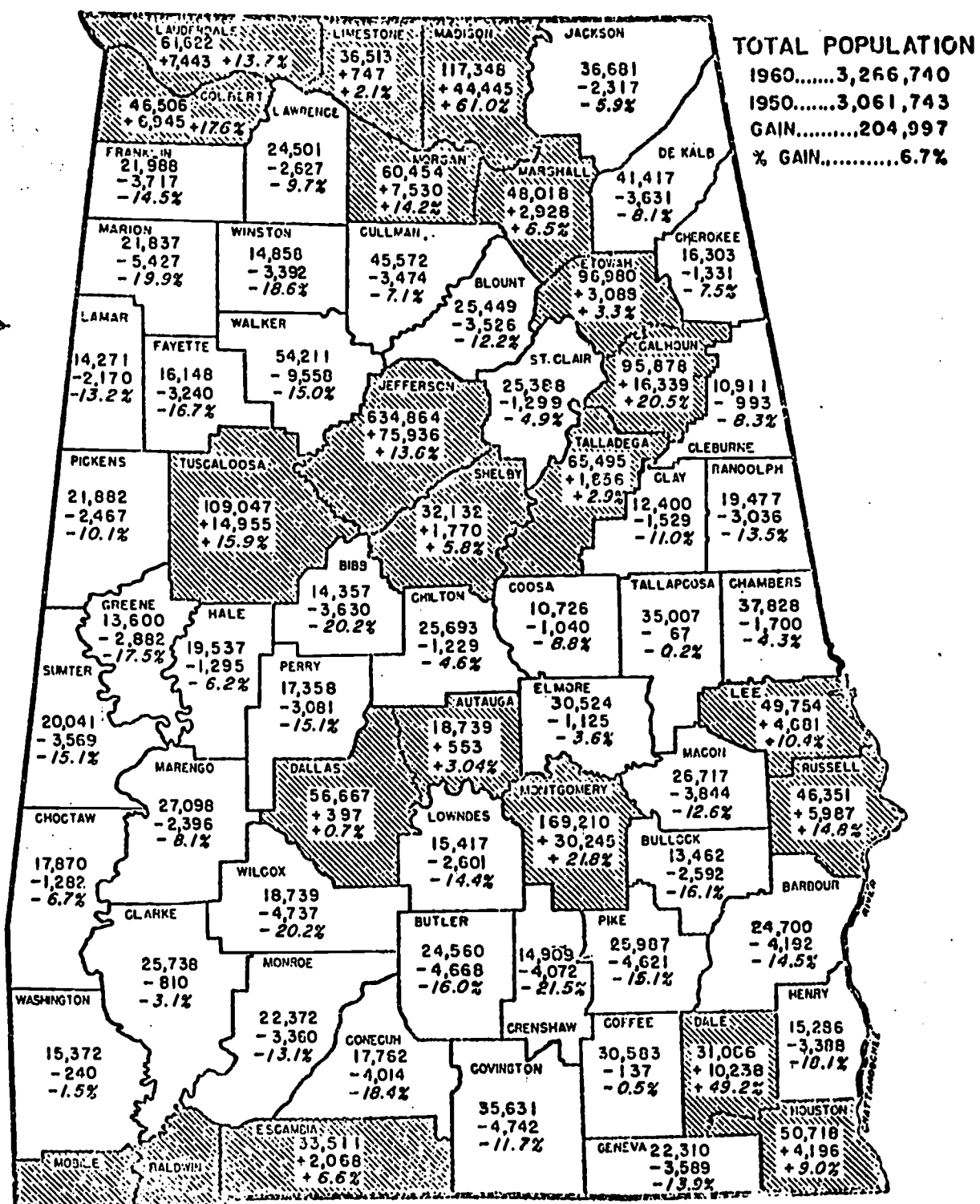


FIGURE 1. CHANGES IN THE TOTAL POPULATION OF ALABAMA BY COUNTY, 1950 - 1960

Gain
Loss

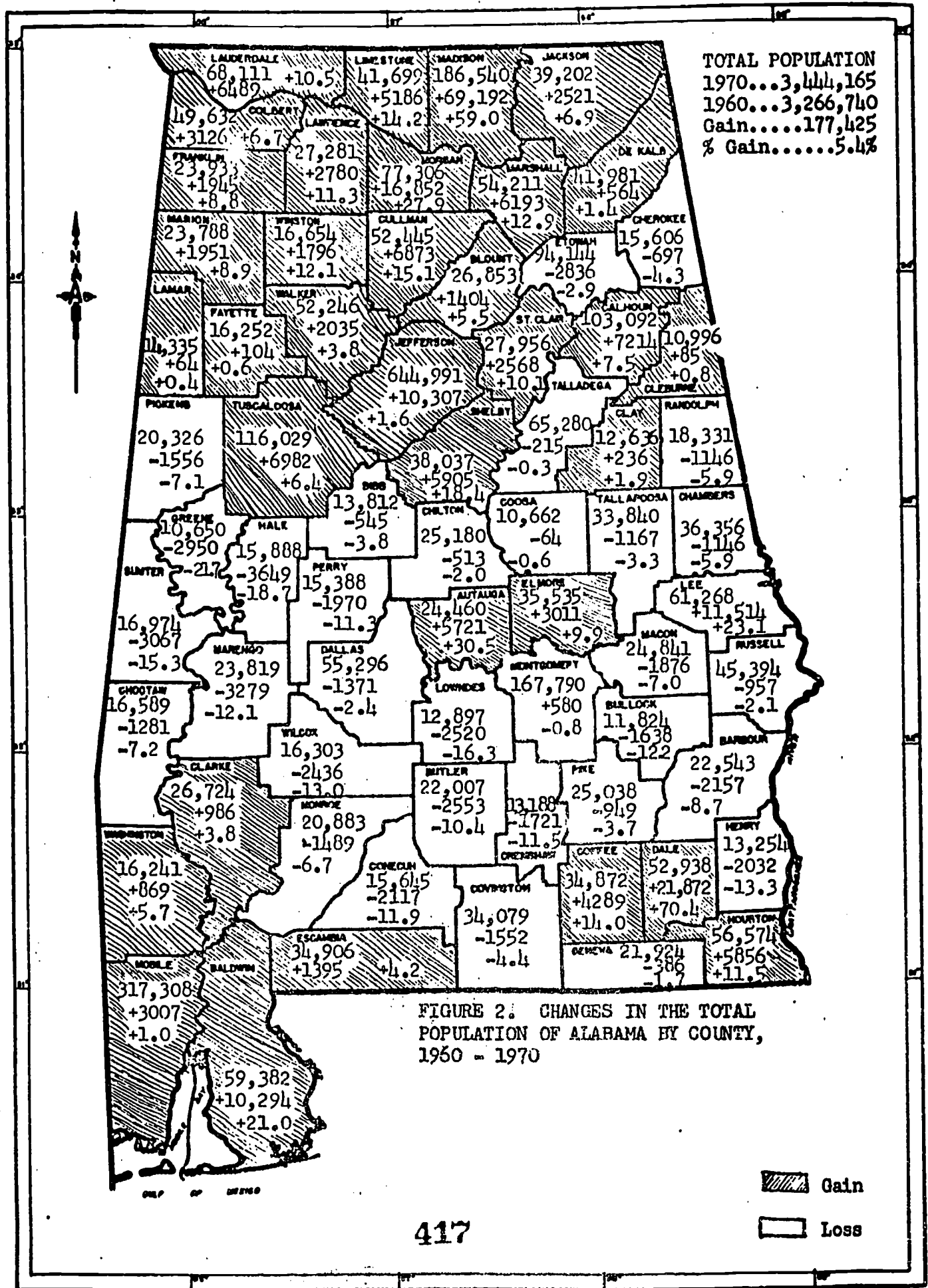


FIGURE 2. CHANGES IN THE TOTAL POPULATION OF ALABAMA BY COUNTY, 1960 - 1970

Gain
 Loss

SOUTHERN APPALACHIAN POPULATION CHANGE, 1960 TO 1970:
A First Look at the 1970 Census

James S. Brown*

The population of the Southern Appalachians^{1/} on April 1, 1970, according to final Census counts, was 10,096,119, a gain of 419,955 since 1960 (4.3 percent).

The increase, in both numbers and percentage, is greater than from 1950 to 1960 when the increase was 35,154 (0.4 percent).

The Appalachian rate of increase in the '60s, however, was less than a third that of the United States as a whole (13.3 percent).

Appalachia's greater increase in population from 1960 to 1970 than from 1950 to 1960 is due to a tremendous decline in net loss through migration from 1,569,000 in the '50's to only 592,000 in the '60s, a decrease of 977,000 (62 percent). The rate of loss through migration in the '50s was 16.3 percent, in the '60s only 6.1 percent.

The region's population would, then, have been much greater except for a 37 percent decrease in natural increase (excess of births over deaths) in the '60s (from 1,600,000 to 1,012,000) which occurred because births declined nineteen percent (from about 2,410,000 in the '50s to about 1,950,000 in the '60s) while deaths increased seventeen percent (from 804,000 to 940,000).

Both the decline of loss through migration and the decline of natural increase in such a short period are great, even dramatic, changes, and call for much more investigation than could be done for this article. For these abrupt changes cannot be simply explained and their significance for the future is even more difficult to fathom. But we can at least suggest, more or less knowledgeably, some of the reasons for, and significance of, them.

First of all, however, we must note that the area here called "The Southern Appalachians" is so large and so varied in social and economic characteristics that attempting to account for changes only for the whole region would obscure many of the most significant aspects of the changes. It is necessary, therefore, to look at what has happened in the various sections and thus construct a tentative explanatory mosaic of changes in the whole area by putting together the sectional pieces. Most of the rest of this paper, then, is an attempt to relate changes in various parts of the Appalachians with their different characteristics and to point to important reasons for changes both in the whole region and its several sections.

* Professor of Rural Sociology, Kentucky Agricultural Experiment Station, University of Kentucky, Lexington, Kentucky.

Changes by States

From 1960 to 1970, the Appalachian section of seven of the ten states had population increases (Table 1).

Numerically, Alabama's Appalachian counties gained most--155,000--closely followed by Georgia's with 139,000 (Table 2). West Virginia's counties lost mostly heavily (116,184) with Kentucky's and Virginia's also losing (46,000 and 30,000, respectively).

As for percentage changes, Appalachian Georgia increased most by far (21 percent), followed by South Carolina (12 percent) and North Carolina (10 percent) (Table 2). West Virginia lost most (6.2 percent), closely followed by Virginia (6.0) and Kentucky (5 percent).

Six of the seven states with increases from 1950 to 1960 had even larger percentage increases in the '60s, the most striking change being the increase in Georgia (from 9 to 21 percent). South Carolina's percentage increase stayed about the same.

Of the four states with population declines from 1950 to 1960, one, Mississippi, shifted from a loss of 5 percent in the '50s to a gain of 3 percent in the '60s. But the other three states continued to lose, Virginia's rate of loss staying about the same (6 compared to 5.9 percent), West Virginia's decreasing slightly (from 7 to 6 percent), and Kentucky's declining sharply (from 14 to 5 percent).

In the '50s all of the states had had net losses through migration, their rates ranging from 8 percent in South Carolina and Maryland to 32 percent in Kentucky (Table 3). In the '60s nine states still continued to lose through migration, though numbers lost as well as rates of loss of all dropped significantly. One state, Georgia, had a net gain through migration (8 percent compared to a 9 percent loss in the '50s).

In all ten states births declined (ranging from 5.4 percent in Georgia to 31 percent in Kentucky) and the number of deaths increased (from 8 percent in Kentucky to 29 percent in Georgia) so that natural increase fell at least 20 percent in every state (21 percent in Georgia, the lowest; 53 percent in West Virginia, the highest) (Tables 4 and 5).

As a result of these varying declines in losses through migration and also decreases in natural increase, perhaps the most remarkable changes by states, then, in the '60s were: (1) the rapid growth of Appalachian Georgia, both in numbers and percent; (2) the great decrease, both in numbers and percentage, in the loss from Kentucky's counties; and (3) the continuing decline in Virginia's and West Virginia's counties, somewhat less in numbers but at almost the same rates as in the '50s.

Changes in Metropolitan Population

More and more of the United States' population in recent decades has been concentrating in metropolitan areas, which today contain more than two-thirds of the nation's total population. Much of the growth of these metropolitan areas has been due to an influx of migrants from rural areas. Hundreds of thousands of migrants from the predominantly rural Southern Appalachians have moved to metropolitan areas; most of them, however, have gone to cities outside of

Appalachia.

For the Appalachian metropolitan areas mostly small and with economies not demanding large numbers of unskilled workers, have not attracted most of the vast migratory stream from the rest of Appalachia. In 1970, only one-third of Southern Appalachia's population (3,269,958) lived in its metropolitan counties, counties in Standard Metropolitan Statistical Areas (SMSA's) (Table 6). This is an increase since 1960 of only 238,137 (8 percent, less than two-thirds the rate of increase of the nation's metropolitan areas as a whole) (Table 7).

Indeed, in the '60s, growth of the 27 Appalachian metropolitan counties slowed down, for from 1950 to 1960 they had increased 328,000 (12 percent).

Though net loss through migration was 61,000 less in the '60s than in the '50s (Table 8), metropolitan population grew more slowly because natural increase dropped about 150,000 (Tables 9 and 10).

The metropolitan population of each of the seven states with metropolitan counties (Maryland, Mississippi and Virginia had none) grew from 1950 to 1960 in spite of the heavier migration during that decade, increasing 10 percent or more in four states, declining in two--Kentucky and West Virginia with gains of only 4.4 and 3.4 percent, respectively (Table 7). Georgia's and South Carolina's metropolitan counties gained most (26 and 23 percent, respectively).

From 1960 to 1970, Georgia's metropolitan counties grew even more rapidly (39 percent) than in the '50s; in each of the other states metropolitan growth was less rapid, ranking from greatest to least gains in exactly the same order as in the previous decade, from a gain of 17 percent in South Carolina to a loss of 5 percent in West Virginia (Table 7). Clearly the metropolitan counties of the Piedmont Crescent running from North Carolina through South Carolina to Georgia grew most rapidly. These counties had net gains through migration large enough to offset losses in natural increase. Metropolitan counties in all the other states had combinations of declines in losses through migration and decreases in natural increase so that rates of population growth decreased (Tables 6, 7, 8, 9, and 10).

Of the 27 metropolitan counties, 16 were in nine SMSA's wholly in Southern Appalachia. Seven of these SMSA's had population increases, led by Huntsville, Alabama, with an increase of 74,000 (48 percent) followed by Greenville, South Carolina, and Asheville, North Carolina, with increases of 16 and 12 percent, respectively. Two SMSA's, Gadsden, Alabama, and Charleston, West Virginia, had population declines of 3 and 9 percent, respectively.

The 9 SMSA's continued to have a total net loss through migration in the '60s (84,000), but it was 34 percent less than in the '50s (127,000). There was much variation among them, as indicated below:

Four had greater net losses through migration in the '60s than in the '50s (Birmingham, Charleston, Chattanooga, and Tuscaloosa).

Two had smaller net losses in the '60s (Gadsden and Knoxville).

One with a net gain in the '60s had had a net loss in the '50s (Asheville).

Finally, two had even larger net gains in the '60s than in the '50s

(Greenville and Huntsville).

Births in the nine SMSA's decreased 14.9 percent, from 578,000 in 1950-60 to 492,000 from 1960-70. Deaths increased 19.4 percent, from 186,000 in 1950-60 to 222,000 in 1960-70. Consequently, natural increase fell 31.1 percent, from 392,000 to 270,000.

Only one of the SMSA's had a gain in natural increase (Huntsville, 46 percent). All the other eight had decreases (ranging from Gadsden's 25 percent to Charleston's 49 percent).

Changes in Nonmetropolitan Population

Since metropolitan counties in Southern Appalachia during the '60s gained very slowly, Appalachian population continued to be overwhelmingly non-metropolitan--68 percent in 1970 (compared to 69 percent in 1960 and 72 in 1950).

The nonmetropolitan areas (276 counties and 5 independent cities in Virginia) had a total population in 1970 of 6,826,161, an increase since 1960 of 181,818 (2.7 percent) (Tables 11 and 12). Though small, this was a significant change from the decrease of 292,381 (4.2 percent) in the previous decade. For after a sizeable loss in the '50s, then, the nonmetropolitan population seemed to be stabilizing and even growing slightly in the '60s, persistently continuing to constitute more than two-thirds of the Appalachian population.

There were, however, some important variations among the states (Tables 11 and 12).

The nonmetropolitan counties in the five states which had population increases from 1950 to 1960 also increased from 1960 to 1970, all at higher rates (Georgia's counties from 7 to 18 percent, Maryland's from 3 to 7, North Carolina's from 2 to 9, South Carolina's from 5 to 8, and Tennessee's from 2 to 8).

Two of the five states with losses in nonmetropolitan population from 1950 to 1960 had gains during the '60s (Alabama, changing from -1 percent to 6 and Mississippi from -5 to 3 percent).

In three states nonmetropolitan population continued to decrease, Kentucky's and West Virginia's at notably smaller rates (the former dropping from 15 percent in the '50s to 5 percent in the '60s, the latter from 11 to 7) but Virginia's percentage of loss remained almost the same (5.9 percent from 1950 to 1960, 6.0 percent from 1960 to 1970).

In spite of these variations there were only slight decreases in percentages of total population constituted by the nonmetropolitan counties in any of the states. Appalachian Maryland, Mississippi and Virginia continued to be totally nonmetropolitan; Kentucky's Appalachian population was 94 percent non-metropolitan; Georgia's 85, West Virginia's 69, North Carolina's 63, Tennessee's 62, and South Carolina's 54 percent. Only in Alabama was the nonmetropolitan population less than half the total (43 percent).

Again, as in Southern Appalachia as a whole and in the metropolitan counties, births in the nonmetropolitan counties fell from the '50s to the '60s (21 percent) and deaths increased somewhat (16 percent) so that natural increase dropped from 1,117,000 to 675,124 (40 percent). Similar decreases in births,

increases in deaths, and consequent decreases in natural increase also occurred in the nonmetropolitan counties of each of the ten states (Tables 14 and 15).

During the same period, losses through net migration continued but declined remarkably from 1,409,000 in the '50s to 493,000 in the '60s (65 percent), the rate of loss through migration dropping from 20 percent to 5.7 percent.

Georgia's nonmetropolitan counties actually had a net gain through migration in the '60s; in each of the other states nonmetropolitan counties as a whole had net losses, but the percentage losses strikingly declined (Table 13).

Changes in the Populations of Counties

Variations in population change among the 303 counties and 5 independent cities (in Virginia) included in the Southern Appalachians are myriad. Consequently only a few of the most important differences will be discussed here.

By states the number of counties and independent cities which gained and lost are:

	<u>Total Appalachian</u>	<u>Number of Counties</u>	
	<u>Counties</u>	<u>Gained</u>	<u>Lost</u>
Alabama	35	25	10
Georgia	35	33	2
Kentucky	49	15	34
Maryland	3	2	1
Mississippi	20	12	8
North Carolina	29	22	7
South Carolina	6	6	0
Tennessee	50	36	14
Virginia	26#	9##	##17
West Virginia	55	15	40
TOTAL	308#	175##	##133

#Includes 5 independent cities.

##Includes 2 independent cities.

###Includes 3 independent cities.

Counties with Population Increases

The 173 counties and 2 independent cities with population increases gained a total of 714,006.

About 78 percent (21) of the 27 metropolitan counties had increases compared to only 55 percent (154) of the 281 nonmetropolitan counties. Many of the nonmetropolitan counties with increases, furthermore, had large urban populations. For example, Douglas County, Georgia, with the greatest percentage increase of all (71 percent), adjoins the Atlanta SMSA, and obviously is becoming an integral part of it.

More counties in the states along the southern and southeastern border of Southern Appalachia were growing than in other parts of the region. More than four-fifths of the counties in Georgia, South Carolina and North Carolina and sixty percent of Mississippi's Appalachian counties had population increases. But of the 130 counties in Kentucky, Virginia and West Virginia only 30 percent

gained.

Counties with the highest rates of increase were also concentrated along the southern and southeastern border--Georgia alone had 15 of the 39^{1/2} counties gaining 15 percent or more; Alabama, South Carolina and North Carolina had ten more. Kentucky, Virginia, and West Virginia together had only 5 such counties.

All the above suggest that Appalachian population increase was relatively concentrated in a few counties. Other indicators of this concentration and where it occurred are:

One county alone (Madison, Alabama, part of the Huntsville SMSA) accounted for nearly ten percent of the total gained by the 175 counties with population increases.

Sixteen counties gained 10,000 or more; nine of them were metropolitan counties. Together they accounted for 331,000 (46 percent) of the total gained by the 175 counties.

The 14 counties which gained 25 percent or more increased a total of 207,500, 29 percent of the total gained by the 175 counties. Though 11 of the 14 were nonmetropolitan, the 3 metropolitan counties accounted for 53 percent of the total increase of the 14 counties. Of these 14, 2 were in Alabama--Madison (mentioned above) and Morgan, adjacent to the Huntsville SMSA; 1 was part of the Atlanta SMSA and 4 others in Georgia adjoined that rapidly growing metropolitan area; 3 were adjacent to the Chattanooga SMSA, 2 in Georgia, 1 in Tennessee; and 1 (Pickens) was in the Greenville SMSA. The other 3 were sites of rapidly growing state universities (Madison and Rowan, Ky., and Watauga, North Carolina). Clearly almost all rapidly growing counties were metropolitan or semi-metropolitan.

The emergence of Atlanta as the rapidly growing, regional capital of the Southeast is obviously a major reason for the concentration of population increase of Southern Appalachian counties. The one Appalachian county in the Atlanta SMSA (Gwinnett), the 9 counties adjacent, and 12 counties within commuting distance (22 counties in all) alone accounted for about 117,000 (16 percent) of the total gained by the 175 counties.

104,000 15

Much of the Appalachian population gain was concentrated in the growing belt of counties (including 9 SMSA's) called the Piedmont Crescent which extends through North Carolina, South Carolina and Georgia from Raleigh, North Carolina, to Atlanta. The Appalachian counties included in the Piedmont Crescent (4 metropolitan, 27 nonmetropolitan) had a total increase of 195,041, 27 percent of the region's total increase.

Counties with Population Decreases

The 130 counties and 3 independent cities with population decreases lost a total of 294,051.

Forty-five percent (127) of the 281 nonmetropolitan counties had decreases compared to only 22 percent (6) of the 27 metropolitan counties (5 of the 6 metropolitan counties losing were in West Virginia).

The counties losing population from 1960-70 were concentrated in the

northwestern part of Southern Appalachia, Kentucky (34), Virginia (17) and West Virginia (40) including nearly 70 percent of the 133 with losses. In addition, the western part of Appalachian Tennessee, adjoining Kentucky, had 14 counties with losses.

Counties with the highest rates of loss were also concentrated in the northwestern part of Southern Appalachia. Kentucky (14), Virginia (9), and West Virginia (16) had 39 of the 44 counties losing ten percent or more, and adjoining Tennessee had 3.

The 91 counties in Kentucky, Virginia and West Virginia losing population from 1960-70 lost a total of 262,313, nearly 90 percent of the 294,051 lost by all the 133 counties with decreases. For that reason special attention will be paid to these 91 counties, particularly to the coal mining counties, where losses were heaviest.

Of the twenty-six counties (10 in Kentucky, 4 in Virginia, and 12 in West Virginia) classified as mining counties,²⁷ twenty-four lost population from 1960-70, a total of 143,322; two gained (Leslie, Ky., and Grant, West Virginia) a total of 985. Altogether then the counties lost 142,000 (16 percent), nearly half of the total lost by all Appalachian counties from 1960 to 1970.

From 1960 to 1970, Kentucky's mining counties lost 49,000 (17 percent), Virginia's lost 18,000 (14 percent), and West Virginia's 75,000 (16 percent).

In 1950-60 these 26 counties had lost 206,000 (19 percent)--Kentucky's counties 79,000 (21 percent), Virginia's 15,000 (11 percent), and West Virginia's 112,000 (19 percent).

From 1960-70 seven counties had percentage losses of 20 percent or more:

In Kentucky	- Harlan	26.9
	Perry	26.4
	Letcher	23.0
In Virginia	- Dickenson	20.5
In West Virginia	- McDowell	29.0
	Logan	24.9
	Fayette	20.1

From 1950-60, 11 counties had had decreases of 20 percent or more (including all of those above except Dickenson, Virginia, which had replaced Wise, Virginia, plus Floyd and Leslie in Kentucky; Barbour and Calhoun in West Virginia).

As in Southern Appalachia as a whole, from the '50s to the '60s births declined in the mining counties (from 283,000 to 168,000--41 percent), deaths increased (from 74,000 to 79,000--7 percent) so that natural increase dropped (from 201,000 to ~~98,000~~^{209,000} ~~51~~^{89,000} percent).

Meanwhile, net loss through migration dropped from 409,000 in the '50s to 231,000 in the '60s, a decline of 44 percent, though the rate of loss dropped only from 37.3 percent to 25.8 percent. Kentucky's rate of loss through migration decreased from 42.5 to 29.9 percent, West Virginia's from 36.1 to 23.3, and Virginia's from 27.2 to 25.7.

SUMMARY

In summary, the population of the Southern Appalachians (as defined here) has increased slightly from 1960 to 1970, gaining, however, at a rate less than a third that of the U. S. as a whole.

The greater increase in the 1960's is primarily due to the tremendous drop in loss through migration (a 62 percent decline). Migration loss dropped so much that it offset another astonishing change, a drop in births and an increase in deaths which together resulted in a 37 percent decline in natural increase.

There were many interesting variations among the different sections of this vast area.

Among the states, Appalachian Georgia increased most by far, percentage-wise, followed by South Carolina and North Carolina. The two other states which had population increases from 1950 to 1960, Tennessee and Alabama, had higher percentage increases in the '60s, and Appalachian Mississippi shifted from a small percentage loss to a small gain. But Virginia, West Virginia and Kentucky still lost, Virginia at about the same rate as in the '50s, West Virginia's rate declining slightly, Kentucky's sharply.

In all ten states births declined and deaths increased so that natural increase fell at least 20 percent in each state, the highest being an astonishing 53 percent decline in West Virginia.

Appalachian metropolitan counties grew as a whole even more slowly than from 1950 to 1960, their rate of increase in the '60s being only two-thirds that of U. S. metropolitan areas as a whole. There were exceptions, however. Georgia's metropolitan counties grew far more. The Huntsville, Alabama, SMSA increased 48 percent.

Nonmetropolitan areas gained 3 percent in the '60s compared to a 4 percent loss in the earlier decade. The five states whose nonmetropolitan counties gained in the '50s (Georgia, Maryland, North Carolina, South Carolina, and Tennessee) continued to gain in the '60s, at higher rates; two states with losses in the '50s had small increases in the '60s (Alabama and Mississippi). And Kentucky's and West Virginia's nonmetropolitan population continued to decrease, but at notably smaller rates while Virginia's percentage loss continued to be the same.

As in the region as a whole and the metropolitan counties, births in non-metropolitan counties decreased (21 percent) from the '50s to the '60s so that natural increase dropped 40 percent. But net losses through migration fell even more (65 percent) so that nonmetropolitan population increased in the region as a whole.

After all these shifts and changes in metropolitan and nonmetropolitan population, Southern Appalachia's population continues to be more than two-thirds nonmetropolitan (68 percent in 1970 compared to 69 percent in 1960). Furthermore, there were only slight decreases in the nonmetropolitan proportions of any of the Appalachian sections of the different states.

One hundred seventy-three counties and 2 independent cities gained in population from 1960 to 1970; 130 counties and 3 independent cities lost. A higher proportion of metropolitan than nonmetropolitan counties had population increases. More of the counties along the southern and southeastern border of Southern Appalachia had increases; furthermore counties in these areas had higher rates of increase.

Appalachian population increase tended to be concentrated in a few counties--e.g., in the Georgia counties; in the sixteen counties gaining 10,000 or more; in the fourteen counties gaining 25 percent or more; in a few SMSA's, Huntsville, for instance, and the counties around it, but more especially in the Atlanta area which was surrounded by rapidly growing counties. Scattered over the region are a few counties with relatively small populations gaining primarily because of rapid growth of state universities lying within them. Finally, the 31 Appalachian counties in the Piedmont Crescent were growing rapidly.^{3/}

Counties with the greatest losses, were concentrated in Kentucky, Virginia, and West Virginia. In fact, the 91 counties with population decreases in these 3 states accounted for nearly 90 percent of the total decrease of all the 133 which lost. Coal mining counties, especially, continued to lose heavily, though at lower rates than in the '50s. These 26 counties accounted for nearly half of the total loss of all Appalachian counties with decreases. Migration continued to be heavy (a rate of 26 percent from 1960 to 1970). And births decreased so much that, together with a slight increase in deaths, natural increase dropped to less than half that of the earlier decade.

SO WHAT?

So far we have been so concerned with facts--populations, net migration, rates of increase and decrease, births, deaths, natural increase--and with many separate parts of Southern Appalachia, separately considered--metropolitan and nonmetropolitan, Appalachian parts of states, counties, etc.--that no overall pattern has, at least explicitly, been shown.

What do all of these data mean? Can we suggest a way to look at these facts so that an understandable picture emerges? Possibly--at least we will try.

Clearly the various parts of the Southern Appalachians are developing quite differently. The three great physiographic divisions of the Southern Appalachians suggested by Marschner^{1/}--(1) the Cumberland and Allegheny Plateaus of the west separated by (2) the Great Valley from the (3) Blue Ridge on the east--gives us one useful pattern of organization. The fringe areas bordering these principal parts of the Southern Appalachians which he indicates also are of help:

In the east: the Southern, Central and Northern Piedmont Plateaus, and the Central Appalachian Valleys in Virginia (excluded from the ARC delineation except for a few, scattered counties)

In the west: the Highland Rim in Kentucky and Tennessee, the Southern Highland Rim and Tennessee Valley, and the Appalachian border of the Coastal Plain

These divisions enable us to see changes in greater sections and thus

simplify the complex picture, for it is uncanny how relevant these physiographic divisions and subdivisions are.

For many decades researchers on Southern Appalachia have said that the greatest development of the region would be in the Great Valley and along the outer fringes of the area--not in the Allegheny and Cumberland Plateaus on the west nor in the Blue Ridge on the east. This is what has happened.

Consequently, the Appalachian counties with population increases are concentrated in:

(1) The Great Valley running, roughly, from Birmingham and Huntsville in the south northeastward through Tennessee (including Chattanooga, Knoxville and the rapidly developing counties of east Tennessee) and going on to the Valleys of Southwestern Virginia, including Washington, Smyth, Wythe, and Pulaski counties, the Central Appalachian Valleys in Virginia of which only Berkeley and Jefferson Counties, West Virginia, are included in the ARC delineation.

(2) The Southern Piedmont Plateau including counties along the Alabama border, a number of counties in Georgia, including the counties around Atlanta, Greenville and several surrounding counties, and a number of North Carolina counties in both the Southern and Central Piedmont Plateau.

(3) The Highland Rim counties of Appalachian Tennessee and of Kentucky also tend to have population increases, though in general not such great increases as along the Piedmont fringe in the east--no doubt because no such great metropolis as Atlanta is nearby nor even smaller metropolitan areas (like Winston-Salem, High Point and Greensboro). Also counties in the Blue Grass of Kentucky (Clark, Madison and Montgomery) showed gains.

On the other hand, the counties with losses in population are concentrated in the Cumberland and Allegheny Plateau sections of West Virginia, Kentucky, Virginia, and Tennessee, including the 60 counties which the ARC calls "Central Appalachia" but including many other counties too, especially in West Virginia. All the ⁴⁴counties among the ~~303~~ in Southern Appalachia having ^{with} population losses of 10 percent or more from 1960 to 1970 are in these parts of Kentucky, ^{Tennessee} Virginia, and West Virginia except two (both in Mississippi).

Along with the physiographic pattern, another significant pattern in county gains and losses during the '60s was related to the presence, and attributes, of SMSA's nearby. Almost all the counties gaining 14 percent or more from 1960 to 1970 were parts of SMSA's or adjoined or were within commuting distance of SMSA's. Even though the SMSA itself might not be growing very fast, in a number of cases nearby counties were (e.g., Shelby county which adjoins the Birmingham SMSA; Henderson and McDowell counties adjoining the Asheville SMSA; Bradley, Catoosa, Whitfield, and Dade adjoining the Chattanooga SMSA; and Sevier, Jefferson and Hamblen near the Knoxville SMSA).

The physiographic pattern and the SMSA pattern of population increase are of course closely related, for most of the SMSA's have grown up either in the Great Valley or along the outer fringes of Southern Appalachia. The eastern fringe particularly has been affected by SMSA's, though, with the exception of Greenville, the SMSA's have been outside Appalachia, notably Atlanta and Winston-Salem-High Point-Greensboro. We should note, too, that many of the counties included in Southern Appalachia by ARC are parts of physiographic areas not

usually included in the region, especially the Piedmont Crescent counties in Georgia, South Carolina, and North Carolina, many of the counties in Alabama, and all of the counties in Mississippi.

Along the western fringe of the region, there are few SMSA's. Birmingham and Huntsville have greatly influenced the Appalachian counties in Alabama, most of which have increased. Birmingham has been growing very slowly, however, and the declining importance of defense and space industry threatens to slow or even stop the spectacular development of Huntsville in the last two decades. But in the Kentucky and West Virginia fringe and nearby also there have been few SMSA's, and these few have grown slowly or not at all. So people in this entire block of counties have been drawn entirely out of the region to SMSA's, and counties around them, in the Midwest, notably the Cincinnati-Hamilton-Dayton, the Columbus, and the Cleveland-Akron SMSA's in Ohio, as well as to Detroit and Chicago, Pittsburgh, Baltimore-Washington, and non-Appalachian Virginia metropolitan areas such as Roanoke, Richmond, Norfolk, etc.

In eastern Kentucky, southern West Virginia, and southwestern Virginia the drastic decline of employment in coal mining during the '50s, continuing into the '60s, as a result of mechanization, the growth of strip mining, etc., together with availability of employment in metropolitan industrial centers outside Appalachia itself, notably in the Midwest, resulted in a virtual stampede of migrants out of the region in the '50s, and though the number of migrants leaving declined in the '60s, the rate of migration loss from most of this area was still very high. It takes no great foresight to see that heavy migration from the coal mining area will continue during the '70s, though the number and rates will fall as the number of young people in the prime migratory ages decreases in both numbers and proportions of the total population. Obviously, too, the economic depression now affecting employment in the cities to which these migrants ordinarily go may further slow down migration and lead to a "piling up" of people in these counties rather like that of the 1930's though because of these areas heavy population decreases it will certainly not be as great as earlier.

The increase in deaths throughout the region is due principally to the increasing numbers and proportions of old people in the population. The decline in births is harder to explain. Undoubtedly part of this decrease is due to the migration of such large numbers of young people in the child-producing ages (and it is notable that areas with the heaviest migration tend to have the greatest declines in number of births). Some have suggested that migration has had less to do with the decline in birth and fertility rates than many suppose. In the counties of eastern Kentucky, southern West Virginia, and southwestern Virginia, in my opinion migration has been the prime factor. We are now studying this phenomenon more carefully.

Finally, before ending this already too long discussion, we must say that these data tend to support Ben A. Franklin's assertion that "for hundreds of thousands, perhaps a million of the poor in the ridgelands of Kentucky and West Virginia, opportunity is still like the rider of the six white horses in the old mountain song: perpetually coming 'when she comes.'"⁴ As he also points out the Appalachian program was largely conceived for these people in the hollows. "And yet 10 years later they remain largely untouched by it, while to the north and south less impoverished fringe areas are making significant economic progress." Part of the reason that these really needy people in Kentucky,

West Virginia, and Tennessee have been helped very little is that, to quote Franklin again, "the boundaries of the region were drawn so generously that its \$7 billion in aid has come to only \$390 per man, woman and child over the last 10 years." The reason for inclusion of so many less impoverished areas, including, for example, part of the Atlanta SMSA, is, Franklin quotes officials as saying, "that the need for sweeping, regional 'scale' in planning together with the need for congressional support has frankly required some 'logrolling.' The addition of Mississippi, for example, 'was dictated largely by the fact that Sen. John Stennis of Mississippi is a key member of the appropriations committee,' one official said."

It is imperative, then, as this article has repeatedly emphasized, to look at the region as delineated by the ARC and used here, in sections. For demographic and other data describing the whole region obscure the extent and severity of the problems of its really needy sections.

The saddest part of this story of population change is that the fringes and the "better off" areas are the ones progressing, partly because they are getting Appalachian funds, while the neediest areas are being neglected. With the declining attention being paid to Appalachia this situation will probably continue and even worsen. The economic and social conditions in the "hard core" counties of Southern Appalachia continue to be a national disgrace.

FOOTNOTES

1. By "Southern Appalachians" and "Southern Appalachia" in this article we mean "Appalachia" as defined by the Appalachian Regional Commission, excluding the counties north of the Mason-Dixon Line (i.e., the counties of New York, Ohio and Pennsylvania). Included are 303 counties in Alabama, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia as well as 5 independent cities in Virginia. For a list of the counties here included see the Appalachian Regional Commission's Appalachian Data Book, Second Edition, April 1970.

This is not the same area as the ARC calls "Southern Appalachia." In calling the counties in the states listed above "the Southern Appalachians" we are following more closely the previous, widely used delineations of John C. Campbell in The Southern Highlander and His Homeland, Russell Sage Foundation, 1921; Economic and Social Problems and Conditions of the Southern Appalachians, U.S. Department of Agriculture Miscellaneous Publication No. 205, January 1935; also F. J. Marschner's somewhat different, physiographic delineation in the last cited publication; The Southern Appalachian Region: A Survey, University of Kentucky Press, 1962.

The ARC's delineation of Appalachia is a political one, the counties, as nearly as I can determine, included determined, for example, by governors or prominent senators or other politicians of the various states, with usually their own, and no doubt varied, reasons for dubbing certain counties "Appalachian." As a consequence, an area at best varied and heterogeneous has been so extended as to become almost hopelessly diverse and complex. Though this sort of delineation has little to recommend it for any scholarly research purposes, it does undoubtedly have political advantages, e.g., sufficient political strength to institute and maintain special advantages for the area, including of course the establishment and continuance of the ARC itself.

It should be recognized that even the "Southern Appalachians" as delineated by Campbell, Marschner, etc., were not homogeneous areas containing people with uniform social, economic and cultural characteristics. Nor were they regions in the sense of functioning, interdependent parts of a system. The ARC delineation confounds the confusion of earlier delineations in both ways. We have, however, decided to use the ARC's delineation insofar as we as scholars honestly can because with that powerful body behind it, compiling data which many persons must use, it may help to reduce the confusion created by using different delineations.

2. "Coal mining counties" are those which in 1967 had twenty percent or more of their total earnings from coal mining. See Table 12 in the Appalachian Regional Commission's Appalachian Data Book, op. cit., for each Kentucky, Virginia and West Virginia.
3. For a listing of the counties and SMSA's included in the Piedmont Crescent, see James G. Maddox, Growth Prospects of the Piedmont Crescent, The Agricultural Policy Institute, North Carolina State University, Raleigh, North Carolina, A.P.I. Series 27, May 1968.
4. Ben A. Franklin, "Appalachia Revisited: After 10 Years of Hope, Its Poor Still Waiting for That New Day Coming," The Courier Journal, Louisville, Kentucky, December 8, 1970.

SOURCES OF DATA FOR THE FOLLOWING TABLES

All population data for states and counties are from the Censuses for 1950, 1960 and 1970, as of April 1 in each of these years.

The data on births and deaths, by residence, and for net migration for 1950-60 are from U.S. Bureau of the Census, Current Population Reports, Series P-23, No. 7, Components of Population Change, 1950 to 1960, for Counties, Standard Metropolitan Statistical Areas, State Economic Areas, and Economic Subregions, Washington, D.C., November 1962.

The data on births and deaths for the years 1960-1967 are from the annual volumes of Vital Statistics of the United States, published by the Public Health Service of the Department of Health, Education, and Welfare.

The data on births and deaths for 1968 and 1969 are from the state boards or departments of Health of Alabama, Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, Virginia and West Virginia. Mrs. Ellen L. Bryant, Department of Sociology and Anthropology, Mississippi State University, kindly furnished us data on 1968, 1969, and 1970 births and deaths for Mississippi.

Data for the first three months of 1970, except for Mississippi as noted above, were computed by taking one-fourth of 1969 births and deaths.

The data on births for 1950 to 1960 were corrected for underregistration. The data on births for 1960 to 1970 were not. We do not believe, however, that correction for underregistration in the latter period would have significantly changed the number of births.

TABLE 1. POPULATION OF THE SOUTHERN APPALACHIANS, BY STATES, 1950, 1960, AND 1970

	<u>1950</u>	<u>1960</u>	<u>1970</u>
S. Apps. Total	9,640,910	9,676,164	10,096,119
<u>Appalachian Cos. of:</u>			
Alabama	1,860,829	1,982,286	2,137,278
Georgia	619,766	675,024	813,596
Kentucky	1,072,750	922,152	875,922
Maryland	189,701	195,808	209,349
Mississippi	426,076	406,187	418,644
North Carolina	881,560	939,740	1,037,212
South Carolina	523,265	586,523	656,126
Tennessee	1,529,762	1,607,689	1,733,661
Virginia	531,649	500,334	470,094
West Virginia	2,005,552	1,860,421	1,744,237

TABLE 2. NUMBER AND PERCENT CHANGE IN THE SOUTHERN APPALACHIANS' POPULATION, BY STATES, 1950 TO 1960 AND 1960 TO 1970

	<u>Change in Numbers</u>		<u>Percent Change</u>	
	<u>1950-60</u>	<u>1960-70</u>	<u>1950-60</u>	<u>1960-70</u>
S. Apps. Total	35,254	419,955	0.4	4.3
<u>Appalachian Cos. of:</u>				
Alabama	121,457	154,992	6.5	7.8
Georgia	55,258	138,572	8.9	20.5
Kentucky	-150,598	-46,230	-14.0	-5.0
Maryland	6,107	13,541	3.2	6.9
Mississippi	-19,889	12,457	-4.7	3.1
North Carolina	58,180	97,472	6.6	10.4
South Carolina	63,258	69,603	12.1	11.9
Tennessee	77,927	125,972	5.1	7.8
Virginia	-31,315	-30,240	-5.9	-6.0
West Virginia	-145,131	-116,184	-7.2	-6.2

TABLE 3. NET CHANGE THROUGH MIGRATION, AND RATES OF CHANGE* SOUTHERN APPALACHIAN, BY STATE, 1950 TO 1960 AND 1960 TO 1970

	Net Migration		Net Migration Rate	
	1950-1960	1960-1970	1950-1960	1960-1970
	S. Apps. Total	-1,569,092	-591,999	-16.3	-6.1
<u>Appalachian Cos. of:</u>				
Alabama	-205,821	-73,463	-11.1	-3.7
Georgia	-53,656	52,446	-8.7	7.8
Kentucky	-340,876	-146,597	-31.8	-15.9
Maryland	-14,751	-2,057	-7.8	-1.1
Mississippi	-90,324	-34,861	-21.2	-8.6
North Carolina	-84,691	-4,485	-9.6	-0.5
South Carolina	-40,593	-3,807	-7.8	-0.6
Tennessee	-173,871	-45,514	-11.4	-2.8
Virginia	-117,798	-74,133	-22.2	-14.8
West Virginia	-446,711	-259,528	-22.3	-13.9

*Net migration change expressed as a percentage of the 1950 population for 1950-60, and of the 1960 population for 1960-70.

TABLE 4. NUMBER OF BIRTHS, DEATHS, NATURAL INCREASE, SOUTHERN APPALACHIANS, BY STATE, 1950 TO 1960 AND 1960 TO 1970

	1950-1960			1960-1970		
	Births	Deaths	Natural Increase	Births	Deaths	Natural Increase
	S. Apps. Total	2,408,666	804,320	1,604,346	1,952,451	940,497	1,011,954
<u>Appalachian Cos. of:</u>						
Alabama	489,357	162,079	327,278	421,151	192,696	228,455
Georgia	157,970	49,056	108,914	149,435	63,309	86,126
Kentucky	269,812	79,534	190,278	186,374	86,007	100,367
Maryland	40,627	19,769	20,858	37,607	22,009	15,598
Mississippi	108,269	37,834	70,435	89,930	42,612	47,318
North Carolina	212,155	69,284	142,871	190,741	88,784	101,957
South Carolina	146,198	42,347	103,851	126,942	53,532	73,410
Tennessee	381,166	129,368	251,798	324,369	152,883	171,486
Virginia	129,150	42,667	86,483	91,926	48,033	43,893
West Virginia	473,962	172,382	301,580	333,976	190,632	143,344

TABLE 5. NUMBER AND PERCENT CHANGE, BIRTHS, DEATHS, AND NATURAL INCREASE, SOUTHERN APPALACHIANS, BY STATE, 1950-60 TO 1960-70

	Births		Deaths		Natural Increase	
	No.	%	No.	%	No.	%
S. Apps. Total	-456,215	-18.9	136,177	16.9	-592,392	-36.9
<u>Appalachian Cos. of:</u>						
Alabama	-68,206	-13.9	30,617	18.9	-98,823	-30.2
Georgia	-8,535	-5.4	14,253	29.1	-22,788	-20.9
Kentucky	-83,438	-30.9	6,473	8.1	-89,911	-47.3
Maryland	-3,020	-7.4	2,240	11.3	-5,260	-25.2
Mississippi	-18,339	-16.9	4,778	12.6	-23,117	-32.8
North Carolina	-21,414	-10.1	19,500	28.1	-40,914	-28.6
South Carolina	-19,256	-13.2	11,185	26.4	-30,441	-29.3
Tennessee	-56,797	-14.9	23,515	18.2	-80,312	-31.9
Virginia	-37,224	-28.8	5,366	12.6	-42,590	-49.2
West Virginia	-139,986	-29.5	18,250	10.6	-158,236	-52.5

TABLE 6. POPULATION OF METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950, 1960 AND 1970

	1950	1960	1970
S. Apps. Total (27 counties)	2,704,286	3,031,821	3,269,958
<u>Appalachian Cos. of:</u>			
Alabama (8 cos.)	981,361	1,111,619	1,211,221
Georgia (2 cos.)	70,518	88,805	123,040
Kentucky (1 co.)	49,949	52,163	52,376
Maryland (-)	-	-	-
Mississippi (-)	-	-	-
North Carolina (3 cos.)	292,671	342,306	384,003
South Carolina (2 cos.)	208,210	255,806	299,502
Tennessee (4 cos.)	545,360	605,985	654,573
Virginia (-)	-	-	-
West Virginia (7 cos.)	556,217	575,137	545,243

TABLE 7. NUMBER AND PERCENT CHANGE IN THE POPULATION OF METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATE, 1950 TO 1960, 1960 TO 1970

	<u>Change in Numbers</u>		<u>Percent Change</u>	
	<u>1950-60</u>	<u>1960-70</u>	<u>1950-60</u>	<u>1960-70</u>
S. Apps. Total	327,535	238,137	12.1	7.9
<u>Appalachian Cos. of:</u>				
Alabama	130,258	99,602	13.3	9.0
Georgia	18,287	34,235	25.9	38.6
Kentucky	2,214	213	4.4	0.4
Maryland	-	-	-	-
Mississippi	-	-	-	-
North Carolina	49,635	41,697	17.0	12.2
South Carolina	47,596	43,696	22.9	17.1
Tennessee	60,625	48,588	11.1	8.0
Virginia	-	-	-	-
West Virginia	18,920	-29,894	3.4	-5.2

TABLE 8. NET CHANGE THROUGH MIGRATION AND RATES OF CHANGE, METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950 TO 1960 AND 1960 TO 1970

	<u>Net Migration</u>		<u>Net Migration Rate</u>	
	<u>1950-1960</u>	<u>1960-1970</u>	<u>1950-1960</u>	<u>1960-1970</u>
S. Apps. Total	-159,812	-98,693	-5.9	-3.0
<u>Appalachian Cos. of:</u>				
Alabama	-50,643	-32,663	-5.2	-2.9
Georgia	3,954	19,942	5.6	22.5
Kentucky	-6,434	-4,931	-12.9	-9.5
Maryland	-	-	-	-
Mississippi	-	-	-	-
North Carolina	1,937	3,740	0.7	1.1
South Carolina	854	8,644	0.4	3.4
Tennessee	-38,895	-15,643	-7.1	-2.6
Virginia	-	-	-	-
West Virginia	-70,585	-77,782	-12.7	-13.5

TABLE 9. BIRTHS, DEATHS AND NATURAL INCREASE, METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS,
BY STATE, 1950 TO 1960 AND 1960 TO 1970

	Births	Deaths	Natural Increase		Births	Deaths	Natural Increase	
			1950-1960				1960-1970	
S. Apps. Total	728,152	240,805	487,347	624,452	287,622	336,830		
<u>Appalachian Cos. of:</u>								
Alabama	270,932	90,031	180,901	238,338	106,073	132,265		
Georgia	19,977	5,644	14,333	22,124	7,831	14,293		
Kentucky	12,983	4,335	8,648	10,110	4,966	5,144		
Maryland	-	-	-	-	-	-		
Mississippi	-	-	-	-	-	-		
North Carolina	73,587	25,889	47,698	71,352	33,395	37,957		
South Carolina	64,214	17,472	46,742	57,870	22,818	35,052		
Tennessee	147,439	47,919	99,520	120,862	56,631	64,231		
Virginia	-	-	-	-	-	-		
West Virginia	139,020	49,515	89,505	103,796	55,908	47,888		

TABLE 10. CHANGE IN NUMBER AND PERCENT, BIRTHS, DEATHS AND NATURAL INCREASE, METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950-1960 TO 1960-1970

	Births		Deaths		Natural Increase	
	No.	%	No.	%	No.	%
S. Apps. Total	-103,700	-14.2	46,817	19.4	-150,517	-30.9
<u>Appalachian Cos. of:</u>						
Alabama	-32,594	-12.0	16,042	17.8	-48,636	-26.9
Georgia	2,147	10.7	2,187	38.7	-40	-0.3
Kentucky	-2,873	-22.1	631	14.6	-3,504	-40.5
Maryland	-	-	-	-	-	-
Mississippi	-	-	-	-	-	-
North Carolina	-2,235	-3.0	7,506	29.0	-9,741	-20.4
South Carolina	-6,344	-9.9	5,346	30.6	-11,690	-25.0
Tennessee	-26,577	-18.0	8,712	18.2	-35,289	-35.5
Virginia	-	-	-	-	-	-
West Virginia	-35,224	-25.3	6,393	12.9	-41,617	-46.5

TABLE 11. POPULATION OF NONMETROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950, 1960, AND 1970

	1950	1960	1970
S. Apps. Total	6,936,624	6,644,343	6,826,161
<u>Appalachian Cos. of:</u>			
Alabama	879,468	870,667	926,057
Georgia	549,248	586,219	690,556
Kentucky	1,022,801	869,989	823,546
Maryland	189,701	195,808	209,349
Mississippi	426,076	406,187	418,644
North Carolina	588,889	597,434	653,209
South Carolina	315,055	330,717	356,624
Tennessee	984,402	1,001,704	1,079,088
Virginia	531,649	500,334	470,094
West Virginia	1,449,335	1,285,254	1,198,994

TABLE 12. NUMBER AND PERCENT CHANGE IN THE POPULATION OF NONMETROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950 TO 1960, 1960 TO 1970

	<u>Change in Numbers</u>		<u>Percent Change</u>	
	<u>1950-60</u>	<u>1960-70</u>	<u>1950-60</u>	<u>1960-70</u>
S. Apps. Total	-292,281	181,818	-4.2	2.7
<u>Appalachian Cos. of:</u>				
Alabama	-8,801	55,390	-1.0	6.4
Georgia	36,971	104,337	6.7	17.8
Kentucky	-152,812	-46,443	-14.9	-5.3
Maryland	6,107	13,541	3.2	6.9
Mississippi	-19,889	12,457	-4.7	3.1
North Carolina	8,545	55,775	1.5	9.3
South Carolina	15,662	25,907	5.0	7.8
Tennessee	17,302	77,384	1.8	7.7
Virginia	-31,315	-30,240	-5.9	-6.0
West Virginia	-164,051	-86,290	-11.3	-6.7

TABLE 13. NET CHANGE THROUGH MIGRATION AND RATE OF CHANGE NONMETROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950-1960 AND 1960-1970

	<u>Net Migration</u>		<u>Net Migration Rate</u>	
	<u>1950-1960</u>	<u>1960-1970</u>	<u>1950-1960</u>	<u>1960-1970</u>
S. Apps. Total	-1,409,280	-493,306	-20.3	-7.4
<u>Appalachian Cos. of:</u>				
Alabama	-155,178	-40,800	-17.6	-4.7
Georgia	-57,610	32,504	-10.5	5.5
Kentucky	-334,442	-141,666	-32.7	-16.3
Maryland	-14,751	-2,057	-7.8	-1.1
Mississippi	-90,324	-34,861	-21.2	-8.6
North Carolina	-86,628	-8,225	-14.7	-1.4
South Carolina	-41,447	-12,451	-13.2	-3.8
Tennessee	-134,976	-29,871	-13.7	-3.0
Virginia	-117,798	-74,133	-22.2	-14.8
West Virginia	-376,126	-181,746	-26.0	-14.1

TABLE 14. BIRTHS, DEATHS AND NATURAL INCREASE NON METROPOLITAN COUNTIES, SOUTHERN APPALACHIANS,
BY STATES, 1950-1960 AND 1960-1970

	1950-1960		1960-1970	
	Births	Deaths	Births	Deaths
Southern Apps. Total	1,680,514	563,515	1,327,999	652,875
	Natural Increase		Natural Increase	
		1,116,999		675,124
<u>Appalachian Cos. of:</u>				
Alabama	218,425	72,048	182,813	86,623
Georgia	137,993	43,412	127,311	55,478
Kentucky	256,829	75,199	176,264	81,041
Maryland	40,627	19,769	37,607	22,009
Mississippi	108,269	37,834	89,930	42,612
North Carolina	138,568	43,395	119,389	55,389
South Carolina	81,984	24,875	69,072	30,714
Tennessee	233,727	81,449	203,507	96,252
Virginia	129,150	42,667	91,926	48,033
West Virginia	334,942	122,867	230,180	134,724
		212,075		95,456

TABLE 15. CHANGE IN NUMBER AND PERCENT, BIRTHS, DEATHS, AND NATURAL INCREASE, NONMETROPOLITAN COUNTIES, SOUTHERN APPALACHIANS, BY STATES, 1950-1960 TO 1960-1970

	Births		Deaths		Natural Increase	
	No.	%	No.	%	No.	%
Southern Apps. Total	-352,515	-21.0	89,360	+15.9	-441,875	-39.6
<u>Appalachian Cos. of:</u>						
Alabama	-35,612	-16.3	14,575	20.2	-50,187	-34.3
Georgia	-10,682	-7.7	12,066	27.8	-22,748	-24.1
Kentucky	-80,565	-31.4	5,842	7.8	-86,407	-46.7
Maryland	-3,020	-7.4	2,240	11.3	-5,260	-25.2
Mississippi	-18,339	-16.9	4,778	12.6	-23,117	-32.8
North Carolina	-19,179	-13.8	11,994	27.6	-31,173	-32.8
South Carolina	-12,912	-15.7	5,839	23.5	-18,751	-32.8
Tennessee	-30,220	-12.9	14,803	18.2	-45,023	-29.6
Virginia	-37,224	-28.8	5,366	12.6	-42,590	-49.2
W. Virginia	-104,762	-31.3	11,857	9.7	-116,619	-55.0

FACTORIAL ECOLOGY AND DEMOGRAPHIC RESEARCH

By

Edward L. McLean
Clemson University

Introduction

Factorial ecology refers to a series of differing approaches in the social sciences which utilizes factor analysis to research demographic data, with the units of analyses varying from small incorporated places to small and large cities and even to counties.¹ Briefly, factor analysis refers to several similar but distinct statistical/mathematical techniques in which a set of variables are resolved, linearly, in terms of a small number of fundamental, parsimonious categories or "factors". The raw data for the calculations are the intercorrelations between all the continuous variables included in a given analysis. Three or more variables that intercorrelate highly, are then "clustered" together, either manually or by machine methods. Loadings are then calculated which are the correlation coefficients of the individual variables with the entire cluster of variables, and which may be termed "factors." These loadings are then "rotated," which is analogous to consideration of the loadings for each variable as coordinates of a point in N dimensional space with the factors on mutually perpendicular axes. The projection of a point on an axis is then the factor loading of the variable represented by the point with a point for each variable. The factor axes are rotated so that each point lies as nearly as possible on an axis or on a plane joining two axes. This yields the maximum number of zero factor loadings, and each variable is described in terms of the smallest number of factors. These procedures are discussed in detail by Cooley and Lohnes (1962). Conceptualization in factor analysis, is provided by placing a label, term, or "definitive title" on the fundamental factors or "fundamental variables."

It is recognized that considerable factorial ecological research has been conducted in the social sciences, much of which has not been published. The author is aware of considerable published material which will not be presented here, including research reports utilizing non-U. S. ecological entities. Also significant in the social science literature are those research efforts in which factor analysis is utilized to test previously formulated configurations or models. Such inquiries are common in psychological and social psychological research, but has only recently been attempted in sociological research relating to demographic and ecological

¹Many sociologists persist in terming these units of analyses, "community." It is not the intent of this paper to evaluate such terminology, but to merely note that the concept community is utilized for widely varying units of analyses.

specialties.² The purpose of this paper is to present results of factor analytic research utilizing demographic-ecological entities, to synthesize these studies, and to evaluate such research efforts.

Factorial Ecology and Theory

Factorial ecology has endured some criticism which contends that the approach is atheoretical. Discussion here shall consequently be devoted to conceptual and theoretical relevance of factorial ecological research. The first level upon which theory is relevant in factorial ecology, is in the selection of input variables. The early factor analytic studies were based upon hypotheses centered about social organizational properties of communities from which general social variables were extrapolated. Subsequent research has utilized a wide range of input data for selection of variables, essentially quantitative, continuous, demographic variables. A body of knowledge has consequently evolved in factorial ecology which emphasizes input variables that are central to theoretical generalizations from demographic and ecological analyses.

Theory building is also implied through utilization of factor analytic structures. Keep in mind that the concepts used to identify each fundamental factor represent basic dimensions of sets of the unit(s) of analysis investigated. These basic dimensions thus constitute concepts which represent parsimonious categories of functionally interdependent variables. Generalizations regarding these basic dimensions consequently provide conceptual bases and orientations for a wide range of ecological research. To cite one example, research may be conducted to determine inter-community differentiation regarding one or more factors or regarding the variables which have high loadings in any given factor. Research with pragmatic objectives, also based upon factor analytic results, is conducted to determine differentiation between ecological entities regarding factors or variables within factors.

Also on a theoretical level, hypothesis may be generated from factorial ecological research to test existing theoretical generalizations. The researcher must interpret his factor analytic results and apply these conclusions to appropriate conceptual frameworks from demographic and ecological literature. Interpretations from factorial ecological research may consequently complement or question (or both) existing theories from social scientific knowledge.

The potential for factorial ecology to utilize and contribute to conceptual and basic theoretical knowledge is consequently great. Research of this nature is frequently based upon and stops with numerical analysis, however. The researcher must be particularly enlightened to gain maximum utility from demographic and ecological research of this nature.

²See: Schwirian and Matre (1969). These researchers have conducted noteworthy research, based on urban ecological theories, to determine empirical evidence of ecological-demographic models and configurations in Canadian and Puerto Rican Cities. See, also: Berry and Rees (1969); and Sweetser (1969); for examples of such research.

Representative Factorial Ecology

A major problem confronting the factorial ecology specialty is associated with selection of the labels or terms which are used to identify the derived dimensions. This process is supposedly based upon those variables which have the highest loadings in the given factors. Examination of the literature, associated with factorial ecology, reveals that (in recent as well as early studies) terms utilized to identify these dimensions are questionable if not idiosyncratic. Such labeling is, of course, dependent upon the given authors' orientations, but this does confound the task of synthesizing factor analytic research. With respect to the studies reviewed in this paper, the author has "re-labeled" the dimensions, basing these terms on the variables having highest factor loadings in each dimension. Standardization has thus been attempted in the synthesis of factor analytic research presented here.

Daniel O. Price (1942) used factor analysis to conduct an exploratory study. Price stated that:

"The purpose of factor analysis is to locate the smallest number of fundamental variables which will explain all the correlations observed. If the sociologist is attempting to get some orderly picture of society, he must, as far as possible, locate the fundamental factors in society from which the other characteristics can be predicted, and factor analysis seems to be a method for moving in that direction." (Price, 1942, p. 451)

Price, in his sample, included 15 variables for 93 cities and used Thurston's complete centroid technique with graphic rotation. Price did not emphasize concepts or labels for his factors, but formulated descriptive titles. Factor one was associated with large populations and maturity; factor two with the nature of the occupational structure of cities, or negatively defined, the lack of predominance of industry; factor three indicated the general level of living in a city; and factor four was identified by per capita trade volume of a city.

Hadden and Borgatta (1965) reported their research on the factor analytic structure of 644 of the 674 cities in the United States with 25,000 or greater population in 1960. There were 344 cities 25,000 to 50,000 population; 150 cities 50,000 to 75,000; 106 cities 75,000 to 150,000 and 79 cities 150,000 or greater based on 1960 census data. Sixty-five variables primarily from the 1962 County and City Data Book, were included in the study, and thus 2,080 correlation coefficients were initially calculated and examined. The following factor titles were specified by these authors: (1) socioeconomic status level, (2) proportion nonwhite, (3) age composition, (4) educational center, (5) residential mobility, (6) population density, (7) foreign born concentration, and (8) total population.

Donjean, Browning and Carter (1967) conducted a factor analytic study including data for all counties (and analogous government entities) in the 48 adjacent states of the U. S. A total of 79 variables were included in the research, of which 44 were identical or similar to those used by

Hadden and Borgatta, and three were indicators of political behavior. These authors originated a distinction between primary and secondary variables; a primary variable was defined as having a factor loading of .30 or greater and with no larger loading on another factor, and a secondary variable had a loading of .30 or greater on the factor being described but a larger loading on another factor. Eight factors were derived in the Bonjean, Browning and Carter research, which cumulatively explain eight percent of the variance: (1) socioeconomic status, (2) family life cycle, (3) governmental revenue and expenditures, (4) residential mobility, (5) urbanism, (6) manufacturing concentration, (7) commercial center, and (8) employment. Bonjean, Browning and Carter operationally termed counties as being "communities."

Several factorial ecological studies have been conducted, utilizing Ohio counties as the units of analyses. [Jonassen and Peres (1960) and Munson (1968)] The 88 Ohio counties comprised the universe for these research efforts and 82 variables were analyzed by Jonassen and Peres. Munson, whose research was guided by the earlier work of Jonassen and Peres, added 31 variables to the 82 original variables for a total of 113 in his analysis. Munson derived 7 factors explaining a total of 67 percent of the variance among the variables: (1) urbanism, (2) level of living, (3) population growth, (4) agricultural productivity, (5) social control, (6) taxable wealth, and (7) insured labor force. Munson specified, through "county profiles," the counties most and least characterized by his factors.

Factorial ecological research by McLean (1967) comprised a total of 257 incorporated places between 2,500 and 10,000 population in the West-North Central region of the United States. The states comprising the West-North Central region and the number of incorporated places 2,500 to 10,000 population included in this research were: Iowa, 65; Kansas, 38; Minnesota, 49; Missouri, 58; Nebraska, 28; South Dakota, 13; and North Dakota, 6; -- a sum of 257. A total of 77 items were selected from various census publications for the input variables. The variables were obtained from censuses of Business (1954, 1958, 1963); Housing (1950, 1960); and Population (1900, 1950, 1960), and two separate lists of variables were formulated; An Analysis A matrix comprised 15 proportional-change and 38 one-point-in-time variables, and, an Analysis B matrix comprised one proportional change variable and 59 one-point-in-time variables.³ Clusters for Analysis A were formulated by the author, and clusters were machine computed for Analysis B.

Four fundamental dimensions, including change variables and two additional fundamental dimensions were derived from Analysis A variables, and ten additional fundamental dimensions were derived from Analysis B variables. The dimensions derived from Analysis B variables comprise a complete factor analytic structure, that, in turn, differentiates sets of community characteristics for the 257 incorporated places between 2,500 and 10,000 population included in the inquiry. The titles utilized to label the dimensions are:

³Proportional-change and one-point-in-time data for the same variables cannot be included in the same analysis.

(1) socio-economic level, (2) age of community, (3) educational attainment, (4) economic services, (5) females in the labor force, (6) manufacturing, (7) housing conditions, and (8), (9), (10) migration (of three general age groups). The factors derived from analysis A variables provide a small but more specialized scheme, including the titles: (1) growth (oriented communities), (2) change in environment, (3) change in economic services, (4) concentration of elderly, (5) age composition, and (6) educational center.

Synthesis

An accompanying table presents a summary of the factor analytic studies reviewed in this paper. The symbols beneath the headings (unit of analysis designation) indicate that independent factors (fundamental dimensions) with the given titles were derived in those studies.⁴

The most frequently derived fundamental variable was centered around the socioeconomic dimension. Social scientists have developed a considerable body of knowledge dealing with socioeconomic level and status, and it is not surprising that secondary data are available which contribute to socioeconomic dimensions for factorial ecology. At least one socioeconomic dimension was derived in each of the six studies. Dimensions centering around age distribution were frequently derived which indicates that population entities are differentiated on this variable; proportions of dependent and nondependent population is a significant variable for this dimension.

Residential mobility was also a frequently derived dimension which substantiates existing generalizations regarding differential migration rates among the several units of analyses. Variables contributing to labor force dimensions are also significant. The prevailing role of work, occupations, and job behavior in population entities is consequently supported by these factorial ecological results. Trade (retail and wholesale trade data) was a frequently derived dimension in several of the more inclusive factor analytic studies. Variables relating to trade are often not analyzed by social scientists, but we have trenchant evidence regarding the significance of these data in explaining the nature of population entities.

The variables, total population and population growth, can not be included in the same factor analytic matrix. These two variables have proven to be significant in separate studies, which substantiate generalizations placing emphasis upon these macro variables.

⁴Key to authors of research results presented in table:
 U. S. counties = Bonjean, et. al., 1969
 Large U. S. Inc. Places = Hadden and Borgatta, 1965
 Small WNC. Inc. Places = McLean, 1967
 Ohio Counties A = Jonnassen and Peres, 1960
 Ohio Counties B = Munson, 1968
 93 U. S. Cities = Price, 1942

INDEPENDENT DIMENSIONS DERIVED FROM REPRESENTATIVE FACTORIAL ECOLOGICAL RESEARCH

Units of Analyses Utilized

<u>Dimension</u>	<u>Units of Analyses Utilized</u>				93 U.S Cities
	<u>U.S. Counties</u>	<u>Large U. S. Inc. Places</u>	<u>Small WNC Inc. Places</u>	<u>Ohio Counties A</u>		Ohio Counties B
Socioeconomic Level	x	x	x *	x	x
Age Distribution	x	x	x *		x
Education		x	x *		
Residential Mobility	x	x	x *	x	
Labor Force			x		x
Housing Conditions			x		
Total Population		x			x
Population Growth			*		*
Trade	x	x	x *		x
Manufacturing Concentration	x	x	x		
Population Density	x	x			x
Age of Community			x		

x = one point in time variable

* = longitudinal variables



Evaluation

Factorial ecology differs from other multi-variate analyses in that factorial ecology is more inductive and includes a wider range of variables than do other methods although common input variables may be included in the various analyses. Since the inputs for factorial ecology are larger in number and of a wider variety of social and physical phenomena than are the inputs for other analyses, the resulting number of fundamental variables extracted in factorial ecology usually exceeds that of other analyses. Thus, factorial ecology usually identifies many more dimensions of social and spatial organizations. Thus, Hadden and Borgatta (1965) [study of U. S. cities] identified multiple ethnic factors; a nonwhite factor is identified separate from other ethnic factors such as foreign born concentration. Bonjean, et. al. (1967) [U. S. counties] identified manufacturing concentration and commercial center factors in addition to an urbanism factor. McLean (1967) [small incorporated places] report dimensions associated with dwelling unit data, several age-specific migration configurations, and a matrix of dynamic variables.

The derivation of factors unique to data inputs for specific units of analyses make factorial ecology studies difficult to compare. Herein lies one of the largest methodological problems of this approach. Different inputs and different units of analyses lead to resulting factorial structures which are difficult to compare. The factorial ecological research presented here includes many common variables, but each study also includes unique input variables. This is, of course, appropriate when varying units of analyses are investigated. Concluding that socioeconomic factors are indicated for several distinct geopolitical entities (units of analyses) merely substantiates existing theoretical generalizations.

It appears to this author that factorial ecology can and should contribute to theories of social change -- perhaps developmental theory -- thereby capitalizing on research utilizing varying input variables and units of analyses.⁵

Conclusions

The material presented in this paper may be summarized through discussion of four issues which demographers should consider when researching factorial ecological topics.

1) Units of Analyses. Research examples presented in this paper include a wide range of demographic entities including counties, towns, incorporated places and cities. Entities which should be added to this list include: Standard Metropolitan Statistical Areas, Urbanized Areas, and various regional configurations; i.e., groups of homogeneous counties or parts of large heterogeneous counties. Researchers should continue to include these various entities in separate analyses, but need to increase

⁵See: Schnore (1965), and Schwirian and Matre (1969).

the N's or number of entities in each analysis. (N's in the research efforts summarized in this paper ranged from 24 to 644 entities). The smaller figure represents a general minimum for number of entities in factorial ecological research.

2) Selection of Variables. Selection of variables, demographic categories in most cases, is supposedly based upon hypotheses generated from knowledge of the literature and previous research. There is no optimum number of variables for given analyses, but arbitrary or "dump" selection of variables is undesirable. The number of variables in research efforts summarized in this paper ranged from 15 to 113 items. Improvement in the quality and quantity of demographic data in those nations conducting censuses, have enabled demographers to increase both geopolitical entities and demographic variables without sacrificing research objectivity.

3) Complementary Research Methods. Although factorial ecological methods do provide the base for a sophisticated body of knowledge, other research methods supplement and complement the research results. Various demographic methods contribute to factor analytic research on the level of input variables. Additional demographic methods are also helpful in analyzing the results of factor analytic studies. Methodology similar to factor analysis, such as hierarchical-grouping-cluster analysis, also supplement and complement generalizations from factor analytic research, and truly are included in this factorial ecology specialty. Other methodological examples include field surveys and applied research. Finally, considerable utility is gained from research made possible by factor analytic results, but not directly related to factor analytic methodology. Case study methodology is one example of such research. Hypotheses suggested by factorial ecology can be tested and knowledge of inter-relationships between human behavior and spatial and social organization is provided from case studies.

4) Longitudinal and Cross-Sectional Studies. Factorial ecologists have been satisfied to conduct "one-point-in-time" research; i. e., static demographic data from one census. Such research may be replicated for the same units of analyses and using similar static demographic data, thus cross-sectional studies. Factorial ecologists must incorporate change variables into their analyses. The quality of census data in the U. S. and most other urban-industrialized nations is such that longitudinal analysis are most appropriate. Change data spanning any number of censuses may be inter-correlated and rotated in factor analysis, so long as the static item for that variable is not included in the analysis. Utilizing longitudinal variables in factorial ecology assures contribution to theories of social change, development, modernization, and social scale. Rural sociologists and demographers interested in rural units of analyses have too infrequently pursued longitudinal research of this nature. Longitudinal analyses within the factorial ecological specialty will provide a useful body of knowledge for social scientists concerned with social phenomena of various geo-political entities.

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Population Growth in Minor Civil Divisions of a Small
Metropolitan Region

Robert Hirzel U. Maryland

Social scientists have posited and demonstrated, to a degree, the spatial ordering of metropolitan and urban phenomena (cf. Berry and Horton, 1970). One proposition concerns the gradient of density of population within an urban or metropolitan area (cf. Duncan, 1957). Most recently mathematical models of logarithmic progressions of density have been advanced (Newling, 1966), and applications have been made to Chicago and its hinterland (Rees, 1968).

It is the purpose of this paper to apply these conceptualizations to a small-sized metropolis of a unique character in an effort to probe the universality of the principles. The metropolis is Wilmington, Delaware and its hinterland on the Delmarva Peninsula. The period 1900-1960 was selected for study as counts for election districts were given throughout that period while in 1970 counts were given for newly developed social areas.

Wilmington's population in 1960 was 95,827, down 15 percent from 1950. In gross terms its population has behaved like metropolitan populations in general (cf. Hawley, 1956). Between 1840 and 1940 the city grew in residents, with an odd minor loss between 1920 and 1930, and thereafter declined (Webber, 1899). Growth rates were highest in the mid-1800's and the decline is now progressively larger. From the first Wilmington achieved an ever-increasing importance in the state's and county's populations reaching a zenith in 1920 when one of every two state residents and three of every four county residents lived in the city. Now the city's position is much like it was a century ago when less than one-fifth of the state's residents and one-fourth of the county's resided in it (Tables 1 and 2).

(Tables 1 and 2 about here)

The trends in population in small places in Wilmington's home county, New Castle, are subject to influence by the city and have a pattern of growth similar to those reported elsewhere (e.g., Thompson, 1965; Wakeley, 1962). The small places in the county have grown. Beginning abruptly in 1920 their growth has centered on 30 percent a decade. However, the proportion of the state and county residents living in these places has stayed the same, 7 and 10 percent respectively. The pattern of growth in the open country population in the county is similar in timing but much more intense. In the 1920's there was an abrupt growth which has become progressively larger and is now doubling in a decade. The minor loss in population in Wilmington in the 1920's, coupled with the onset of growth in other places and the open country, represented the first appreciable influence of suburbanization that was then delayed

by the Great Depression. Growth in the suburbs had been largely a growth in previously unoccupied farm and wood lands rather than in villages and the like.

This general pattern of city-suburban growth can be followed in greater detail by observing decade changes in the population residing in the minor civil divisions of the county which have had fixed boundaries over the period of analysis. There are, first of all, the changes of growth within the city. Counts are available for 1930-1960. There are five minor civil divisions having this disposition:

- #1. Original center now mixed business, manufacturing, retailing, and low-income residence
- #2. Early settlement now some industry and retailing but largely middle-income residential
- #3. Upper-income residential
- #4. Low-income residential
- #5. Middle-income residential

The total city growth shows a modest rise during the Great Depression, a minor loss during the Second World War, and an increasingly sharp loss thereafter with suburbanization. The decline is universal among the M.C.D.'s transcending land use and economic status. The decline is of major proportions in several areas and the other areas will pass to this state in this decade (Table 3).

(Table 3 about here)

This collapse of the city should be paralleled by increases in population in the county via a gradual expansion of population in the M.C.D.'s on a gradient of contiguity and distance from the city (Hawley, 1956, ff.16). A rough conjury of distance can be produced for Wilmington consisting of:

- 1) Contiguous M.C.D.'s;
- 2) A pocket of non-contiguous but close M.C.D.'s to the west, served by the Pennsylvania Railroad and state roads 2, 4, 41, and 48, which contains Newark and the state university;
- 3) A middle-range set of M.C.D.'s to the south, containing and below U. S. Rt. 40 and bisected north and south by U. S. Rts. 301 and 13, with a few small towns; and
- 4) A set of M.C.D.'s to the south, bisected by U. S. Rt. 13 as it continues south into the Delmarva Peninsula with a single small town and two villages.

With three exceptions in 1920, all M.C.D. sets experienced growth throughout the time period. The growths show a progressive onset of growth over time from the city's edge to the extremity of the county. Indeed a lag of one decade in each gradient of distance seems to exist. A factor of critical distance and mass transit confines the growth through the 1940's to the immediate environs of the city. There is a suggestion of growth along the megalopolitan corridor (N.Y. - Phil. - Wilm. - Balt. - Wash.) via its established transit systems rather than a uniform spread through a circular city-hinterland area (Gottmann, 1961; Christaller, 1933) (Table 4).

(Table 4 about here)

The changes occurring in the several M.C.D.'s give credence to this proposition. The heaviest growth rates are in M.C.D.'s 6, 7, 10, and 9 in that order. This follows the commercial-industrial traffic up, down, and in from the Delaware River in a curve connecting Wilmington to Philadelphia and Baltimore. Decreases in population occur in the down-state rural M.C.D.'s in the early decades and these areas have had only modest growths till now (Table 5).

(Table 5 about here)

To obtain a clearer resolution of this condition, M.C.D.'s in Pennsylvania, Maryland, and Kent County, Delaware, contiguous to New Castle County were examined. The changes in population are in the magnitude and direction expected. The industrial complex along the Delaware River centering on Marcus Hook Borough shows that an initial growth followed a decline due to industrialization and out-migration much like that occurring in Wilmington. The arc of M.C.D.'s west and southwest from the river experienced a decline of farm population in the early 1900's and a moderate increase with the Second World War's suburbanization. Cecil County M.C.D. 3, containing the town of Elkton and lying directly on the Baltimore and Ohio and Pennsylvania Railroads and U. S. Rt. 40, stands out from the neighboring M.C.D.'s in its albeit moderate growth rate. Pennsbury, Kennett Square, and New Garden townships in Pennsylvania have bimodal growth in 1920-30 and 1950-60. They feed upon the Pennsylvania Railroad and U. S. Rt. 1 arching across their northwest reaches and flowing into Philadelphia independently of Wilmington.

In summary, one small metropolis has a twentieth century growth pattern quite similar to the large metropolises. The city's population declines in all of its principal areas after 1920. Major growth in its hinterland is confined originally to contiguous areas and gradually moves outward. An axial pattern emerges through the contiguous pattern in conformity with intermetropolitan dominance. And major intersticial areas have growth patterns little influenced by the small metropolis. In approximate terms major growth is confined to a radius of six miles and secondary growth to 13 miles from the city's center.

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TABLE 1: Population of Delaware, New Castle County, and Wilmington,
Other Places, and the Open Country in the County,
Earliest Date - 1960

Year	Delaware	New Castle County	Wilmington	Other Places ¹	Open Country
1960	446292	307446	95827	30776	180843
1950	318085	218879	110356	24110	84413
1940	266505	179562	112507	17753	49305
1930	238380	161032	106597	14636	39790
1920	223093	148239	110168	11355	26716
1910	202322	123188	87411	10506	25271
1900	184735	109697	76508	9552	33189
1890	168493	97182	61431		
1880	146608	77716	42478		
1870	125015	63515	30841		
1860	112216	54797	21258		
1850	91532	42780	13979		
1840	78085	33120	8367		
1830	76748	29720			
1820	72749	27899			
1810	72674	24429			
1800	64273	25351			
1790	59096	19688			

¹ Bellefonte, Delaware City, Elsmere, Middletown, Newark, New Castle, Newport, Odessa, Townsend.

TABLE 2: Percent Growth of the Population of Delaware, New Castle County, and Wilmington, Other Places, and the Open Country in the County, Earliest Date - 1960

Year	Percent growth of Population				Proportion of Delaware population in				Proportion of New Castle County population in			
	Delaware	New Castle County	Wilmington	Other Places	Open Country	New Castle County	Wilmington	Other Places	Open Country	Wilmington	Other Places	Open Country
1960	40	39	-15	28	114	69	21	7	41	31	10	59
1950	19	22	-2	37	71	69	35	8	27	50	11	39
1940	12	11	6	21	24	67	42	7	18	63	10	27
1930	7	9	-3	29	49	68	45	6	17	66	9	25
1920	10	20	26	8	6	66	49	9	12	74	3	18
1910	10	12	14	10	-24	51	43	5	12	71	8	20
1900	10	13	24			59	41	5	13	70	9	22
1890	15	25	45									
1880	17	22	38									
1870	11	16	45									
1860	23	28	52									
1850	17	29	67									
1840	2	11										

TABLE 3: Population Change in the Minor Civil Divisions in Wilmington, 1930-1960

Area and Attribute	Year			
	1960	1950	1940	1930
M.C.D. 1 Population	7814	11515	12262	13278
Percent change	-32	- 6	- 8	
M.C.D. 2 Population	33772	35762	35082	31299
Percent change	- 6	2	12	
M.C.D. 3 Population	18359	21417	22843	21222
Percent change	-14	- 6	8	
M.C.D. 4 Population	5394	9078	9877	9352
Percent change	-41	- 8	6	
M.C.D. 5 Population	30488	32584	32440	31446
Percent change	- 6	0	3	
Total Population	95827	110356	112504	106597
Percent change	-15	- 2	6	

TABLE 4: Population, Percent Growth, and Proportional Size for Minor Civil Divisions Grouped and Ranged by Distance from Wilmington, 1900-1960

Area and attribute	Approximate distance from Wilmington (miles)	Year								
		1960	1950	1940	1930	1920	1910	1900		
Wilmington										
Population		95827	110356	112504	106597	110168	87411	76508		
Percent change		-15	-2	6	-3	26	14	24		
Proportion of county		31	50	63	66	74	70	70		
Contiguous M.C.D.'s (6,7,10)										
Population		146030	78087	43367	33495	19135	15884	14042		
Percent change		87	80	30	75	20	13			
Proportion of county		47	35	23	21	13	13			
Near M.C.D.'s (8,9)										
Population		43468	16734	12060	9929	7573	7473	6789		
Percent change		160	39	21	24	7	10			
Proportion of county		15	8	7	6	5	7			
Middle Range M.C.D.'s (11,12,13)										
Population		17944	10206	8426	7973	7639	8724	8879		
Percent change		75	21	6	4	-12	-2			
Proportion of county		6	5	5	5	5	7			
Far M.C.D.'s (14,15)										
Population		4177	3496	3205	3029	3324	3693	3479		
Percent change		19	9	6	-9	-10	6			
Proportion of county		1	2	2	2	2	3			

TABLE 5: Percent Growth in Population of Minor Civil Divisions in New Castle County, 1900-1960

Minor civil division and group	Year					
	1960	1950	1940	1930	1920	1910
Contiguous M.C.D.'s						
6 *	142	67	32	69	45	14
7 *	47	72	30	127	4	27
10 *	85	113	24	29	18	0
Near M.C.D.'s						
8	205	36	27	10	4	4
9 *	121	40	17	40	9	17
Middle Range M.C.D.'s						
11 *	259	32	5	11	- 6	-10
12	11	10	5	12	-13	11
13	14	24	6	- 4	-15	- 5
Far M.C.D.'s						
14	16	7	5	- 8	- 7	5
15	24	13	7	-10	-15	- 7

* M.C.D.'s in the megopolopolitan corridor

TABLE 6: Percent Growth of Population in Minor Civil Divisions in Pennsylvania, Maryland, and Kent County, Delaware Contiguous to New Castle County, 1900-1960

Minor Civil Division	Year					
	1960	1950	1940	1930	1920	1910
Delaware County						
Pennsylvania						
Marcus Hook	-14	- 7	-15	- 9	238	30
Lower Chichester	52	- 6	-12	34	106	-12
Upper Chichester	38	32	41	137	135	12
Bethel	43	18	26	55	4	- 8
Concord	62	- 6	34	25	2	-18
Birmingham	6	12	- 4	19	-16	-14
Chester County						
Pennsylvania						
Pennsbury	36	4	- 3	24	-17	- 7
Kennett Square	18	10	9	29	17	35
New Garden	23	11	14	48	-14	- 3
London-Britain	23	21	2	3	-12	-17
Cecil County						
Maryland						
M.C.D. 4	32	16	- 1	- 3	- 5	- 1
M.C.D. 3	45	49	1	21	- 1	- 1
M.C.D. 2	16	5	0	5	0	- 3
M.C.D. 1	14	1	9	-10	-14	- 4
Kent County						
Delaware						
M.C.D. 3	26	6	- 2	- 9	- 7	- 4
M.C.D. 1	38	26	8	- 8	- 3	- 3

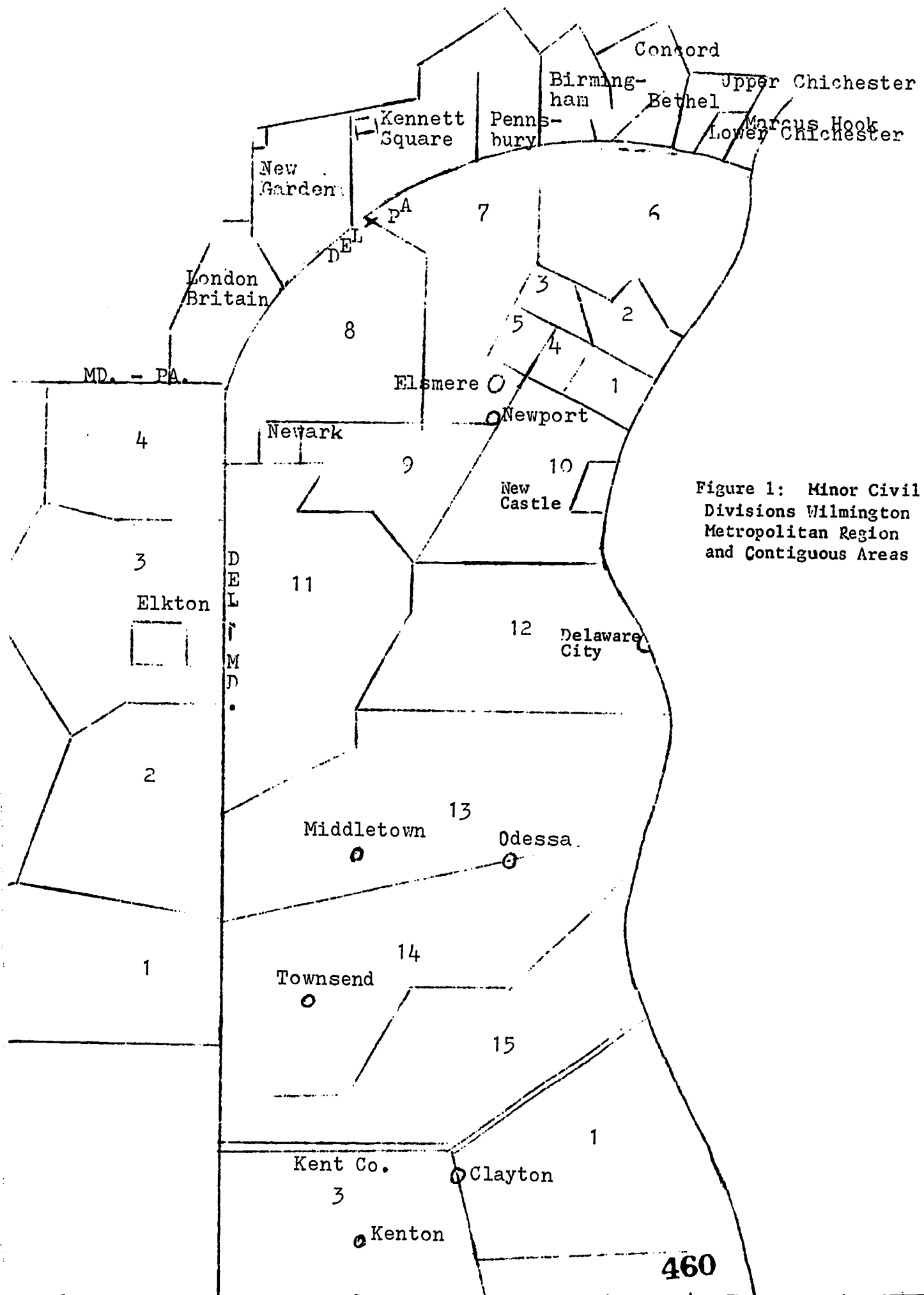


Figure 1: Minor Civil Divisions Wilmington Metropolitan Region and Contiguous Areas