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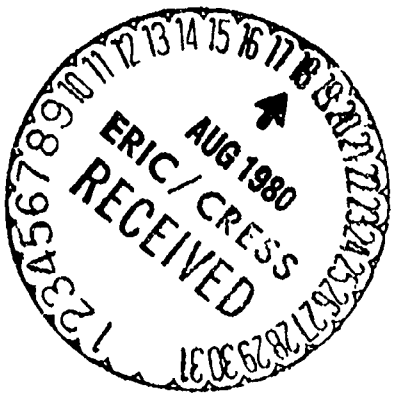
ABSTRACT

Five types of counties (College-Professional, Urban, Recreational-Retirement, Extractive, and Most Rural) were identified among 83 counties in the Ozark-Ouchita Uplands in order to determine educational and health impacts resulting from the "population turnaround" of the late 1960's and early 1970's. Variables were computed from secondary sources to assess educational changes from 1974-1978: mailed questionnaires were returned by 186 superintendents, revealing perceptions about the changes. Similar questionnaires were returned by 33 directors of health districts, indicating adequacy of health service and ability to keep pace with health demands. The most significant difference in the final comparison was 80.4% of the superintendents felt educational needs were being met, while only 52.0% of the health directors thought health services were adequate. The Recreational-Retirement county type accounted for 80% of the variation on some items, and considerable differences in the superintendents' responses suggested that their perceptions were more a reflection of local attitudes than of the data. (JD)



A COMPARISON OF THE IMPACTS OF POPULATION CHANGE ON PUBLIC EDUCATION AND HEALTH SERVICES IN THE NON-METROPOLITAN COUNTIES OF THE OZARKS

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The "population turnaround" of the late 1960's and early 1970's in the non-metropolitan counties of the United States is almost universally recognized now (Beale, 1975, 1976, 1977, 1978). It has generated a flood of scholarly and popular articles. Zelinsky's bibliography on this subject covers the field until 1978 (Zelinsky, 1978). At least three books dealing with the subject are now in various stages of preparation. What has not been thoroughly examined are the impacts of this reversal of population trends on public services in rural areas (Clawson, 1976; Ploch, 1978; Zuiches and Brown, 1978). Frankena has summarized the literature on impacts of rapid population growth in rural areas but notes that the studies of impacts of growth in communities which have grown from causes other than the production of energy are very limited (Frankena, 1980). Most of the detailed analysis of impacts in most rural communities must wait on the availability of data from the 1980 Census of Population and Housing. However, we in the Department of Rural Sociology at the University of Missouri-Columbia have been examining some of the impacts of this population change in the Ozarks (Dailey and Campbell, 1980). More specifically, we will examine, herein, some of the impacts on public schools and health services in selected non-metropolitan counties in the Ozark-Ouachita Uplands.

The project is limited to the 83 counties which are the non-

metropolitan portions of the geo-cultural region of the highland areas of the Ozark Uplift and the Ouachita Mountains. This area is somewhat isolated from the influence of large scale metropolitan regions. Tulsa, Oklahoma and Little Rock, Arkansas are the two largest metro areas in the region. Kansas City and St. Louis, Missouri and Oklahoma City, Oklahoma are beyond the boundaries of the region.

Starting in the mid-1960's, portions of the region have experienced rapid population growth as a result of inmigration of individuals and families with a wide variance in characteristics. The population change has not been homogeneous among the Ozark counties either in character or in rate (Campbell et al., 1978; Hoffman, 1976). A few counties have continued to lose population, while others have had varying rates of population increase with some counties having an increase of more than 50% between 1970-78. This population increase has resulted from a number of different causes and has attracted a wide range of persons in terms of characteristics such as age, education, occupation, and socio-economic class. There does appear to be an ecological patterning of the changes and, for this reason, one of the first tasks of the larger project was to develop a typology which categorized some of the variance in the characteristics of the Ozark population.

PART I: CONSTRUCTION OF COUNTY TYPES

The development of a typology began by utilizing county classification variables found in recent population change literature, such as the presence of colleges, retired migrant populations controlled access highways, military installations, lakes, large employment in agriculture,

etc. (Beale, 1975; Campbell and Johnson, 1976; DeJong and Humphrey, 1976; Morrison, 1977; Morrison and Wheeler, 1976; Zuiches and Brown, 1978). These have been found to be closely associated with population change in non-metropolitan locations. However, they are inadequate as explanatory items because these variables are not mutually exclusive and interaction between variables is apnarent.

The first step was to perform a series of stepwise multiple regressions for the 83 counties using the average annual net migration rate and the average annual rate of population change from 1970 to 1975 as the dependent variables and thirty-six variables (Tables 1, 2 and 3). The purpose of these were to determine factors affecting population change in the Ozarks.

Utilizing these independent variables factor analysis regressions were calculated using the SPSS default procedures, i.e. principal factoring with iterations, orthogonal varimax rotation and the production of factors based on eigen values of 1.0 or more. From the factorials consistent loadings of variables were noted using a (+) or (-) 0.4 coefficient as the inclusion/exclusion cut-off point. Some variables were incompatible with this type of statistical procedure, e.g. inclusion of all m.jor educational attainment categories as individual variables. This required the selection of a fewer number of variables for clarity, e.g. percentage of the population age 25 or over with a high school diploma or better.

While further equations were executed, attempts were made to limit the total number of factors in the final solution. This was accomplished by examining the eigen values, the percentage of variance explained

by each factor and the difference in variance explained between factors. The first major break in values was found to be between factors numbered one and two. However, the use of only one factor which would result in only one type represented an inadequate manner of typifying the Ozark counties. The next largest difference was discovered to be consistently between factors numbered four and five and the number of factors for the final solution was set at four and the analyses were computed again. Four factors explained 63.3% of the variance. Throughout these steps the "varimax rotated factor matrix" was examined for clusters of variables within factors, simple structure or high crossover loadings. Finally through the processes of variable elimination and substitution and re-execution of computer runs both at the default and specified factor levels a final set of variables and factors were produced (Tables 4, 5 and 6). In the examination of this final run it was found that the variables clustered in each factor were theoretically significant and operational headings were assigned to each, i.e. Factor 1--Urban-Non-Metropolitan, Factor 2--Retirement-Recreation, Factor 3--College-Professional, and Factor 4--Extractive-Part Time Farming.

Although this provides a basis of classification for the non-metropolitan Ozark-Ouachita Upland counties there was need to examine individual counties for purposes of sampling and to see how this four factor grouping would actually work. A series of SPSS SELECT IF'S were employed to see which counties were falling into each factor.

The counties were examined. First was a ranking of the scores in each factor, running from high to low (Table 7). For the purpose of selecting county case study areas the top 10 of those counties with factor

scores of 1.0 or better were chosen to represent each type. This resulted in a total of 39 counties including cross-over classifications, e.g. Garland, AR. appeared in the top 10 of three factors. The second approach was the delineation quartile rankings for all factors for each county (Table 8). This type of grouping resulted in about 40 different social areas which were extremely difficult to manipulate. However, one particular categorization was determined (See counties listed on Table 8 in capital letters). This grouping represented those counties which received low scores on all factors or lows on all but one factor and the latter score was no higher than a two. As a group, these counties were labeled "most rural." The final result of these examinations has been the classification of 38 different counties into the five types (Table 9). It is this identification of county types which we used for study of educational and health changes in the Ozark area.

PART II: POPULATION CHANGE BY COUNTY TYPOLOGIES

We recognize that these counties are the most specialized or in some ways the most extreme cases. Our second task was to examine population change data for the 1970-78 period. (The typology was calculated on the 1970-75 years.) The Recreation-Retirement category showed the largest rate of increase with a population gain of 12.8% for these eight years. The College-Professional category recorded the second highest population change with a percent gain of 7.8, followed by the Most Rural category with a 6.3% change and the Extractive category with a 6.3% change and the Extractive category with 4.7% change. The Urban county type posted the smallest change in population with a gain

of 3.1%.

These figures are not surprising in light of the urban to rural migration phenomenon experienced in the 1970's (Wardwell and Gilchrist, 1978). The Ozark-Ouachita Uplands had experienced a 1.48% annual population increase due to net inmigration from 1970 to 1975, while natural increase showed only a 0.26% annual change (Campbell et al., 1976). As a result most of the population growth for these county types can be attributed to net migration. The recreation and retirement areas of this region have attracted a sizeable share of these migrants due to the recreational and scenic amenities (water, mountains, forests) offered there. (See Dailey and Campbell, 1980, for a more detailed discussion of this).

The following characterizations of the types of areas are produced for each of the five categories:

Type 1-Urban: A relatively dense urban population with higher income and education, low proportion of aged and high in labor force ages.

Type 2-Recreation-Retirement: High employment in service occupations, presence of a lake and/or a major retirement area, relatively isolated, rural, older population and with limited education and income.

Type 3-College-Professional: Characterized by relatively low degree of urbanity and density, low income, very high in college enrollments and employment in professional services, and a very low proportion of aging.

Type 4-Extractive-Part Time Farming: High in employment in mining,

somewhat high in density and urbanity, also high in manufacturing employment, in the middle range of income, low in educational attainment, low in proportion of aging, high in part time farming.

Type 5-Most Rural: A group of counties characterized by extreme rurality, agricultural employment, long history of net out-migration, out of county employment, small amount of industry, low income and education.

Educational Impacts. Three educational change variables were computed from secondary sources to assess the changes in primary and secondary educational facilities for the period from 1974 to 1978. The variables were (1) the percent change in average daily attendance, (2) changes in number of teachers, and (3) changes in current expenditures for school districts in each of the five county types (Table 10).

The Recreation-Retirement type, which had the highest percent population change, showed the most growth for each of these educational variables. The popular image of recreational-retirement areas is of large numbers of elderly people. While this may be partially true, the rapid growth in school enrollments testify to the movement of families with young people into such areas. The College-Professional category showed the second highest percent change figures, while the Urban and Extractive types reflect practically the same percent gains. The Most Rural county type recorded the lowest percent change figures for each of the three variables, but even these counties on the average did have increases.

Multiple regression analysis was utilized in an effort to determine the amount of variance explained in the three educational change variables

by each county category (Table 11). The Recreation-Retirement type consistently explains the most variance among the 38 counties in the educational variables. This type explains 79.8% of the variance in the percent change in average daily attendance, 60.7% of the variance in the percent of change in number of teachers, and 59.9% of the variance in the percent change in current expenditures (Table 11). The College-Professional type explains the second most variance in the percent change in all three variables, explaining 15.6%, 37.9%, and 37.2% respectively. The Extractive county type accounts for 1.2% of the variance in the percent change in number of teachers and 2.8% of the variance in the percent change in current expenditures, while the Most Rural type enters the equation by explaining 44.0% of the variance in the percent change in average daily attendance. The Urban county type fails to explain enough added variance in the three variables to enter the regression equation. This breakdown of variance explained reflects quite well the percent change in population rankings of the five county types.

We mailed questionnaires to the 273 school superintendents of public school districts in the 38 counties in the core counties of the typology. The intent was to obtain materials on changes in the last five years for enrollment, bond issues for capital improvements, operating costs and priority judgements for needs in components of the educational program. The result was 186 usable reports (68.1%) gathered from the 273 school superintendents (Table 12).

The educational services questionnaire was designed to extract perceptions of the superintendents as to whether their school districts, budgets, and services have kept pace with the demand for these services

from 1974 to 1979. The school superintendents were asked if their services have kept pace over the past five years (Table 13). The Recreation-Retirement county type, which had the largest growth for each of the change variables, had the highest percentage of superintendents (97.1) reporting that their services had kept pace over the past five years-an almost universal agreement. The Most Rural and Extractive county types follow closely, reporting 85.0 and 81.3 percent respectively. The Urban county type, which showed the lowest percent population gain during this period (3.1%) was slightly less satisfied that services had kept pace. Among superintendents in this category, 77.5% said services had kept pace while 22.5% said they had not. The county type least satisfied that services had kept pace was the College-Professional type, which recorded the second highest rate of increase in the education change variables. For this group two-thirds (66.7%) believed they had not. The College-Professional type recorded a population increase of 7.8% during this time period, second only to the Recreation-Retirement type. In total, 80.4% of those responding indicated educational services had kept pace over the past five years, while 19.6% indicated they had not. The variance between types of counties was statistically significant at less than the .05 level.

Superintendents were also asked to indicate whether they believed their operating funds were adequate, or inadequate (Table 14). The Recreation-Retirement type recorded the highest percentage reporting operating funds as generally adequate with 45.5% in this category, 36.4% reporting barely adequate and 18.2% inadequate. The Most Rural type showed the lowest percent in the generally adequate category

(10.0%), while 70.0% reported operating funds were barely adequate, 20.0% found funds inadequate. The county type reporting the highest percent in the inadequate category was College-Professional with 25.6% indicating operating funds were inadequate, with 55.8% viewed as barely adequate, which is consistent with the responses to services keeping pace. Only 18.6% of the superintendents in this county type reported funds to be generally adequate. In both the Extractive and Urban types, 30.0% found operating funds generally adequate while 56.5 and 50.0 percent, respectively, found them barely adequate. The Extractive type had the lowest percentage (13.0) of any county type reporting funds as inadequate, while 20.0% of the superintendents in the Urban county type found these funds inadequate. Of all those superintendents reporting, 52.7% found operating funds barely adequate, 28.0% generally adequate, and 19.2% believed them to be inadequate at the present time.

Similar to the question of current adequacy, superintendents were asked also to indicate whether operating funds have kept pace over the past five years (Table 15). The pattern was almost exactly the same. The Recreation-Retirement type, which had the largest percentage reporting that current operating funds were generally adequate (45.4%) also had the largest percentage (69.7%) expressing that operating funds had kept pace over the last five years, 30.3% believed they had not. All other county types reported less than 40% indicating that operating funds had kept pace. The Most Rural county type showed the largest percent indicating these funds had not kept pace with 70.0% in this category. The Extractive and Urban county types followed closely with 68.4 and 68.3 percent respectively indicating operating funds had not kept pace.

Sixty-four percent of the superintendents in the College-Professional category felt these funds had not kept pace over the past five years. In total 60.3% of those reporting indicated increases in operating funds had not kept pace over the past five years, while 39.7% believed they had. This pattern of variation was significant at the .05 level.

The actual average annual current operating expenditures per pupil was computed from the annual reports of the school districts. In terms of current expenditures in the 1977-78 school year, the Most Rural counties were expending the most per pupil and the College-Professional types the least. The Recreation-Retirement type was fourth (Table 16). These rather surprising figures may be in part explained by several comments of superintendents in Rural counties to the effect that because of declining or very slowly increasing enrollments, their facilities were in some cases underutilized and thus not operating at the most efficient level. Also effiencies of scale may contribute to the variations.

The actual percentage increases in current operating funds were generally similar. The Most Rural and Urban types had the largest increases while the Extractive and Recreational-Retirement were intermediate and the College-Professional the lowest rate of increase. The percentage difference between the highest and lowest had increased slightly during the seven years but the relative positions had changed more.

Obviously, perceptions and reality were considerably different. The Recreation-Retirement superintendents were generally optimistic, but had less actual reason to be than superintendents in some of the other categories. The actual real differences tended to be small.

Some possible additional reasons for this will be discussed later in this paper.

In relation to other schools their size, superintendents were asked to indicate whether the educational services in their own district were adequate or inadequate (Table 17). In general, most school officials believe their services are still adequate compared to other schools of similar size. Sixty-three percent indicated their services were still adequate, 26.9% believed them to be more than adequate, and 10.2% found them inadequate at the present time. Over 50.0% of the schools in each county type found their services still adequate in comparison to other schools of similar size. Schools in the Most Rural county type recorded the largest percentage in this category. Seventy percent of the schools in this county type believed their services are still adequate. More than 20.0% of all the schools in each county type believe their services are more than adequate. Schools in the Recreation-Retirement county type recorded the largest percentage in this category with 32.4% finding their services more than adequate. On the other end of the scale, less than 15.0% of all the schools in each county type believed their services are inadequate. The Recreation-Retirement county type had the lowest percentage of schools in this category with only 2.9% indicating their services are inadequate in comparison to other schools of similar size.

A record of whether local bond issues had passed or failed was also requested. Of those schools responding, 81.9% of the local bond issues were reported as passing and 18.1% failed (Table 18). The Urban and Extractive county types both had the largest percentages of local

bond issues pass with 87.1% passed and 12.9% failed. It is interesting to note that a high percentage (68.4) of these two county types did not believe increases in operating funds had kept pace over the past five years. The College-Professional county type followed with 81.3% of the bonds passing and 18.8% failing. The Most Rural counties recorded 76.9% of the bond issues passing and 23.1% failing. The Recreation-Retirement county type had the largest percent of bond issues fail with 25.8% failing and 74.2% passing. This is interesting in that this county type was the most satisfied with the adequacy of their current operating funds and the adequacy of how they had kept pace over the past five years but had the highest percentage of failures of bond issues.

Discussion of School Impacts. Some of these findings are puzzling. One may conjecture why the superintendents in the Recreation-Retirement category were the most optimistic. Likewise, why the College-Professional category ranks lower. It is less puzzling to learn that the other categories (Urban, Extractive, Rural) are perceived by their school superintendents to have less adequate operating funds, and have not kept pace financially in the past five years.

There is a clear contradiction in the responses regarding bond issues and the perception of the adequacy of services, funding, etc. The questions on educational changes were arranged into five categories of most favorable to least favorable responses for each type of counties (Table 19). It is clear that the Recreation-Retirement category has the most favorable perceptual response to factors of educational change. The Recreation-Retirement category of counties with an optimistic set of responses had the highest percentage of "failures" in bond issues and a modest rate of increase in actual expenditures.

The Recreational-Retirement counties in the Ozarks began their population growth in the early to mid 1960's and had an average annual net migration rate of 0.91% per year during the 1960's. This was compounded by the increased rates of growth in the early 1970's. It is our observation that at this time most of the Recreational-Retirement leaders, school or otherwise, had an optimistic-growth mentality. Population was growing, business was growing, undoubtedly other things were growing so everything must be alright in the world whether it be educational or otherwise. Thus, the school superintendents may have been reflecting a more general attitude of the community.

The finding that most school superintendents in every category believe their school services are still adequate compared to other schools of similar size is somewhat surprising in view of the responses concerning adequacy and "keeping pace" of operating funds. Perhaps it's something like saying "we are no worse off than anyone else." This however, seems a rather simplistic conclusion.

The last task is to relate the perceptual responses of school superintendents to key items of educational change for each of the five categories.

Urban. It appears that this category has need for continued budget increases and favorable action on bond issues. This is a consequence of its relatively young age structure and the higher educational expectations of a relatively well educated group with high income. These considerations may be reflected in the superintendents concerns about low budget and services keeping pace. The high rating for successful bond issues would seem to reflect the views of an informed citizenry

with economic ability to support educational programs. The responses come from superintendents who are involved with schools in communities with relatively heavy loadings of young and middle-aged households and relatively smaller numbers of older people.

Recreation-Retirement. This category includes counties with recent rapid growth of population, particularly an inmigration of older people and those interested in recreational activities. As stated earlier, the rapid growth taking place in these counties prior to this study has no doubt affected the responses of superintendents when queried on educational changes in the past five years. In any event, this category shows the most favorable response by superintendents to key questions on budget and service changes in education. The less enthusiastic response of the community to school bond issues and increases in expenditures may well be due to the feeling as expressed by the superintendents that educational funds and services are generally adequate; that this is the feeling of the community and is so expressed in the vote on bond issues.

College-Professional. The counties included in this category are generally rural but with a considerable urban-oriented influx of persons associated with college and professional settings. This category has a moderate to low rating on key educational questions asked of school superintendents. Considering the high educational attainment of the people, the superintendents may be saying that this type of community should be enjoying a level of educational services higher than is actually the case. They may have felt also the relatively smaller increases in expenditures.

Extractive. This category includes counties generally rural with mining operations but also includes counties which are administrative headquarters for mineral operations and which tend to be urban. As a consequence this category becomes a curious mixture of industrial employment, white collar, part-time agricultural employment and extremes of educational and income. It appears then that superintendents' responses represent something of an average of the quite different population compositions from county to county in this category. The result becomes a mid-rating with generally favorable responses on educational services, budgets and bond issues. The response is rather like the "urban" category although the "extractive" category taken altogether is quite unlike what one finds in an urban setting.

Most Rural. As indicated earlier, this category is generally isolated and agricultural, has low income and education. It is characterized by out-migration and with respect to schools ranks at the bottom of all five categories for our study period in such measures as increase in daily attendance, increase in number of teachers, and increase in current expenditures but at the top in actual per student expenditures. The school superintendents included in this category as compared with those in other categories report generally less favorable responses with respect to adequacy and levels of school funds and services, as well as school bond issues. These responses represent what would be expected of a group of counties so rural, so lacking in growth and resources, so limited in educational attainment and education.

PART III: HEALTH IMPACTS

A health services questionnaire was sent to the directors of each county health district located within the typology counties. This questionnaire followed the same basic format as the education questionnaire. The directors were asked to assess the adequacy of their health districts and their ability to keep pace with demands for health services over the time span from 1974 through 1979. A total of 46 questionnaires were sent and 33 usable questionnaires were returned (See Table 20).

Twenty percent of the health districts in the Extractive county type and 25% in the Most Rural county type operate on a multi-county basis. Thus, the officials responding for these districts represent more than one county. The other(s) of which may be of a different type. This represents 9% of those districts represented in the study. None of those districts within the College-Professional, Urban, or Recreation-Retirement categories are operated on a multi-county basis.

The health district directors were asked to indicate whether health services in their districts have kept pace over the past five years (1974-1979) (Table 21). A high percentage (75.0%) of those districts in the College-Professional and Most Rural county types indicated health services had not kept pace over the past five years. Also a majority of those districts in the Recreation-Retirement category (55.6%) felt health services had not kept pace with the demand for these services. On the other hand, 88.9% of the districts in the Urban category indicated services had kept pace with the demand. In total, 52.0% of the districts believed health services had kept pace with the demand while 47.5% did

not.

Respondents were then asked to indicate whether funds for operating costs had kept pace over the past five years (Table 22). Again a high percentage (75.0%) of those districts in the College-Professional category believed funds for operating costs had not kept pace. A majority (55.6%) of those districts in the Recreation-Retirement category also indicated funds had not kept pace over the past five years. A slightly higher percentage (55.6%) of those districts in the Urban category believed funds had kept pace. For both the Extractive and Most Rural county types 50.0% indicated funds had kept pace while 50.0% believed they had not. For the entire sample 55.0% of the districts indicated funds for operating costs had not kept pace over the past five years, while 45.0% indicated they had.

The health directors were requested to assess the adequacy of funds for present operating costs (Table 23). All of the responding directors in the Most Rural category reported funds for present operating costs are inadequate. High percentages of those reporting in the Recreation-Retirement and College-Professional county types indicated funds to be inadequate (87.5% and 75.0% respectively). A majority (60.0%) of those in the Extractive category found operating funds inadequate for present costs. Only the Urban county type showed a majority of districts (55.6%) with adequate funds for operating costs. No districts indicated that funds are more than adequate. For the sample as a whole, 69.2% of the health districts are reported to have inadequate funding for present operating costs, while only 30.8% have adequate funding.

In combination with this question those directors indicating funding to be inadequate for present operating costs were asked to

indicate the purposes for which needs for money are most pressing (Table 24). Directors of districts in the College-Professional county type indicated that the most pressing needs for money was for public health and school health purposes. Added funds for personnel, equipment, elderly home services, and other services were also listed. Public health services also was the most pressing need for Urban districts followed by school health, personnel, construction, and emergency services. Districts in the Recreation-Retirement category listed need for additional personnel. Construction and other services were also major areas of need for more funds (Table 24). Health officials in the Extractive county type also had need for funds to support added personnel. Added funding needs were indicated for construction, public health, school health, elderly home services, and other services. Personnel, construction and other services were the reported areas of need for funds for those districts in the Most Rural category. For the entire sample personnel and public health have the greatest need for additional funding followed in order by construction, other services, school health, equipment, elderly home services, and emergency services.

Directors were asked to compare the adequacy of the health services of their district in relation to those of other counties of similar size (Table 25). A similar pattern of responses was found for this question.

Health districts in the Urban county type indicated most frequently that services were still adequate (77.8%), while the Most Rural county type recorded the highest percentage (75.0%) of districts judged to be inadequate. Directors in the College-Professional category most often described their services as inadequate (62.5%) as did those in the

Extractive category (50.0%). Those in the Recreation-Retirement category were evenly divided between inadequate and still adequate services (44.4%). Only the Recreation-Retirement and Extractive categories contained health districts with services indicated as more than adequate (11.1% and 10.0% respectively). For the total sample responses were evenly divided between inadequate and still adequate (47.5% each).

PART IV: COMPARISON OF HEALTH AND EDUCATION RESPONSES

There are significant differences between the educational and health care establishments. Health and education services serve somewhat different populations. Education in the local areas is aimed almost entirely at a young population while health services put greater emphasis on meeting the needs of an older population. The officials in public health organizations such as we interviewed in this project have less direct control over the health establishment as compared to school superintendents. The funding for schools comes partially from local and states sources of funding with the local funding being most subject to change. Health funding is a combination of local funds from taxes and private and public insurance and other public (mostly federal) funding. The orientation of the school superintendents is toward a smaller school district which is under their direct control. Finally it is our observation that in most cases the school superintendent is more directly involved in local community affairs than health officials. All of these can produce a different set of orientations toward the current local situations.

When asked if educational services have kept pace over the past

five years a high percentage (80.4%) of the superintendents responding indicated they had kept pace. Health services presented a different picture. Only 52.5% of the health directors believed health services have kept pace. Several reasons may exist for these differences. Without question the health services were inadequate (in some cases almost nonexistant) in most rural areas a decade ago. In addition changing medical technology, greater awareness of the need for medical services, the availability of some federal insurance programs, and related factors have created a rising expectation for health care services. Most of the health organizations which we interviewed were relatively new as compared to the schools.

The Urban county type consistently held high percentage scores for both services indicating they had kept pace while all of the other county types reported health services had not kept pace as well as educational services. This result is interesting in that the Urban county type which indicated highly that both services have kept pace recorded the smallest percent population change (3.1%) from 1970 to 1975.

On the whole, respondents agree that for both health and educational services operating funds have not kept pace over the past five years. Funds for neither of the services have kept pace in the College-Professional category. Educational funding fared worse than that for health services in Urban, Extractive, and Most Rural county types, while funding for health services suffered more in the Recreation-Retirement category. This may be a reflection of the rapid increase in the total population and especially in the older population which has a high demand for health services. Compounding the numerical increase is the fact that most of the migrants to Recreation-Retirement counties come from urban areas

which had better health services and higher expectations for such services.

The largest differences occur for the Recreation-Retirement and Most Rural county types. Only 18.2% of the superintendents in the Recreation-Retirement category found present funds inadequate for educational services, while 87.5% of the health directors found their present funds inadequate for present health services. Only 20% of the superintendents in the Most Rural county type indicated present educational funds to be inadequate, while 100.0% of the health directors reported present funds for health services are inadequate. Counties in the College-Professional and Extractive categories also show discrepancies between health and educational funding, with present funds for health services inadequate and educational funds generally adequate.

The majority of those responding in all county types found their educational services adequate or more than adequate. Only a majority of health directors in the Urban and Recreation-Retirement categories viewed their health services as adequate or more than adequate.

CONCLUSIONS

Three significant conclusions can be drawn from the results of this project.

1. The county types do have distinct differences for many of the variables used in this study. The Recreation-Retirement type which is the most distinct of the types used here accounted for as much as 80% of the variation on some items.

2. At least from a perceptual perspective, there is a considerable

difference in the way that school superintendents and health officials reacted. Population increase and/or changes in composition may have had a significant impact on these perceptions of reality.

3. Perceptions of change and the reality of change was not closely related for the school superintendents. While we could not get directly comparable data for health officials, the school superintendents seemed to have been reacting more to local attitudes than to comparative data of the type used in this project and to which they had not had access.

Table 1
INITIAL VARIABLES USED TO DEVELOP TYPOLOGIES

VARIABLE

Average Annual Rate of Population Change, 1970-75
Average Annual Net Migration Rate, 1970-75
1970 % Urban Population
Size of Largest Incorporated Place, 1975
Population Density, 1975
% of Employed Persons in Entertainment & Recreation, 1970
% of Employed Persons in Manufacturing, 1970
% of Employed Persons in Farming, 1970
% of Employed Persons in Personal Services, 1970
% of Employed Persons in Professional Services, 1970
% of Employed Persons in Construction, 1970
% of Employed Persons in Mining, 1970
% of Employed Persons in Wholesale & Retail Trade, 1970
% Farms with Part-Time Farmers, 1974
% Change in Number of Farms, 1969-74
% County Land Area in Farms, 1974
New Manufacturing Plants, 1967-74
% of Employed Persons Working Inside County of Residence, 1970
% of Employed Persons Working Outside County of Residence, 1970
Beale's 1970 Retirement Counties w/Net Migration Rates of 15%+
% of Population Age 65 and over, 1975
Presence of Major Lake(s) or Portion in County, 1975
Presence of 25 Miles or More of 4 Lane Highways, 1975
Metro Status w/Adjacency/Non-Adjacency, 1975
% Persons 25 and over with No Education, 1970
% Persons 25 and over with Elementary Education only, 1970
% Persons 25 and over with 1-4 Years of High School, 1970
% Persons 25 and over with 1 Year or more of College, 1970
% Persons 25 and over with H.S. Diploma or better, 1970
% of Population Enrolled in College, 1975
Per Capita Income, 1974
% Families with Incomes Less Than $5,000, 1969
% Families with Incomes $5,000 - $9,999, 1969
% Families with Incomes $10,000 - $14,999, 1969
% Families with Incomes $15,000 or more, 1969

Table 2

MULTIPLE REGRESSION OF COUNTY CHARACTERISTICS AND NET MIGRATION RATE 1970-75.
OZARK SUBREGION

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
% of Population Age 65 and Over, 1975	0.58861	0.34646	0.34646	0.58861
1970 % Urban Population	0.65910	0.43442	0.08796	-0.49343
% Population Enrolled in College, 1975	0.69656	0.48520	0.05078	-0.00853
% Empl. Per. in Entertainment & Recreation, 1970	0.72302	0.52276	0.03757	0.22598
% Empl. Per. in Manufacturing, 1970	0.74719	0.55829	0.03552	0.02278
% Empl. Per. in Farming, 1970	0.76442	0.58434	0.02605	0.34938
% Empl. Per. in Personal Services, 1970	0.77159	0.59535	0.01102	0.20979
% Per. 25 & over w/H.S. Diploma or Better, 1970	0.77729	0.60418	0.00883	-0.25881
Presence Major Lake(s) or Portion in County, 1975	0.78018	0.60869	0.00451	0.24195
New Manufacturing Plants, 1967-74	0.78348	0.61384	0.00515	-0.11808
% Empl. Per. in Professional Services, 1970	0.78542	0.61688	0.00304	-0.18253
Per Capita Income, 1974	0.78684	0.61912	0.00224	-0.26905
% Empl. Per. in Mining, 1970	0.78799	0.62093	0.00181	-0.25279
Farms with Part-Time Farmers, 1974	0.78873	0.62210	0.00117	-0.33895
Presence of 25 Miles or more of 4 Ln. Hgwys, 1975	0.78926	0.62293	0.00083	-0.41144
% Empl. Per. in Wholesale & Retail Trade, 1970	0.78937	0.62311	0.00018	-0.16753
% Empl. Per. in Construction, 1970	0.78940	0.62316	0.00005	0.26598

Table 3
MULTIPLE REGRESSION OF COUNTY CHARACTERISTICS AND POPULATION CHANGE
1970-75. OZARK SUBREGION

VARIABLE	MULTIPLE R	R SQUARE	RSQ SQUARE	SIMPLE R
% of Population Age 65 and Over, 1975	0.47585	0.22643	0.22643	0.47585
1970 % Urban Population	0.57409	0.32958	0.10315	-0.47452
% Population Enrolled in College, 1975	0.62742	0.39365	0.06407	0.04597
% Empl. Per. in Entertainment & Recreation, 1970	0.66495	0.44216	0.04851	0.23632
% Empl. Per. in Manufacturing, 1970	0.70192	0.49269	0.05054	0.06636
% Empl. Per. in Farming, 1970	0.71712	0.51425	0.02156	0.30054
Presence Major Lake(s) or Portion in County, 1975	0.72604	0.52713	0.01288	0.23467
% Per. 25 & Over w/H.S. Diploma or Better, 1970	0.73358	0.53814	0.01100	-0.26882
% Empl. Per. in Personal Services, 1970	0.73982	0.54734	0.00920	0.19078
New Manufacturing Plants, 1967-74	0.74397	0.55349	0.00615	-0.09902
% Empl. Per. in Professional Services, 1970	0.74672	0.55759	0.00410	-0.15951
Per Capita Income, 1974	0.74802	0.55953	0.00194	-0.27565
% Empl. Per. in Construction, 1970	0.74906	0.56109	0.00156	0.25915
Presence of 25 Miles or More of 4 Ln. Hgwys, 1975	0.75033	0.56300	0.00191	-0.39683
% Empl. Per. in Mining, 1970	0.75106	0.56410	0.00110	-0.23934
% Farms with Part-Time Farmers, 1974	0.75169	0.56504	0.00094	-0.31283
% Empl. Per. in Wholesale & Retail Trade, 1970	0.75174	0.56511	0.00007	-0.19222

Table 4
COMMUNALITY SCORES FROM FACTOR ANALYSIS

VARIABLE	COMMUNALITY
1970 % Urban Population	0.71640
Population Density, 1975	0.81392
Per Capita Income, 1974	0.66776
% Per. 25 & over w/H.S. Diploma or Better, 1970	0.74041
% Empl. Per. in Wholesale & Retail Trade, 1970	0.32021
New Manufacturing Plants, 1967-74	0.51185
Presence of 25 Miles or more of 4 Ln. Hgwys, 1975	0.34292
% Empl. Per. in Entertainment & Recreation, 1970	0.30105
% Empl. Per. in Personal Services, 1970	0.68106
% Empl. Per. in Construction, 1970	0.48673
% of Population Age 65 and Over, 1975	0.39150
Presence Major Lake(s) or Portion in County, 1975	0.22298
% Empl. Per. in Manufacturing, 1970	0.57078
% Population Enrolled in College, 1975	0.41823
% Empl. Per. in Professional Services, 1970	0.87422
% Empl. Per. in Mining, 1970	0.30861
% Empl. Per. in Farming, 1970	0.56169
% Farms with Part-Time Farmers, 1974	0.79605

Table 5

FACTOR	EIGENVALUE	PERCENT OF VARIANCE EXPLAINED	CUMMULATIVE PERCENT OF VARIANCE EXPLAINED	PERCENT OF TOTAL VAR.
FACTOR 1	4.84393	49.8	49.8	28.9
FACTOR 2	2.11990	21.8	71.6	14.6
FACTOR 3	1.58943	16.3	87.9	10.8
FACTOR 4	1.17317	12.1	100.0	9.1

Table 6
VARIMAX ROTATED FACTOR MATRIX

VARIABLE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
1970 % Urban Population	0.74133	-0.13218	0.22310	0.31556
Population Density, 1975	0.87556	0.00532	0.08833	0.19871
Per Capita Income, 1974	0.76120	0.11515	-0.02213	0.27310
% Per. 25 & Over w/H.S. Diploma or Better, 1970	0.82077	0.17227	0.17443	0.08153
% Empl. Per. in Wholesale & Retail Trade, 1970	0.47968	0.23048	0.17371	-0.08258
New Manufacturing Plants, 1967-74	0.68158	-0.12224	0.05803	-0.17025
Presence of 25 Miles or More of 4 Ln. Hgwys, 1975	0.45659	-0.16288	0.31894	0.07878
% Empl. Per. in Entertainment & Recreation, 1970	0.27568	0.46769	-0.02936	0.07388
% Empl. Per. in Personal Services, 1970	0.30254	0.76726	-0.01803	-0.02284
% Empl. Per. in Construction, 1970	-0.35930	0.56986	0.17609	-0.04334
% of Population Age 65 and Over, 1975	-0.25987	0.48496	-0.18769	-0.23141
Presence Major Lake(s) or Portion in County, 1975	-0.03057	0.46349	0.08312	-0.01770
% Empl. Per. in Manufacturing, 1970	0.00503	-0.44061	-0.61050	0.06256
% Population Enrolled in College, 1975	0.20788	-0.04258	0.61086	0.00750
% Empl. Per. in Professional Services, 1970	0.15405	0.03133	0.89321	0.22733
% Empl. Per. in Mining, 1970	-0.12798	-0.20336	-0.08237	-0.49406
% Empl. Per. in Farming, 1970	-0.35550	-0.04233	-0.07117	-0.65457
% Farms with Part-Time Farmers, 1974	0.16839	0.06330	0.23375	0.84205

Table 7
FACTOR SCORES OF COUNTIES IN EACH TYPOLOGY

COUNTY	FACTOR SCORE
URBAN-NONMETROPOLITAN	
Jasper, MO.	3.948686
Washington, OK.	2.968489
Pulaski, MO.	2.494209
Garland, AR.	2.034889
Muskogee, OK.	1.584207
Ottawa, OK.	1.489958
Newton, MO.	1.422447
St. Francois, MO.	1.249812
Phelps, MO.	1.197818
Faulkner, Ar.	1.114277
RETIREMENT-RECREATION	
Camden, MO.	3.381704
Garland, AR.	2.489137
Baxter, AR.	2.459006
Taney, MO.	1.915809
McIntosh, OK.	1.697029
Stone, MO.	1.621744
Morgan, MO.	1.361575
Cleburne, AR.	1.299133
Miller, MO.	1.122497
Marion, AR.	1.043230
COLLEGE-PROFESSIONAL	
Cherokee, OK.	3.896129
Faulkner, AR.	2.716844
Latimer, OK.	2.538597
Taney, MO.	2.095203
Craig, OK.	2.061872
Phelps, MO.	2.036631
Pushmataha, OK.	1.834146
Franklin, AR.	1.279547
Polk, MO.	1.117204
EXTRACTIVE-PART TIME FARMING	
Washington, MO.	2.361216
Washington, OK.	2.233953
Hot Spring, AR.	2.022158
Garland, AR.	1.527688
Okmulgee, OK.	1.510209
Pittsburg, OK.	1.469320
Reynolds, MO.	1.439431
Latimer, OK.	1.339983
Madison, MO.	1.225027
St. Francois, MO.	1.199864

Table 8
QUARTILE RANKING OF FACTOR SCORES*

Baxter, AR.	2413	Jasper, MO.	4111
Boone, AR.	2222	Laclede, MO.	2112
Carroll, AR.	2211	Lawrence, MO.	3122
Cleburne, AR.	1312	McDonald, MO.	2112
Conway, AR.	2121	Madison, MO.	1123
Faulkner, AR.	2143	Maries, MO.	1113
Franklin, AR.	1231	Miller, MO.	2312
Fulton, AR.	1212	Morgan, MO.	2311
Garland, AR.	3414	Newton, MO.	3112
Hot Spring, AR.	2114	OREGON, MO.	1121
Independence, AR.	2112	Ozark, MO.	1311
Izard, AR.	1213	Phelps, MO.	3132
Johnson, AR.	1113	Polk, MO.	2221
Logan, AR.	1122	Pulaski, MO.	3223
MADISON, AR.	1121	Reynolds, MO.	1114
Marion, AR.	1312	Ripley, MO.	1122
Montgomery, AR.	1213	St. Francois, MO.	2123
Newton, AR.	1213	Shannon, MO.	1113
Perry, AR.	1122	Stone, MO.	2312
Pike, AR.	1212	Taney, MO.	2332
Polk, AR.	2121	TEXAS, MO.	1112
Pope, AR.	2122	Washington, MO.	1124
Randolph, AR.	2112	Wayne, MO.	1212
Scott, AR.	1113	Webster, MO.	2112
SEARCY, AR.	1112	WRIGHT, MO.	2111
Sevier, AR.	2112	Adair, OK.	1122
Sharp, AR.	1212	Atoka, OK.	1223
STONE, AR.	1112	Cherokee, OK.	1243
Van Buren, AR.	1212	Craig, OK.	2232
White, AR.	2122	Delaware, OK.	1322
Yell, AR.	1212	Haskell, OK.	1223
Barry, MO.	2112	Latimer, OK.	1134
Benton, MO.	1212	McCurtain, OK.	1123
Camden, MO.	2412	McIntosh, OK.	1322
Carter, MO.	1113	Muskogee, OK.	3223
Crawford, MO.	1113	Nowata, OK.	1223
Dallas, MO.	1221	Okmulgee, OK.	2224
Dent, MO.	1113	Ottawa, OK.	3123
DOUGLAS, MO.	1111	Pittsburg, OK.	2214
Hickory, MO.	1221	Pushmataha, OK.	1233
Howell, MO.	2112	Washington, OK.	4224
Iron, MO.	1123		

Table 8 (Continued)

*The quartiles were produced by summing the absolute values of the minimum and maximum values of the range in each factor. This figure was divided by four to obtain the width of each grouping, and was in turn, subtracted from the maximum value and each subsequent category maximum to get the actual category parameters noted below. Each of these groupings was then given a score of 1 to 4 with 4 being the highest, 1 the lowest.

Factor 1 -- Urban-Nonmetropolitan

4 = 2.6073125 or more
3 = 1.2659570 to 2.6073125
2 = -0.074075 to 1.2659570
1 = -0.074075 or less

Factor 2 -- Retirement-Recreation

4 = 2.182538 or more
3 = 0.983372 to 2.182538
2 = -0.215794 to 0.983372
1 = -0.215794 or less

Factor 3 -- College-Professional

4 = 2.540014 or more
3 = 1.183899 to 2.540014
2 = -0.172216 to 1.183899
1 = -0.172216 or less

Factor 4 -- Extractive-Part Time Farming

4 = 1.242875 or more
3 = 0.124534 to 1.242875
2 = -0.993807 to 0.124534
1 = -0.993807 or less

Therefore, Baxter, AR. (2413) as a portion of a ranked social area was highest on retirement-recreation, moderately high on extractive-part time farming, moderately low on urban-nonmetropolitan, and extremely low on college-professional.

Table 9

OZARK-OUACHITA COUNTY TYPES

Urban Non-Metro.	Retirement-Recreation	College-Professional	Extractive-Part Time Farming	"Most Rural"
Jasper, MO	Camden, MO	Cherokee, OK	Washington, MO	Douglas, MO
WASHINGTON, OK	GARLAND, AR	FAULKNER, AR	WASHINGTON, OK	Wright, MO
Pulaski, MO	Baxter, AR	LATIMER, OK	Hot Spring, AR	Madison, AR
GARLAND, AR	TANEY, MO	TANEY, MO	GARLAND, AR	Oregon, MO
Muskogee, OK	McIntosh, OK	Craig, OK	Okmulgee, OK	Searcy, AR
Ottawa, OK	Stone, MO	PHELPS, MO	Pittsburg, OK	Stone, AR
Newton, MO	Morgan, MO	Pushmataha, OK	Reynolds, MO	Texas, MO
ST. FRANCOIS, MO	Cleburne, AR	Franklin, AR	LATIMER, OK	
PHELPS, MO	Miller, MO	Polk, MO	Madison, MO	
FAULKNER, AR	Marion, AR		ST. FRANCOIS, MO	

(Counties in capital letters are in more than one type)

Table 10

SELECTED MEASURES OF CHANGE IN PUBLIC EDUCATIONAL INSTITUTIONS COUNTY TYPES--1973-74 TO 1978-79

COUNTY TYPE	PERCENT CHANGE[a] IN AVERAGE DAILY ATTENDANCE	PERCENT CHANGE[b] IN NUMBER OF TEACHERS	PERCENT CHANGE[c] IN CURRENT EXPENDITURES
College-Professional	6.4	22.6	77.4
Urban	3.6	12.1	60.7
Recreation-Retirement	12.0	27.4	84.4
Extractive	2.8	13.8	65.1
Most Rural	1.1	11.6	60.6
MEAN	5.2	17.5	69.7

[a]Average daily attendance in public schools for Arkansas counties are for the 1973-74 and 1977-78 school years. Missouri and Oklahoma figures are for the school years 1973-74 and 1978-79.

[b]Number of teachers for Arkansas school districts are estimates and the data for Missouri schools includes the total certificated staff for only those school districts maintaining high schools.

[c]Current expenditures for Arkansas school districts are estimates. Current expenditures for Arkansas schools include all expenditures for the current fiscal year, less capital outlay, debt service, and the amount received from other school districts. Current expenditures for Missouri schools in this category are the current disbursements including food service, student body activities, community services, capital outlay, debts and services, and payments between schools.

SOURCES:

Missouri Average Daily Attendance and Number of Teachers are from Missouri State Board of Education, Report of the Public Schools.

Current Expenditures came from files that Rhonda Wells searched through in the Office of School Data in Jefferson City, Missouri. Bertha McClaskey is the Director.

Arkansas data was obtained from the Annual Statistical Report of the Public Schools of Arkansas, Department of Education, Little Rock, Arkansas. This data is for January 1975 and December 1978.

Table 11

CORRELATION OF SELECTED EDUCATIONAL VARIABLES AND COUNTY TYPES

County Type	Percent Change In Average Daily Attendance	Percent Change In Number of Teachers	Percent Change In Current Expenditures
	R^2	R^2	R^2
Recreation-Retirement	0.79855	0.60746	0.59935
College-Professional	0.15668	0.37935	0.37251
Extractive	*	0.01257	0.02813
Most Rural	0.04038	*	*
Urban	*	*	*

*The county type did not explain enough of the variance to enter the regression equation.

Table 12
RESPONSE RATES OF SCHOOL OFFICIALS BY COUNTY TYPES

COUNTY TYPE	NUMBER OF SCHOOL DISTRICTS	PERCENT REPLIES
College-Professional	69	66.1
Urban	70	77.1
Recreation-Retirement	51	70.6
Extractive	63	58.7
Rural	30	66.6
TOTAL	273	68.13

Table 13

PERCEPTION OF SCHOOL OFFICIALS OF WHETHER EDUCATIONAL SERVICES HAVE KEPT PACE, BY COUNTY TYPES - 1979

COUNTY TYPE	NO %	YES %
College-Professional	33.3	66.7
Urban	22.5	77.5
Recreation-Retirement	2.9	97.1
Extractive	18.8	81.3
Most Rural	15.0	85.0
TOTAL	19.6	80.4

X^2 sig. at 0.0212

Table 14

PERCEPTION BY SCHOOL OFFICIALS OF ADEQUACY OF CURRENT OPERATING FUNDS BY COUNTY TYPES - 1979

COUNTY TYPE	INADEQUATE %	BARELY ADEQUATE %	GENERALLY ADEQUATE %
College-Professional	25.6	55.8	18.6
Urban	20.0	50.0	30.0
Recreation-Retirement	18.2	36.4	45.5
Extractive	13.0	56.5	30.4
Most Rural	20.0	70.0	10.0
TOTAL	19.2	52.7	28.0

X^2 sig. at 0.1371

Table 15

PERCEPTION OF SCHOOL OFFICIALS OF ADEQUACY OF INCREASES IN OPERATING FUNDS OVER THE PAST FIVE YEARS, BY COUNTY TYPES - 1979

COUNTY TYPE	NO %	YES %
College-Professional	64.3	35.7
Urban	68.3	31.7
Recreation-Retirement	30.3	69.7
Extractive	68.4	31.6
Most Rural	70.0	30.0
TOTAL	60.3	39.7

X^2 sig. at 0.0036

Table 16

AVERAGE ANNUAL TOTAL EXPENDITURES PER PUPIL FOR ARKANSAS AND MISSOURI COUNTIES FOR TWO TIME PERIODS (1974-75 & 1977-78) BY TYPES OF COUNTIES

COUNTY TYPE	AVERAGE ANNUAL EXPENDITURE 1974-75	AVERAGE ANNUAL EXPENDITURE 1977-78*	NUMBER OF RANK ORDER	% CHANGE
College-Professional	$822.32	$1,050.70	5	27.7
Urban	802.96	1,084.74	3	35.1
Recreation-Retirement	825.20	1,072.44	4	29.9
Extractive	865.62	1,137.34	2	31.4
Most Rural	836.69	1,138.71	1	36.1

*For Missouri expenditure per eligible pupil, 1977-78. Oklahoma data were not directly comparable.

SOURCES:

Annual Statistical Report of the Public Schools of Arkansas, Department of Education, Little Rock, AR. January 1976 and December 1978.

Missouri Board of Education, Report of the Public Schools, 1975 and June 30, 1978.

Table 17

PERCEPTION BY SCHOOL OFFICIALS OF ADEQUACY OF TOTAL EDUCATIONAL SERVICES AS COMPARED TO SIMILAR SIZED SCHOOLS, BY COUNTY TYPES - 1979

COUNTY TYPE	INADEQUATE %	STILL ADEQUATE %	MORE THAN ADEQUATE %
College-Professional	11.6	67.4	20.9
Urban	14.6	56.1	29.3
Recreation-Retirement	2.9	64.7	32.4
Extractive	12.5	60.4	27.1
Most Rural	5.0	70.0	25.0
TOTAL	10.2	62.9	26.9

X^2 sig. at 0.7432

Table 18

OUTCOME OF VOTES FOR EDUCATIONAL BOND ISSUES
1974-1978, BY COUNTY TYPES

COUNTY TYPE	PASS %	FAIL %
College-Professional	81.3	18.8
Urban	87.1	12.9
Recreation-Retirement	74.2	25.8
Extractive	87.1	12.9
Most Rural	76.9	23.1
TOTAL	81.9	18.1

X^2 sig. at .70

Table 19

RANK ORDER OF RESPONSES BY COUNTY TYPOLOGIES FOR EACH EDUCATIONAL QUESTION

EDUCATIONAL QUESTIONS	COUNTY TYPOLOGIES: COLLEGE-PROFESSIONAL	URBAN	RECREATION-RETIREMENT	EXTRACTIVE	MOST RURAL
Services kept pace	5	4	1	3	2
Adequacy of operating funds	4	3	1	2	5
Percent increase operating funds	2	3	1	3	5
Passing of bonds	3	1	5	1	4
Adequacy of total services	4	2	1	3	5
CHANGES IN STATISTICAL INDICATORS					
Increase in daily attendance	2	3	1	4	5
Increase in number of teachers	2	4	1	3	5
Increase in current expenditures	2	4	1	3	5

Table 20

HEALTH (INCLUDING DUPLICATION COUNTIES) QUESTIONNAIRE RESPONSES

COUNTY TYPE	QUESTIONNAIRE	REPLIES	% RESPONSE
College-Professional	9	8	89
Urban	10	9	90
Recreation-Retirement	10	9	90
Extractive	10	10	100
Most Rural	7	4	57
TOTAL (Not Including Duplicate Counties)	46	33	

Table 21

PERCEPTION OF HEALTH OFFICIALS OF WHETHER HEALTH SERVICES HAVE KEPT PACE OVER THE PAST FIVE YEARS BY COUNTY TYPE (1979)

COUNTY TYPE	NO %	YES %
College-Professional	75.0	25.0
Urban	11.1	88.9
Recreation-Retirement	55.6	44.4
Extractive	40.0	60.0
Most Rural	75.0	25.0
TOTAL	47.5	52.5

Chi Sq. = 8.87774

sig. = 0.0642

Table 22

PERCEPTION OF HEALTH OFFICIALS OF ADEQUACY OF INCREASES IN OPERATING FUNDS OVER THE PAST FIVE YEARS BY COUNTY TYPES (1979)

COUNTY TYPE	NO %	YES %
College-Professional	75.0	25.0
Urban	44.4	55.6
Recreation-Retirement	55.6	44.4
Extractive	50.0	50.0
Most Rural	50.0	50.0
TOTAL	55.0	45.0

Chi Sq. = 1.84063

Sig. = 0.765

Table 23

PERCEPTION OF HEALTH OFFICIALS OF ADEQUACY OF HEALTH OPERATING FUNDS BY COUNTY TYPE (1979)

COUNTY TYPE	INADEQUATE (%)	ADEQUATE (%)	MORE THAN ADEQUATE (%)
College-Professional	75.0	25.0	0.0
Urban	44.4	55.6	0.0
Recreation-Retirement	87.5	12.5	0.0
Extractive	60.0	40.0	0.0
Most Rural	100.0	0.0	0.0
TOTAL	69.2	30.8	0.0

Chi Sq. = 6.15193

Sig. = 0.1881

Table 24

PERCEPTION OF MOST PRESSING NEEDS FOR MONEY FOR HEALTH PURPOSES BY COUNTY TYPE
(Number of Districts Rating Each Need as Most Pressing)

NEEDS	COLLEGE-PROFESSIONAL	URBAN	RECREATION-RETIREMENT	EXTRACTIVE	MOST RURAL	TOTAL
Personnel	2	2	5	5	2	16
Construction		1	3	2	2	8
School/Health	3	2	1	1		7
Public Health	4	3	1	3		11
Emergency Services		1	1			2
Equipment	1		2			3
Elderly Home Services	1			2		3
Other Services	2		3	2	1	8

Table 25

PERCEPTION OF HEALTH OFFICIALS OF ADEQUACY OF TOTAL HEALTH SERVICES AS COMPARED TO OTHER COUNTIES OF SIMILAR SIZE BY COUNTY TYPE

COUNTY TYPE	INADEQUATE (%)	STILL ADEQUATE (%)	MORE THAN ADEQUATE (%)
College-Professional	62.5	37.5	0.0
Urban	22.2	77.8	0.0
Recreation-Retirement	44.4	44.4	11.1
Extractive	50.0	40.0	10.0
Most Rural	75.0	25.0	0.0
TOTAL	47.5	47.5	5.0

Chi Sq. = 6.94736

Sig. = 0.5423

BIBLIOGRAPHY

Beale, Calvin L.
1977 "The Recent Shift of United States Population to Nonmetropolitan Areas, 1970-1975." International Regional Science Review, 2, 2:113-122.

1976 "A Further Look at Nonmetropolitan Population Growth Since 1970." American Journal of Agricultural Economics, 58, 5:953-958.

1975 The Revival of Population Growth in Nonmetropolitan America. Washington, D.C.: Economic Research Service, United States Department of Agriculture.

Beale, Calvin L., and Glenn V. Fuguitt
1978 "The New Pattern of Nonmetropolitan Population Change." Pp. 157-177 in K.E. Taeuber, L.L. Bumpass, and J.A. Sweet (eds.), Social Demography. New York: Academic Press.

Campbell, Rex R.; George H. Dailey, Jr. and Robert L. McNamara
1978 Population Change in the Ozarks Region: 1970-1975. Department of Rural Sociology, University of Missouri-Columbia. September.

Campbell, R., and D. Johnson
1976 "Propositions on Counterstream Migration." Rural Sociology 41: 127-145.

Clawson, M.
1976 "Economic Implications of the Recent Population Shift Toward Rural Areas." American Journal of Agricultural Economics, 58, 5:963-966.

Dailey, George H., Jr., and Rex R. Campbell
1980 "The Ozark-Ouachita Uplands: Growth and Consequences." Chapter published in Migration and Non-Metropolitan America, 1970-1975.

DeJong, Gordon F., and Craig R. Humphrey
1976 "Selected Characteristics of Metropolitan-to-Nonmetropolitan Area Migrants: A Study of Population Redistribution in Pennsylvania." Rural Sociology 41 (Winter):526-538.

Frankena, Frederick
1980 "Community Impacts of Rapid Growth in Nonmetropolitan Areas: A Literature Survey." Department of Sociology, Michigan State University.

Hoffman, A.C.
1976 "A Migration From Chicago to Bull Shoals--Some Demographic Observations." American Journal of Agricultural Economics, 58, 5:967-970.

Morrison, P.
1977 "Current Demographic Change in Regions of the United States." Rand Publication Series P-6000 (November).

Morrison, Peter A., and Judith P. Wheeler
1976 "Rural Renaissance in America? The Revival of Population Growth in Remote Areas." Population Bulletin, Vol. 31, No. 3 (October):2-26. Washington, D.C.: Population Reference Bureau, Inc.

Ploch, Louis A.
1978 "The Reversal in Migration Patterns-Some Rural Development Consequences." Rural Sociology 43 (Summer):293-303.

Wardwell, J., and C. Gilchrist
1978 "Metropolitan Change and Nonmetropolitan Growth." Paper presented at the Population Association of American Meetings, Atlanta.

Zelinsky, W.
1978 "A Bibliography of the Recent Turnaround in Metropolitan-Nonmetropolitan Population Change in the Advanced Countries." Working Paper No. 1978-11, Population Issues Research Center, Institute for Policy Research and Evaluation, Pennsylvania State University

Zuiches, James J., and David L. Brown
1978 "The Changing Character of the Nonmetropolitan Population 1950-1975." Pp. 55-72 in Thomas R. Ford (ed.), Rural U.S.A.: Persistence and Change. Ames, Iowa: Iowa State University Press.