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The Relationship of Educational, Economic & Social Characteristics of the Degree of Desegregation in the Public Schools of Kentucky

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THE RELATIONSHIP OF EDUCATIONAL, ECONOMIC, AND SOCIAL CHARACTERISTICS TO THE DEGREE OF DESEGREGATION IN THE PUBLIC SCHOOLS OF KENTUCKY

BY

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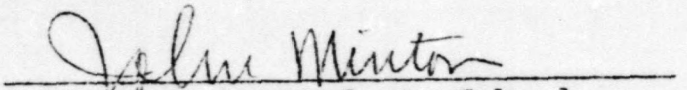

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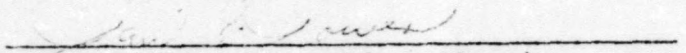

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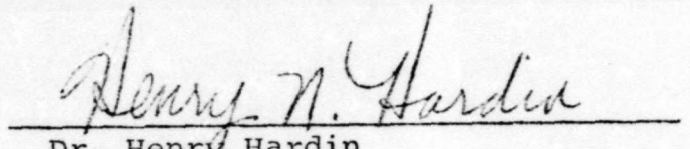

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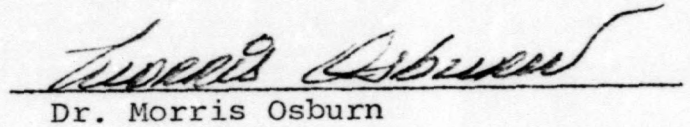

Dr. Morris Osburn

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CHAPTER I

THE PROBLEM

Introduction

The desegregation of public schools within the seventeen border and southern states, which includes the state of Kentucky, that historically operated a dual school system, has proven to be an arduous and complex task. One of the primary problems concerning the above has been the inability of the educational enterprise, at all levels, to adapt and to plan for adaptation to meet the demands of social change. It can hardly be argued that adaptation in education is not as essential and necessary as change in any other enterprise within our social order. The inability of local units to make the organizational and curriculum adjustments necessary to receive students of all races into one school system has created a need for educational investigators to re-examine the school enterprise in regards to its adaptability process to meet the demands of a changing social order.

Related to the problem of school desegregation, investigations need to be initiated in three specific areas:

A. The social-climate, which includes educational, economic, and social characteristics of the districts where desegregation took place from the time of the Brown Decision of 1954 to the enactment of Public Law 88-352, the Civil Rights Act of 1964.

B. The leadership qualities of the school administrators that have successfully desegregated a school district.

C. The degree of influence of the United States Office of Education's Guidelines which refers to the removal of the dual school system of education.

This study is designed to deal with the social-climate area and to determine the relationship of the social-climate to the degree of desegregation in the public schools in Kentucky prior to the Civil Right Act of 1964. Kentucky, being one of the leading states in the removal of the dual school system, makes an excellent subject for this study.

Sequentially viewed, from the 1955-56 school year when desegregation started in Kentucky through the 1963-64 school year, which was the last school year not affected

by Federal civil rights legislation, it appears that Kentucky has made considerable progress in removing the dual school system and promoting voluntary desegregation. Much of this progress was experienced without the influence of the United States Office of Education's Guidelines, developed after the enactment of Public Law 88-352, the Civil Rights Act of 1964. Correspondingly, it can be assumed that certain factors other than the Guidelines accounted for the progress made by the school districts in Kentucky. Examined in another dimension, the implication of the aforementioned indicates that the school districts in Kentucky partially adapted to the social change demanded by the Supreme Court mandate handed down in the Brown Case of 1954, which after its completion in 1955, ruled that the separate but equal theory used to maintain the dual school system was unconstitutional.

It may also be assumed that certain education, economic, and social characteristics were present in some districts of Kentucky that created a climate favorable for school districts to adapt to the changes necessary to fulfill the requirements of the 1954 Supreme Court decision. Therefore, those concerned need to examine the relationship of this social-climate and the voluntary

degree of desegregation experienced in Kentucky prior to the Civil Rights Act of 1964.

Upon completion of this study, the second and third areas of concern should be the problem of future studies designed to measure the leadership qualities of school administrators that have successfully desegregated a school district and the degree of influence of the United States Office of Education's Guidelines, as well as problems not yet identified.

Statement of the Problem

The problem in this study was to examine the relationship of social-climate to the degree of desegregation in the public schools of Kentucky. This study attempted to determine the relationship of educational, economic, and social characteristics of those school districts with bi-racial student bodies operating in Kentucky and the degree of desegregation experienced voluntarily by those districts during the period from 1955-56 school year through the 1963-64 school year.

The interest in this study was directed toward the determination of the relationships of educational, economic, and social characteristics to the degree of desegregation

in the public schools of Kentucky. Correspondingly, the study was intended to provide information for educational practitioners whereby they can make more reliable decisions when they attempt to desegregate school districts, attendance centers, student populations, and faculties.

This study was predicated upon the following basic assumption: the variability of the educational, economic, and social characteristics of a community will affect the adaptability of any given school district. These community characteristics can and should be controlled. Research has shown that the characteristics may be controlled by such methods as community planning and zoning. Also the school district has a responsibility to provide equal educational opportunities to all children in the district, regardless of their race, religion, and social order. By evaluating the problem of school effectiveness through the study of communities, educational practitioners may be in a better position for improving educational practices by the exertion of control over the factors related to adaptability and quality education.

Hypothesis to be Tested

There are certain educational, economic, and social characteristics common to the nation and unique to Kentucky

that have significant relationships to the degree of voluntary desegregation in the public schools of Kentucky.

Delimitations and Limitations

This study includes one hundred and fifty-one bi-racial school districts in Kentucky which operated not under Federal court order, and the voluntary desegregation experienced by these districts during the period from the 1955-56 school year through the 1963-64 school year. This study also includes those educational, economic, and social characteristics identified and selected by the investigator from data made available by the Kentucky State Department of Public Instruction and the United States Department of Commerce, Bureau of the Census Reports of Kentucky.

Data used from the Bureau of the Census Reports of Kentucky are accumulated for counties, cities 10,000 or more population, cities 2,500 or more population, and for counties with 1,000 or more non-whites. Since boundary lines of independent school districts of Kentucky do not necessarily run coterminous with city lines, data for these districts are taken from the data that are available from State documents and from the Bureau of the Census Reports which provides information about the

city of which the independent districts are a part. The difference between the actual characteristics of an independent school district and the city that it lies within is not thought to be significant except in large metropolitan areas.

Independent school districts that are in cities smaller than the smallest division in the Bureau of the Census Reports of Kentucky will be assigned a proportion of the social-climate characteristics based upon the population percentage of the district as it relates to the county that it lies within and based upon percentage of non-white in the same manner. Counties that have less than 1,000 non-whites, where non-white characteristics are not reported by the Bureau of the Census Reports, will be assigned a proportion of the total characteristics for the county based upon the non-white percentage within.

Four school districts with bi-racial student populations that experienced voluntary desegregation have been omitted from this study because of a lack of information due to consolidation. These districts are: Carroll County, Carrollton Independent, Lincoln County, and Stanford Independent. Excluding the four mentioned districts, court ordered districts, and the districts

that are not bi-racial, the study includes the remaining one hundred and fifty-one listed districts of Kentucky for the school year 1963-64.

Definitions

1. Social-Climate - Selected educational, economic, and social characteristics common to the nation and selected educational, economic, and social characteristics unique to Kentucky.

2. Degree of Desegregation - That percentage of non-white students within a given school district, that were voluntarily assigned to schools for the school year 1963-64 by means other than race.

Design of the Study

This study will determine the relationship of educational, economic, and social characteristics of selected school districts with bi-racial student bodies operating in Kentucky and the degree of desegregation experienced voluntarily by those districts during the period from 1955-56 school year through the 1963-64 school year.

Procedures:

1. Social-climate variables were identified and selected from the available data in the Bureau of the Census Reports of Kentucky.

2. Social-climate variables were also identified and selected from the data available from the publications prepared by the Kentucky State Department of Public Instruction.

3. The degree of desegregation was determined from data made available by the Kentucky State Department of Public Instruction and by personal interviews.

4. The relationship of the social-climate variables to the criterion variable, the degree of desegregation, was determined by the use of Pearson Product-Moment Coefficients of Correlation Method. The coefficients of correlation will be considered significant at the .05 and .01 levels of confidence. Data was programed through the Western Kentucky University Computer Center, Bowling Green, Kentucky.

5. Analysis of computerized data was performed by selected consultants and the investigator.

Summary

This study was designed to provide educational practitioners of all levels and personnel from related agencies greater opportunity to examine the relationship between selected educational, economic, and social characteristics of certain school districts in Kentucky, and the degree of desegregation voluntarily promoted by those school districts. Correspondingly, the findings of the study should provide educational practitioners and the United States Office of Education broader insight from which they can formulate and implement administrative decisions necessary to remove the dual school system of education and thus provide school districts greater opportunity to adapt to social change.

Procedurally, the investigator selected available educational, economic, and social characteristics common to the nation and some unique to the school districts of Kentucky. The degree of desegregation voluntarily exhibited by the school districts in Kentucky was determined from data made available by the Kentucky State Department of Public Instruction. The relationship between the social-climate variables and the criterion variable, the

degree of desegregation, was determined by use of the Pearson product-moment coefficients of correlation.

The findings of the study should provide the educational enterprise in border and southern states with a more effective base from which to make decisions regarding desegregation and adaptation to meet social change. This study should also provide a base from which future studies can be designed which would examine the influence of the United States Office of Education's Guidelines on the degree of desegregation and also would analyze leadership qualities of those school administrators promoting the elimination of the dual school system of education.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Research concerned with the ability of school districts to adapt to the demands of change, both social and educational, and to improve educational practice are reported throughout educational research literature. Although no literature found by this investigator deals directly with the immediate problems of this study, research dealing with adaptability studies do belong in the related research of this thesis. These related research studies as reported seem to use the words adaptability and quality interchangeably. An inference can be drawn from this, which indicates that normally a school district that is not adaptable to changing times, is not likely to experience growth as a quality school district. Because of the legal and moral obligation to equally educate all children of a given school district, some school districts in the United States, have been faced with the task of desegregation

which they have not been able to accomplish. These districts have not been able to adapt to the forced change in our social and educational system while other districts have accomplished this task.

A review of related research reveals that there are studies which indicate that certain community characteristics have been common among districts that are adaptable and other characteristics that are present among districts that are unable to meet the needs of a changing time. The significant relationships that have existed between some community characteristics regarding education, economics, and social factors, as related to adaptability or quality in education, provides the basis for this research project.

The hypothesis to be tested in this project is that certain educational, economic, and social characteristics common to the nation and unique to Kentucky have significant relationship to the degree of desegregation in the public schools of Kentucky. The investigator believes that the degree of voluntary desegregation is closely related with the adaptability process which has been previously mentioned. For this reason, the same community characteristics that have consistently indicated

strong relationship to adaptability in related research should be present in this study, even though this study measures the relationship between voluntary desegregation and social-climate characteristics.

Community Characteristics and Adaptability

Ross[1] reported that communities that are pioneers in one area are likely to be pioneers in others; early followers in one area are likely to be early followers in others, late followers in one tend to be late followers in others, laggards in one area tend to be laggards in others. He further reported that the adaptability studies reveal how forces normally brought to bear are usually not as powerful in influencing the character of education in the community as the community itself.[2]

Frank[3] states that schools do not operate in a vacuum and that the public has the right to an education that is flexible enough to effect progressive adjustments of its content and procedure to changing conditions in the

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[1]Donald H. Ross, Administration for Adaptability, New York, Metropolitan School Council, 1958, Page 14.

[2]Ibid.

[3]Glenn Frank, America's Hour of Decision, New York, McGraw Hill Book Company, 1934, Pages 64, 151.

society it serves. Mort and Cornell[4], Pierce[5], and Ayer[6], each conducted research activity which indicated that community differences are related to community characteristics that are identifiable through such simple data as the amount of schooling of the adult population, the percentage of workers engaged in skilled occupations, the age of adult population, and others.

Mort and Cornell also related that adaptability is conditioned not only by the employment of certain cultural and economic characteristics upon the schools but also by the interplay of these cultural characteristics among themselves. The above writers further state that adaptability is conditioned not only by characteristics of individual communities but by the characteristics of the "super community" of which the school district is a part. Thus Mort and Cornell maintain that the most

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[4]Paul R. Mort and Francis G. Cornell, American Schools in Transition, New York, Bureau of Publications, Teachers College, Columbia University, 1937.

[5]Truman M. Pierce, Controllable Community Characteristics Related to the Quality of Education, New York, Bureau of Publications, Teachers College, Columbia University, 1947.

[6]Frederick L. Ayer, "Analysis of Certain Community Characteristics Related to the Quality of Education", New York, Microfilm Ph. D. Dissertation, Teachers College, Columbia University, 1952.

adaptable communities are those located geographically so as to possess a high degree of interchange of economic and social life and interdependence with other communities.[7]

The Metropolitan School Study Council, New York City, New York, which has completed considerable research in the area of adaptability, has used a process-type measuring instrument called "The Growing Edge" to measure adaptability; that is, the capacity of a school system to undertake newer and more appropriate educational practices. Ross freely admits that adaptability is not an all-embracing definition of institutional goodness, but that it is a concrete and discrete facet suitable for measurement.[8]

Pierce states that the degree of community goodwill toward education is indicated by willingness or unwillingness to lend financial support and by favorable or unfavorable attitudes toward whatever the educational staff envisions as desirable for the schools to undertake. Community goodwill toward education, may be said to be related to three factors:

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[7]Mort and Cornell, op. cit., Pages 123-124.

[8]Ross, op. cit., Page 26.

1. the educational level of the community
2. the occupational level of the community
3. social factors working to broaden the public mind with reference to education.[9]

An educational factor and an occupational factor have consistently proved to be most revealing of the community as a setting for good schools. Two specific measures of each of these have shown relatively close relationship to measures of school quality. The two educational measures are (a) per cent eighth grade graduates (b) per cent college graduates. The two occupational measures are (c) per cent professional and business workers (positive) (d) per cent unskilled labor (negative).[10]

In a recent dissertation by Davis[11], all previous studies involving community characteristics' effects on quality in public education completed at Teachers College,

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[9]Pierce, op. cit., Pages 6, 7.

[10]William S. Vincent, Quality Control: A Rationale for Analysis of a School System, New York, Institute of Administrative Research, Teachers College, Columbia University, 1961, Page 3.

[11]John U. Davis, "The Determination of Measurable Characteristics of School Districts and Their Populations Appropriate for Relating to Measure of School Quality and Other Quality Related Factors" (unpublished Ph. D. dissertation, Teachers College, Columbia University, 1966).

Columbia University, New York, New York, were subjected to additional research. The following eleven indices show strong positive correlation through all previous studies as they relate to adaptability or quality education:

1. Age
2. Education
3. Foreign born
4. Number white and non-white
5. Population trend
6. Unskilled workers
7. Business and professional workers
8. Home ownership
9. Density (people per square mile)
10. Attendance in non-public schools
11. Social economic function of the community (place of employment)

Martin[12], in reporting the relationship of social and economic characteristics to local initiative in the financial support of public schools in Mississippi, reveals that the median school years completed by the population in the state had a significant relationship to the initiative

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[12]Charles E. Martin, "The Relationship of Social and Economic Characteristics to Local Initiative in the Financial Support of Public Schools in Mississippi" (unpublished Ed. D. dissertation, College of Education, University of Southern Mississippi, 1962).

the population exercised in supporting educational endeavors.

Osburn[13], in examining the effect of the size of schools and expenditure per pupil on the quality of education, reported that both factors had significant effect on the quality of education. He further reported that those school districts that failed, over a period of years, to increase the size of small schools and increase the expenditure per pupil were laggards and experienced a low level of educational quality in their schools.

Summary

The aforementioned related literature indicates that certain educational, economic, and social characteristics have significant relationships to the ability of a school district to change and also to promote and support quality education. Several Kentucky school districts, which will be described in detail in Chapter III, prior to the introduction of the United States

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[13]Morris Osburn, "The Effect of Size of School and Expenditure Per Pupil on the Quality of Education in the Secondary Schools in Mississippi" (unpublished Ed. D. dissertation, College of Education, University of Southern Mississippi, 1962).

Office of Education's Guidelines in 1964 promoted considerable desegregation. It can be assumed that the factors other than the Guidelines have contributed to the promotion and progress of desegregation experienced in those Kentucky school districts. Therefore, it seems logical and timely that a study now be made of the social-climate characteristics and the relationships of the same to the degree of desegregation voluntarily experienced from the school year 1955-56 through the school year 1963-64.

CHAPTER III

HISTORICAL DEVELOPMENT

Introduction

Any discussion of school desegregation must be self-defining because of the many different opinions and attitudes toward segregation. What distinguishes southern style segregation from segregation in other parts of the country is not a geographical distinction. Southern school segregation as referred to in this study, is segregation by state law which required segregation of the races thus creating the dual school systems. School segregation in the north and west can be motivated by the same factor but is generally resulting from the use of geographical school attendance areas in Negro ghettoes. More simply, the South keeps Negroes out of the neighborhood schools, and the North keeps Negroes in the neighborhood schools.[14]

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[14]Lawrence W. Knowles, School Desegregation, North Carolina, The North Carolina Law Review, Volume 42, No. 1, Fall 1963.

This research project is directed toward the State of Kentucky which maintained a dual, racially segregated school system required by state law similar to the other seventeen southern and border states which operated a dual school system prior to the Supreme Court Decision of 1954. This study is concerned only with the aforementioned southern style segregation which brought about court action requiring the removal of the same. The study does not attempt to touch upon northern or western style segregation where most white and Negro students are isolated from each other in separate schools based on geographic attendance zones.

United States Supreme Court Decision and Results

In the 1954 school desegregation cases, the United States Supreme Court, stressing the significance of education, ruled that public school segregation required or permitted by state law was unconstitutional on the grounds that "though the physical facilities and other tangible factors may be equal, separate educational facilities are inherently unequal".[15] The final decree of the Brown

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[15]United States Supreme Court Decision, "Brown Versus Board of Education of Topeka", 347 United States, 1954, Pages 483, 493, 495.

Decision was handed down by the United States Supreme Court in the spring of 1955, thus invalidating the separate but equal doctrine as applied to public education. The basis for this court decision was the Fourteenth (14th) Amendment to the United States Constitution which provides for equal protection of the laws.

The Supreme Court's apparent reversal of previous decisions is explained in the following manner. In none of the previous cases relating to this subject was it necessary to examine the doctrine to grant relief to the Negro plaintiff; but in the Brown Case, this was necessary. The question had to be answered was whether segregated children in public schools solely on the basis of race, even though the physical facilities and other tangible factors may be equal, are deprived of an equal educational opportunity. Needless to say, the Supreme Court felt that it did deprive the child attending a segregated school an equal educational opportunity.

After the Supreme Court handed down its decision, it gave the Federal district courts the responsibility of supervising the disestablishment of the dual school systems of the southern and border states, all of which required or permitted segregated schools by constitutional or

statutory provisions. Consequently, the court declared that desegregation was to take place "with all deliberate speed".[16] Progress was slow, and as late as 1964, there were still school districts which had not yet initiated a plan of desegregation.

The speed of desegregation demanded by the courts varied over different areas concerned. The United States Court of Appeals for the Third Circuit in 1960 rejected a grade-a-year plan for those districts not yet desegregated in Delaware and ordered immediate admission for all Negro students in all grades who wished to attend formerly all-white schools. The above court held that the slower rate applicable in the South did not apply in Delaware because it was further along the road toward full integration. Nevertheless, during 1959 and 1960, grade-a-year plans were being approved in many Federal District Courts in the South. However, by 1964, many of the Federal Courts of Appeals held that grade-a-year plans were no longer acceptable. In 1965, the United States Supreme Court declared that "more than a decade has passed since we directed desegregation of public school facilities with

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[16] Ibid., 349 United States, 1955, Pages 294, 301.

all deliberate speed. Delays in desegregation of school systems are no longer tolerable."[17]

Two important court decisions affected the school systems of Kentucky in 1963. The United States District Court - Eastern District of Kentucky - ruled on the "Mack versus Frankfort Board of Education"[18] and "Mason versus Jessamine County Board of Education"[19] cases.

Freedom of Choice plans of desegregation, widely adopted voluntarily by Kentucky school boards in the 1950's, tended to perpetuate segregation and geographic zoning was required by the court. This will be discussed in greater detail in the following section.

It is noteworthy for those concerned to observe that court precedents are continuing to unfold today, as more and more cases are tried and ruled upon. As late as April, 1967, an important decision was handed down by the

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[17]United States Supreme Court Decision, "Bradley Versus Board of the City of Richmond," 15L ed 2d 187, 1965, Pages 188, 189.

[18]United States District Court - Eastern District of Kentucky Court Decision, "Mack Versus Frankfort Board of Education," Civil No. 216, 1963.

[19]United States District Court - Eastern District of Kentucky Court Decision, "Mason Versus Jessamine County Board of Education," Civil No. 1496, 1963.

United States District Court - Western District of Kentucky, which ruled that the Fulton City Board of Education was directed to reinstate the plaintiff as a regular teacher in the same school system and reassign her to duties without discrimination. One year's back pay was also awarded the plaintiff.[20] The above establishes an important precedent because it was the first court ruling in Kentucky against a school district for discriminating in teacher hiring or firing.

Statistics reveal that during the school year 1965-66, the following progress was reported in the desegregation of public schools by the Southern Education Reporting Service.

Based on per cent of Negroes in schools with whites:

D. C.	84.3%
Delaware	83.3%
West Virginia	79.9%
Kentucky	78.4%
Missouri	75.1%
Maryland	55.6%
Oklahoma	38.3%
Texas	17.2%
Tennessee	16.3%
Virginia	11.5%

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[20]United States District Court - Western District of Kentucky, Vick Versus Fulton City Board of Education, Civil No. 1595, 1967.

Florida	9.76%
North Carolina	5.15%
Arkansas	4.38%
Georgia	2.66%
South Carolina	1.46%
Louisiana	0.69%
Mississippi	0.59%
Alabama	0.43%

The above mentioned states and the District of Columbia has 5,372 public school districts, 2,999 are either all white or all Negro districts, and the remaining 2,373 districts have both Negro and white students enrolled. Of the above 5,372 school districts, 4,804 received Federal approval of their compliance proposals: 2,763 signed a HEW-441 "Assurance of Compliance" form, one hundred and fifty-eight submitted court-ordered plans, 1,882 adopted voluntary plans, and the District of Columbia, a single school district, is considered in compliance as a Federal district. Through November, 1965, at least seventy-seven school districts, all but three in the South, submitted desegregation plans considered unacceptable to the United States Office of Education.

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[21]Southern Educational Reporting Service, Statistical Summary, Nashville, Tennessee, Fifteenth Revision, December, 1965.

The aforementioned region had sixty-seven school districts that had refused to submit any desegregation proposal.[22]

Investigation reveals that both Mississippi and Louisiana retain complete segregation of public school teachers. However, several of the districts in these two states included in their desegregation plans an agreement to employ and assign teachers without regard to race. The closing of Negro schools resulted in the discharge or demotion of Negro teachers in several states. Federal courts have continuously ruled that desegregation of teachers and administrative personnel comes under the Brown Decision of 1954-55.[23]

Every public college and university in the region has signed a "Statement of Compliance" with the Civil Rights Act of 1964, except two white junior colleges in Mississippi. The exact number of white and Negro students included in college level desegregation is unknown, since many states no longer report records by race. Alabama, Arkansas, Georgia, and Louisiana retain complete segregation at the college faculty level. Mississippi has one

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[22] Ibid., Page 2.

[23] Ibid., Page 3.

Negro faculty member at the University of Mississippi Medical College in Jackson. The other southern and all border states have had some college faculty desegregation, sometimes limited to whites teaching at predominately Negro schools.[24]

Only Alabama and Mississippi retain complete segregation in their special schools, those for the blind, deaf, dumb, orphan, exceptional retarded or delinquent children, and their trade schools. A Maryland judge has ruled that the 1954-55 decisions of the United States Supreme Court included schools for juvenile delinquents and all educational institutions. All programs receiving Federal funds for education are required to end discrimination.[25]

Sequentially viewed, from the 1955-56 school year through the 1965-66 school year, it appears that the seventeen southern and border states that were faced with the problem of elimination of the dual school system of public education have made considerable progress. However, it should be stated that much of the above reported progress is only paper progress; for example, if one Negro

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[24] Ibid., Page 3.

[25] Ibid., Page 3.

child attends a formerly all white school or vice versa, the total enrollment of the school and the school district in total is considered desegregated for computation of figures by many of the reporting agencies. It is herein assumed by the investigator that the most equitable method of measuring desegregation results is the percentage of Negroes in schools with whites as used by the Southern Educational Reporting Service. Although this is assumed as the most equitable method that has been developed there are recognized weaknesses in the stated method. In the Civil Rights Act of 1964, Public Law 88-352, Congress stated that desegregation does not mean overcoming racial imbalances. This has been interpreted by the United States Office of Education, which has the responsibility to see that Federal monies through Federal educational programs do not go to school districts that are in violation of Public Law 88-352, to mean that a school district does not have to have bi-racial schools to be desegregated. Rationally drawn geographic attendance zones that produce all white or all Negro schools can be considered desegregated if they meet other qualifications. Faculty desegregation is considered satisfactory if hiring and assignment are done regardless of race. No minimum number is required

although it is suggested by the Guidelines of the United States Office of Education that at least one teacher be employed for each school where the teacher would be in a racial minority.

Much of the progress reported has occurred after the enactment of the Civil Rights Act of 1964, Public Law 88-352, which permitted the United States Commissioner of Education to develop and enforce guidelines established by his office regarding public school desegregation. The Guidelines of the United States Office of Education were first used in the school year of 1965-66 and did bring about considerable progress toward the elimination of the dual public school systems. Data referred to previously would have been affected by the previously mentioned legal weapon of the United States Office of Education since it was used in the school year 1965-66. Also, the school year 1964-65 had considerable pressures outside the enactment of Public Law, 88-352, which preceeded that school year. Because of these outside pressures, only the school years 1955-56 through 1963-64 are considered as years where true voluntary desegregation took place, and this is the reason behind the selection of the same school years for study in this research project.

One of the major issues that has occurred in all states of the region affected, except Kentucky, is the use of the so called "freedom of choice" plan of desegregation mentioned earlier. This plan allows children or parents to select the school which they wish to attend. The above should not be confused with special programs or course of studies which have been offered at certain schools within a district. The "freedom of choice" plan allows the student to select between two or more schools; usually within the selection group there are former all white and all Negro schools. This plan puts the burden on the Negro parent or child to choose out of the all Negro schools. Within the judicial branch of our government, there is much disagreement over this type of plan because the Negro is economically dependent upon the white in the South; and this economic condition could lead to an impossible situation when the Negro could not make a true "freedom of choice" decision without jeopardizing his source of income or physical being. The other side to this argument is that the giving of a choice to the student or parent is enough to satisfy the requirements of the Fourteenth Amendment of the United States Constitution. Observing the above in another light, we can

say for this latter group that "freedom of choice" is considered the end and the results are immaterial. Courts throughout the southern and border states have reached different conclusions on the above point, but within the Federal district courts in Kentucky, Sixth Circuit, the "freedom of choice" plans were ruled as tending to perpetuate segregation and the courts required geographic zoning.[26] This point has not been clarified nationally and will not be until a case has been taken to the United States Supreme Court. Consequently, educational practitioners today must make their decisions on this point based upon local court precedents. The United States Office of Education has taken the position that "freedom of choice" plans for desegregation are only an interim measure and will have to produce positive results or other methods will have to follow.

Title VI of the Civil Rights Act of 1964, Public Law 88-352, authorized and directed each Federal department and agency administering a program of Federal financial assistance to effectuate the nondiscrimination

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[26] United States Commission on Civil Rights, Survey of School Desegregation in the Southern and Border States 1965-66, Washington, D. C., February, 1966, Page 14.

ban by regulation and provided remedies for noncompliance, among which were the refusal or termination of the assistance. The United States Commissioner of Education administers thirteen Federal programs providing money for the nation's public school system, including aid for vocational education, aid for federally impacted areas, and the National Defense Education Act programs. During fiscal year 1964, $176,546,992 was distributed to state and local school agencies in the seventeen southern and border states. The passage of the Elementary and Secondary Education Act of 1965 added an additional appropriation of $589,946,135 for allocation to the seventeen southern and border states for fiscal year 1966. With funds of such magnitude at stake, most school systems would be placed at a serious disadvantage by termination of Federal assistance.[27] It must be mentioned that before there can be a termination of Federal assistance, there is due process that must be followed with a hearing presided over by a Federal Hearing Examiner, and the local district always has the right to appeal to the Federal Courts.

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[27] Ibid., Page 2.

Events Important to Kentucky

Desegregation or the elimination of the dual school system in Kentucky, which was based upon state law requiring racial segregation in public schools, began June 6, 1955, when a Negro girl entered a summer school in the Fayette County School District. By October, 1955, thirty other districts had voluntarily desegregated. The voluntary and peaceful desegregation of all grades in the Louisville Public Schools in September, 1956, won national and international recognition for the school district and Superintendent Omer Carmichael. These smooth and peaceful transitions in the social orders set the stage for Kentucky to move faster than other southern and border states.

Other things also happened in Kentucky that were unique to Kentucky which provided the right climate for making the social changes necessary for peaceful transition to desegregated public schools. The Kentucky State Board of Education, as early as June 23, 1955, in a quarterly meeting passed a resolution urging desegregation of public schools as rapidly as possible. Formal desegregation plans were urged by the State Board of Education as early as August 15, 1962. Governor Lawrence Weatherby

publicly announced that Kentucky would abide by the law after the United States Supreme Court Decisions of 1954 and 1955 regarding desegregation of public schools. Also Governor A. B. Chandler in September, 1956, dispatched the Kentucky National Guard to Sturgis and Clay, in western Kentucky to quell hostile crowds, who were objecting to the enforcement of a Federal court order, ordering desegregation of public schools. Governor Chandler publicly advised that civil disorder would not be tolerated in Kentucky, which established an important precedent. The Day Law requiring racial segregation in Kentucky's schools supplemented the Kentucky Constitution in 1902 and was amended after the United States Supreme Court Decisions by the legislature to comply with the Federal decision.

All of these events and others help to establish the favorable climate which has aided Kentucky's progress toward the total elimination of the dual school system. By November, 1965, all two hundred of the State's school districts had received Federal approval of their desegregation proposals; one hundred and thirty-six signed HEW-441 forms. Five submitted court ordered plans, and fifty-nine adopted voluntary plans. All but three of the districts having both races enrolled had Negroes actually

in schools with whites. Of the 50,835 Negroes in Kentucky public schools, 46,891, almost 80%, were enrolled in desegregated schools. The remainder of the Negro pupils attended thirty-one schools with all Negro teachers in nineteen different districts.[28] Kentucky has taken another big step in the school year 1966-67, although much of the data are not available at this time. From firsthand information, this writer knows of only three all Negro schools in Kentucky that are considered segregated and these schools do have bi-racial faculties. Excluded from this group are schools in school districts that have legally desegregated schools formed by geographic attendance zones that produced all Negro or all white schools and the two school districts still under Federal court orders which do have an all Negro school. The three districts that have the three all Negro schools mentioned above have agreed in their voluntary plans of desegregation to complete the process of desegregation by the school year 1967-68. In data that has been produced by the Kentucky State Department of Education for the school

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[28]Southern Educational Reporting Service, op. cit., Page 10.

year 1966-67, Negro population ranges from 0% to 44.7% in school districts of Kentucky.

In 1954-55 school year, there were 1,279 teachers in the three hundred and twelve all-Negro schools putting the proportion of Negro teachers at about 6.4% of the State total professional staff of about 20,000. By 1963-64 school year, the total staff had grown to 26,523. The number of Negro teachers increased less proportionally to 1,502 or 5.7% of the total.[29] This downward trend continued during the past years. This downward trend is even more bleak when you study the plight of the Negro administrators and supervisors.

All eight tax-supported colleges and universities in Kentucky are desegregated in practice.[30] Faculty desegregation in higher education has been achieved although it is still in its infancy. All thirteen state supported vocational schools are open to Negroes and all other special state public schools have Negroes in their enrollment.[31]

Certain additional factors that have not been prevalent in other states, have played an important role

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[29] Ibid.

[30] Ibid.

[31] Ibid.

in the elimination of the dual school system in Kentucky. The state administration and particularly the State Department of Public Instruction has encouraged local school districts to comply with Federal regulations and the desegregation process. Western Kentucky University, a state supported institution, has used its trust position in Kentucky to make this transition as smoothly as possible. A Human Relations Center for Education was funded at Western Kentucky University, under Title IV of Public Law 88-352, the Civil Rights Act of 1964, which has enabled this institution to serve as a trust agency in helping local school districts overcome problems occasioned by desegregation. Federal court precedents in Kentucky have influenced local districts to steer away from the so called "freedom of choice" type of desegregation plan. "Freedom of choice" plans in Kentucky have been used only as an interim plan, allowing time for changes that will better meet logistic problems created by the elimination of the dual school system. For the most part, Kentucky schools have used new geographic attendance zones with little use of the so called "Princeton Plan" for desegregation. The great majority of the former all Negro schools were closed and the new geographic attendance zones were formed.

Most of the data that has been presented in this project about Kentucky progress does reflect the influence of the Civil Rights Act of 1964 and the United States Office of Education's Guidelines, since they effected only the school years after 1963-64. For the purpose of this study, only the school years between 1955-56 and 1963-64 will be used because they reflect voluntary desegregation without the influences of the same.

The following tables will give a more concise comprehensive look at what progress took place between the years of 1955 through 1964 as to the elimination of the dual school system of education in Kentucky.

TABLE I

NUMBER OF LOCAL SCHOOL DISTRICTS AND THE CHANGE BY YEAR IN THE NUMBER DESEGREGATING FOR THE PERIOD FROM 1955 THROUGH 1964[32]

School* Year	Total Districts	Number of Bi-Racial	Number With Mixed Student Bodies
1955-56	224	184	30
1956-57	221	177	91
1957-58	216	170	94
1958-59	215	175	105
1959-60	212	173	106
1961-62	211	173	119
1962-63	206	169	126
1963-64	204	167	155

(*Data not available for 1960-61)

A review of the previous mentioned data reveals a steady increase over the period reported. Analyzation of the data presented in Table two reveals the progress

[32] Integregation in the Public Schools of Kentucky, Annual Survey and Progress Report, Published by the Dept. of Ed., October 10, 1965, Page 2.

experienced within the local district on an attendance center basis.

TABLE 2

NUMBER OF SCHOOLS IN DESEGREGATED SCHOOL DISTRICTS AND THE NUMBER OF THE SCHOOLS WITH MIXED STUDENT BODIES[33]

School* Year	Total Schools in Desegregated Districts	Number of Schools with Mixed Student Bodies
1955-56	826	41
1956-57	1,742	233
1957-58	1,736	262
1958-59	1,730	331
1959-60	1,658	377
1961-62	1,980	405
1962-63	1,837	467
1963-64	1,956	625

(*Data not available for 1960-61)

The above data reveals the desegregation progress expressed by attendance centers within those districts reporting desegregated school population. Table three

[33] Ibid., Page 4.

expresses the number of pupils enrolled in the desegregated attendance centers identified in Table two.

TABLE 3

PUPIL ENROLLMENT IN DESEGREGATED SCHOOLS BY YEARS FROM 1955 THROUGH 1964 AND THE NUMBER OF WHITE AND NEGRO PUPILS IN DESEGREGATED CLASSES[34]

School* Year	Enrolled in Desegregated Schools		
	White	Negro	Total
1955-56	16,688	313	16,981
1956-57	120,307	8,017	128,324
1957-58	133,182	10,897	144,079
1958-59	149,392	11,492	160,889
1959-60	165,645	16,329	181,974
1961-62	200,581	22,021	22,602
1962-63	221,402	24,346	245,748
1963-64	287,990	29,792	307,782

(*Data not available for 1960-61)

The above data reveals that increased desegregation was experienced for the reporting period within the attendance centers. The final area for review is the

[34] Ibid., Page 5.

area of faculty desegregation. Table four reveals the number of teachers, white and Negro, teaching in schools with mixed student bodies during period from 1955 through 1964.

TABLE 4

THE NUMBER OF TEACHERS TEACHING IN DESEGREGATED SCHOOLS FROM 1955 THROUGH 1964[35]

School* Year	Teachers in Schools with Mixed Student Bodies		
	White	Negro	Total
1955-56	639	2	641
1956-57	4,708	113	4,821
1957-58	5,475	172	5,647
1958-59	5,915	138	6,053
1959-60	6,808	287	7,095
1961-62	7,917	382	8,299
1962-63	9,154	433	9,587
1963-64	12,045	507	12,522

(*Data not available for 1960-61)

The data reported in Table four does not include personnel other than classroom teachers. The data does

[35] Ibid., Page 7.

reveal an increase in faculty desegregation with the greatest degree of increase being made with white teachers serving in desegregated schools.

By organizing the data reported in Tables one through four, those concerned can better review the desegregation of school districts, schools, student bodies, and teachers in Kentucky over the period of 1955 through 1964. This information is reported in the following Table five.

TABLE 5

THE DESEGREGATION OF SCHOOL DISTRICTS, SCHOOLS, STUDENT POPULATION,

AND TEACHERS IN KENTUCKY FROM 1955 THROUGH 1964

School* Year	No. of School Districts	No. of Districts With Negro & White Pupils	No. of Districts With Desegregated Student Bodies	No. of Schools In Desegregated Districts	No. of Schools Desegregated In Desegregated Districts	No. of White Pupils In Desegregated Schools	No. of Negro Pupils In Desegregated Schools	White Teachers In Desegregated Schools	Negro Teachers In Desegregated Schools
1955-56	224	184	30	826	41	16,688	313	639	2
1956-57	221	177	91	1,742	233	120,307	8,017	4,708	113
1957-58	216	170	94	1,736	262	133,182	10,897	5,475	172
1958-59	215	175	105	1,730	331	149,392	11,492	5,915	138
1959-60	212	173	106	1,658	377	165,645	16,329	6,808	287
1961-62	211	173	119	1,980	405	200,581	22,021	7,917	382
1962-63	206	169	126	1,837	467	221,402	24,346	9,154	433
1963-64	204	167	155	1,956	625	287,990	29,792	12,045	507

(*Data not available for 1960-61)

Summary

Sequentially viewed, from the school year 1955-56 through the school years 1963-64 and 1965-66, it appears that Kentucky made considerably more progress than many of the other southern and border states in removing the dual school system. Faculty desegregation in the nation has not advanced nearly as far as student desegregation. Because of the influence of Public Law 88-352, the Civil Rights Act of 1964, and the United States Office of Education's Guidelines, only the desegregation achieved prior to the 1964-65 school year can be considered as voluntarily promoted.

The State of Kentucky has received stimulants in removing the dual school system that some other states have not received, such as: 1. Support from state officials including the State Department of Public Instruction; 2. Aid and leadership from a public institution of higher education in overcoming the problems occasioned by desegregation; 3. A Federal funded Human Relations Center for Education to help local school districts by providing expertice support for the local school district; 4. Strong positive action on the part of the State administration

toward civil disorder; 5. Federal court precedent established by the Federal courts of Kentucky, stating that the so called "freedom of choice" plan of desegregation perpetuates segregation. Tables one through five indicate the progress that the State of Kentucky has made toward the total elimination of the dual school system of education. The data informs us that Kentucky has made considerable progress toward completing this task.

CHAPTER IV

METHODS AND PROCEDURES

Introduction

This study is envisioned as a pilot study for a second study to be performed later for the United States Office of Education. Since this is a pilot project, the goals of this study will be primarily the same basic goals as the later study; in addition it will provide experience in the area which will allow the investigator to become more proficient in performing the second study for the Office of Education. The findings of this study should provide educational practitioners and others concerned with greater insight into the problems of desegregation. It will also provide the same with empirical data from which decisions can be made as to the expected rate of desegregation.

The design of the study was developed by consultants, both internal and external to Western Kentucky University, and the investigator. It was agreed that after combining information and opinions that the best

statistical method for measuring the relationships desired was the Pearson product-moment coefficient of correlation method.

The determination of the selected social-climate variables was allocated to the investigator who had researched the availability of the data needed. For the same reason, the selection of school districts and computation of the criterion variable for each district was also delegated to the investigator. After the above processes completed, a panel of consultants, both internal and external to Western Kentucky University, were assembled for possible revisions.

Computer services were made available by the Western Kentucky University Computer Center. The above agency performed the statistical measurements to complete this study. The aforementioned process was utilized to more accurately analyze the relationships between the criterion variable and the social-climate variables.

Development of Design

The preliminary steps utilized in developing the project were conducted through the combined efforts of consultants and the investigator. The above activity was

undertaken to more effectively complete the study and correspondingly meet the needs of educational practitioners at the local level, thus also satisfying the needs of the United States Office of Education. Both the United States Office of Education and school superintendants have made decisions relating to administrative changes, within the public schools of the country, with seemingly little basic research in this area. This project is intended to help fill this void so those involved can better determine the rate that social change can be implemented smoothly through the public schools. Much of the trouble today has developed because the community has not accepted the speed of social change as promoted within the schools by the United States Office of Education and local superintendants.

When initially designing the study, an exploratory conference was conducted at Columbia University with personnel who had conducted many of the adaptability studies listed previously in the related research. In the above conference, Dr. William Vincent, Executive Officer, Institute of Administrative Research, Columbia University, suggested that in the selection of the social-climate variables for this study that no limit be placed on the number of variables. He further advised that the variables

selected should not be condensed to those factors that have been utilized in previous adaptability studies. Dr. Vincent further stated that the proposed study was somewhat different than any study that he was aware of; consequently, he suggested that no limiting factor should be placed on the selection of available social-climate variables for comparison to the criterion variable. He further added that certain variables could be significant in this study that have not been significant in previous research of adaptability.

The investigator followed the suggestions of Dr. Vincent in the selection of the social-climate variables. Extensive review was then undertaken to examine State department documents and Census Bureau Reports of Kentucky. The data for social-climate variables selected herein come from the following documents: "Kentucky State Department of Education Annual Survey and Progress Report, October 10, 1965;" "Kentucky State Department of Education Survey, April 1, 1966;" "Kentucky State Department of Education Annual Financial Report of Eight Years Progress, November, 1963;" "Kentucky Department of Education Receipts and Expenditures, April, 1965;" "Kentucky Department of Education Public School Financial Analysis,

January, 1965;" "United States Census of Kentucky Population, 1960;" "United States Census of Kentucky Negro Population, 1960;" "United States Census of Kentucky General Social and Economic Characteristics, 1960;" and "United States Census of Kentucky Housing, 1960". Sixty-seven social-climate variables were selected from available data to determine the relationship between same and the criterion variable. The above variables are listed in Appendix A.

Through personal interviews with Mr. Sam Taylor, Kentucky State Department of Public Instruction, and a review of the "Kentucky State Department of Education Report of Eight Years Progress, November, 1963", and other data, the criterion variable was computed for the selected school district. It should be noted that the criterion variable has a range from 0% to 100%.

Collection of Data

Empirical data was collected from the sources listed in the previous section by means of systematic review of the documents mentioned. Because of the abundance of raw data, a master information chart was developed containing the name of the school district, the

criterion variable for each school district, and the sixty-seven social-climate variables for the district. From the above, a key punch operator transferred the empirical data to key punch cards for the Western Kentucky University Computer Center.

Statistical Techniques

The Western Kentucky University Computer Center performed the statistical measurements required to complete this study. Several consultants worked with the investigator to complete this phase of the project. The Pearson product-moment coefficient of correlation method was employed to measure the desired relationships. The formula for this method is as follows:

$$r_{xy} = \frac{\Sigma xy}{N \sigma x \sigma y} \quad \text{or} \quad r_{xy} = \frac{\left[\left(\frac{x}{\sigma x}\right)\left(\frac{y}{\sigma y}\right)\right]}{N}$$

r_{xy} = coefficient of correlation
xy = sum of the products of the paired scores expressed in deviation form
N = number of cases
x = standard deviation in one distribution
y = standard deviation in another distribution

Upon completion of the above process, it was learned that by grouping together all one hundred and fifty-one selected school districts, both small and large,

the coefficients of correlation are adversely affected because of the non-normal distribution. The six larger school districts, by total population, exceeded five standard deviations from the mean of the total group, thus affecting the coefficients of correlation for the other districts. For this reason the data is treated in two separate groupings: 1) All one hundred and fifty-one school districts; 2) One hundred and forty-five school districts excluding the six districts that lie within communities of 60,000 or more population. Correlation matrices for the two groups are located in Appendix B.

Additional statistical measurement has been applied to this data in an attempt to cluster the independent social-climate variables, but as of this reporting, no significant logical statistical related cluster other than one mentioned later has been found. Factor analysis of data was considered for this project, but since factor analysis requires a somewhat normal distribution and is a lengthy process, it was decided that this technique would not be used for this study. On the study which is to follow, factor analysis will be performed on Group two which excludes the six largest school districts.

Summary

Consultant help, both internal and external to Western Kentucky University, was used to design and implement this project. The selection of social-climate variables are not reduced as in previous adaptability studies mentioned in the related literature. The formulating of the degree of desegregation which is the criterion variable was completed by means of personal interviews with individuals who had firsthand knowledge and through systematic review of the Kentucky State Department of Public Instruction documents. The Pearson product-moment coefficient of correlation method was used in the analysis of the relationships studied in this project.

CHAPTER V

FINDINGS

Introduction

Data treated for the two separate groups mentioned in Chapter IV encompasses for Group one, data for selected one hundred and fifty-one school districts; for Group two, data for selected one hundred and forty-five school districts, which excludes the six largest districts within communities defined in the Census Bureau Reports for Kentucky as having a population of 60,000 or more. Sixty-seven educational, economic, and social characteristics were named social-climate variables in order to determine the coefficients of correlation between these and the criterion variable for each group. The criterion variable is the degree of desegregation which measures that percentage of non-white students within a given school district that were voluntarily assigned to schools for the school year 1963-64 by means other than race.

Within Group one, the .05 level of confidence is reached at the coefficient of correlation of .134. Also

within the same group, the .01 level is reached at the coefficient of correlation of .189. One social-climate variable is at the .05 level for Group one. Three others are at the .01 level for the same.

Within Group two, the .05 level of confidence is reached at the coefficient of correlation of .137. Also within the same group, the .01 level is reached at the coefficient of correlation of .193. Five social-climate variables within Group two are of the .05 level. Three additional ones are of the .01 level in the same grouping.

Statistical Review of Group 1

TABLE 6

SIGNIFICANT RELATIONSHIPS OF GROUP 1

Variable	Description	Level of Confidence
8	Percent of non-white public school students	.01
51	Number non-white employment in agriculture, forestry, and fisheries	.01
3	Non-white persons, 25 years old and over, median school years completed	.01
67	Local Ability Index	.05

Social-climate variable number sixty-seven, local ability index, is significantly correlated to the criterion variable with a coefficient of correlation of .1460 at the .05 level of confidence. Only variables twenty-five, sixty-six, sixty-one, sixty, nineteen, forty, fifty, seven, fifty-two, six, thirty-eight, and twenty-nine, are not significantly inter-correlated to the subject variable. The inter-correlations reveal that seventeen variables have a significant positive inter-relationship to variable number sixty-seven at the .01 level. In addition thirty-five variables reveal a significant positive inter-relationship to the same at the .05 level. Two other variables have a significant negative inter-correlation at the .01 level to variable sixty-seven.

Social-climate variable number three, non-white persons, twenty-five years old and over, median school years completed, has a significant correlation to the criterion variable with a coefficient of correlation of .2614 at the .01 level of confidence. The inter-correlations reveal that variable numbers sixty-four, sixty-seven, fifteen, eighteen, thirty-seven, and twenty-six have a significant positive inter-correlation with the subject variable at the .05 level. Also variable numbers four, five, two,

fifty-five, fifty-six, nineteen, fifty-four, fifty-seven, twenty-eight, fourteen, sixty-three, sixty-five, fifty-nine, twenty-two, and thirty-six have a significant positive inter-correlation with the subject variable at the .01 level. Variable number forty-nine has a significant negative inter-correlation with variable number three at the .05 level. Variable numbers eight, fifty-one, and fifty-eight also have a negative inter-correlation with the subject variable which is significant at the .01 level.

Social-climate variable numbers fifty-one and eight, number non-white employment in agriculture, forestry and fisheries and percent of non-white public school students respectively, have a negative correlation to the criterion variable which is significant at the .01 level of confidence. Variable number fifty-one has a coefficient of correlation of -.3179 and variable number eight has a coefficient of correlation of -.4253.

The significant inter-correlations with social-climate variable number fifty-one are variable numbers forty-eight, thirty, forty-six, sixteen, sixty-four, ten, forty-five, fifty-three, twenty-six, sixty-five, four, thirty-five, sixty-two, sixty-seven, fourteen, thirty-seven,

twenty-three, thirty-four, forty-seven, thirty-three, forty-three, and forty-four, which have a positive inter-correlation that is significant at the .05 level of confidence. Variable numbers forty-two, nine, twenty-two, seventeen, thirteen, five, twenty-one, forty-one, nineteen, twenty-eight, fifty, eight, and forty-nine also have a positive inter-correlation to the same which is significant at the .01 level. Variable numbers fifty-five and three have a negative inter-correlation to the subject variable which is significant at the .01 level.

Only variable numbers four, sixty-five, seven, six, twenty-nine, fifty, thirty-six, one, and forty-nine are not significantly inter-correlated with social-climate variable number eight. The inter-correlation revealed that nineteen variables have a significant positive inter-correlation at the .05 level of confidence. Also thirty-six other variables have a significant positive inter-correlation to the same at the .01 level. Two other variables have negative inter-correlations which are significant at the .01 level with variable number eight. (See Appendix B, Matrix 1 for actual data.)

Statistical Review of Group 2

TABLE 7

SIGNIFICANT RELATIONSHIPS OF GROUP 2

Variable	Description	Level of Confidence
8	Percent of non-white public school students	.01
13	Number non-white population	.01
3	Non-white persons, 25 years old and over, median school years completed	.01
53	Number female, experienced, unemployed	.05
36	Number worked outside county of residence	.05
35	Number worked in county of residence	.05
67	Local Ability Index	.05
50	Number female employed in agriculture	.05

Social-climate variable number sixty-seven, local ability index, is significantly correlated to the criterion variable with a coefficient of correlation of .1525 at the .05 level of confidence. Variable numbers ten, three, thirteen, sixty-eight, thirty-six, sixty-two, fifty-three, twenty-one, and forty-three have a significant positive

inter-correlation to the subject variable at the .05 level and variable numbers fifty-five, eleven, four, two, fifty-six, fifty-seven, five, fifty-four, fifty-nine, sixty-four, and sixty-five have a significant positive inter-correlation to the same at the .01 level. Variable number fifty-two has a significant negative inter-correlation to variable number sixty-seven at the .05 level and variable numbers seven, six, thirty-eight, twenty-nine, one, fifty-eight have a significant negative inter-correlation to the same at the .01 level.

Social-climate variable number thirty-six, number worked in county of residence, is significantly correlated to the criterion variable with a coefficient of correlation of .1561 at the .05 level of confidence. Only variables sixty-six, fifty, forty-seven, sixty-four, forty-two, forty-eight, forty-three, forty-four, forty-one, thirteen, twenty-one, seventeen, forty-nine, nine, twenty-three, ten, one, and fifty-one are not significantly inter-correlated to the subject variable. Three variables have a positive inter-correlation which is significant at the .05 level to variable thirty-six and thirty-nine other variables have a significant positive inter-correlation at the .01 level to the same. One

other variable has a significant negative inter-correlation at both the .05 and .01 levels to variable number thirty-six.

Social-climate variable number three, number non-white persons, twenty-five years old and over, median school years completed, is significantly correlated to the criterion variable with a coefficient of correlation of .2696 at the .01 level of confidence. Variable numbers forty-five, sixty-seven, thirty, sixty-five, and fifty-nine have a significant positive inter-correlation to the subject variable at the .05 level. Variable numbers twenty-six, sixty-four, sixty-three, thirty-six, thirty-seven, twenty-two, fifty-seven, fifty-four, eighteen, fifteen, twenty-eight, fourteen, nineteen, fifty-six, two, fifty-five, five, and four have a significant positive inter-correlation to the same at the .01 level. Variables fifty, forty-two, twenty-one, ten, forty-nine, and nine have a significant negative inter-correlation at the .05 level to variable number three. Variables one, eight, fifty-one, and fifty-eight have a negative inter-correlation which is significant at the .01 level to the same.

Social-climate variable number fifty, number female employed in agriculture, is significantly correlated

to the criterion variable with a coefficient of correlation of -.1524 at the .05 level of confidence. Variable thirty-five has a significant positive inter-correlation at the .05 level to the subject variable. Variables fifty-eight, fifty-one, and forty-nine also have a significant positive inter-correlation to the subject variable at the .01 level. Variable three has a significant negative inter-correlation to variable number fifty at the .05 level. Variables fifty-nine, sixty-six, fifty-four, two, fifty-five, and sixty-three also have a significant negative inter-correlation to the subject variable at the .01 level.

Social-climate variable number thirty-five, number worked in county of residence, is significantly correlated to the criterion variable with a coefficient of correlation of -.1538 at the .05 level of confidence. Only variables two, sixty-four, sixty-five, sixty-seven, eight, three, and sixty-six are not significantly inter-correlated to the subject variable. Two variables have a significant positive inter-correlation at the .05 level to variable number thirty-five. Fifty-five variables have a positive inter-correlation which is significant at the .01 level to the same. One variable has a significant negative inter-correlation at the .05 level to variable

number thirty-five. Also one variable has a significant negative inter-correlation at the .01 level to the same variable.

Social-climate variable number fifty-three, number female, experienced, unemployed, is significantly correlated to the criterion variable with a coefficient of correlation of -.1640 at the .05 level of confidence. Only variables forty-nine, nineteen, eight, three, fifty, and sixty-six are not significantly inter-correlated to the subject variable. Fifty-one variables have a significant positive inter-correlation to the same at the .01 level. One variable has a significant negative inter-correlation to variable number fifty-three at the .05 level. One additional variable has a significant negative inter-correlation to the same at the .01 level.

Social-climate variable number thirteen, number non-white population, will serve as a single measurement representing social-climate variables twenty-three, forty-seven, forty-one, forty-eight, nine, forty-three, thirty-three, thirty-four, forty-two, seventeen, sixty-two, fifty-one, twenty-one, forty-four, and ten. This cluster is being used because all of these variables are both logically and statistically inter-related and form a

part-whole relationship. All of the variables have a significant positive inter-correlation to variable thirteen at the .01 level of confidence. The range of significant positive inter-correlations is .6114 to .9920. Also all of the variables, including the social-climate variable number thirteen, have a significant negative correlation to the criterion variable at the .05 level or .01 level. The range of these correlations are -.1628 to -.3394. Only variable twenty-three is at the .05 level, all others are at the .01 level. Empirical data for each of these social-climate variables are affected by social-climate variable number thirteen, since each variable deals with a non-white educational, economic, and social characteristic which would be weighed by the number non-white population in the given district.

Social-climate variable number thirteen, number non-white population, is significantly correlated with a coefficient of correlation of -.2863 to the criterion variable at the .01 level of confidence. In addition to the significant inter-correlations mentioned in the part-whole relationship in the previous paragraph, many other variables are significantly inter-correlated to variable number thirteen. Only variables forty-nine, forty, eleven,

twenty-nine, fifty, thirty-six, one, three, and fifty-five are not significantly inter-correlated to the same. Three variables have a significant positive inter-correlation at the .05 level and thirty-eight others have a significant positive inter-correlation at the .01 level to the subject variable. In addition, one variable has a significant negative inter-correlation at the .01 level to variable thirteen.

Social-climate variable number eight, percent of non-white public school students, is significantly correlated with a coefficient of correlation of -.4454 to the criterion variable. Variables five, fifty-five, sixty-three, fifty-seven, and two have a significant positive inter-correlation at the .05 level of confidence to the subject variable. Variables sixty-five, fifty-nine, fifty-four, sixty-six, twenty-three, fifty-one, forty-seven, forty-one, sixty-two, thirty-three, forty-eight, nine, thirty-four, forty-two, forty-three, thirteen, ten, seventeen, forty-four, and twenty-one have a significant positive inter-correlation at the .01 level to the same. Variables twenty-four, thirty, forty, twelve, seven, thirty-two, thirty-six, thirty-one, fifty-two, sixteen, and sixty-one have a significant negative inter-correlation to the subject variable at the .05 level. Variables six,

twenty, twenty-five, thirty-eight, twenty-nine, three, one, and fifty-eight have a significant negative inter-correlation to variable number eight at the .01 level. (See Appendix B, Matrix 2 for actual data.)

Conclusions and Recommendations

Because of the affect that the larger school districts had on the coefficients of correlation of the other school districts within Group one, the investigator is not attempting to formulate conclusions and make recommendations in respect to these relationships. The non-normal distribution caused by the extreme differences in the sizes of the school districts, skewed the normal curve affecting the coefficients of correlation. The six largest districts, which lie within communities of 60,000 or more according to the Census Reports of Kentucky, weighed the other districts' coefficients of correlation to such an extent that the matrix for Group one is misleading and does not reveal the best available statistical results. (See Appendix B, Matrix 1 for actual data.)

Group two, which excludes these same six large school districts, provides a much better picture because of the normal distribution that exists. Observation of these two groups informs the reader that Group two has

many more significant social-climate variables than Group one. As has been mentioned in the previous section, the investigator is treating in Group two, sixteen of the significant negative correlations with the criterion variable, as one social-climate variable. These variables are all significantly inter-related both logically and statistically and form a part-whole relationship with social-climate variable number thirteen, number non-white population. The cluster is being given the characteristic of social-climate variable number thirteen because this is the strongest single influencing variable of the cluster.

Social-climate variable number fifty, number female employed in agriculture, has a significant negative correlation to the criterion variable at the .05 level of confidence. It should be noted that even though it is not statistically significant to the criterion variable, variable forty-nine which is number male employed in agriculture, is logically associated with social-climate variable number fifty. The coefficient of correlation to the criterion variable for variable forty-nine is -.1163 as compared to -.1524 for the significant variable. This indicates that communities with higher employment in agriculture are more likely to be one of the slower to

adapt to social change such as required in voluntary school desegregation. This is not a unique situation, as it is generally accepted that rural agriculturally based communities are more conservative than most other communities. Probably the only effective way to reach this type community is through the re-education and sensitizing of the power structure in order that they might identify the problem and meet the needs for promoting social change. Usually the power structure in this type of community is restrictive to a small group of men that are large landowners.

Social-climate variable number fifty-three, number female, experienced, unemployed, has a significant negative correlation to the criterion variable at the .05 level of confidence. The expected close relationship between this variable and variable fifty-two, number male, experienced, unemployed, to the criterion variable, does not exist between the two variables. There is a significant positive inter-correlation between variable number fifty-two and fifty-three. This significant relationship between variable number fifty-three and the criterion variable appears to be one of chance and deserves close observation in future studies.

Social-climate variable number thirty-five, number worked in county of residence and social-climate variable number thirty-six, number worked outside county of residence, are both significantly correlated to the criterion variable at the .05 level of confidence. Variable number thirty-five is negatively correlated and variable number thirty-six is positively correlated. Because of the logical and statistical inter-relationships, these two variables will be reported on together. The contrast between these two coefficients of correlation indicates that the community that has larger numbers working outside the county of residence is more likely to be adaptable and accept social change such as school desegregation. It is known that travel, no matter how short a distance that provides different experiences, usually promotes a more liberal attitude toward social change. Also there is probably good reason for working outside the community of residence such as an industrial complex in a town in the adjacent area which provides better jobs than in the home district. Normally, towns that have enough employment opportunities to attract employees from outside the community, have a liberal influence on the surrounding areas. The towns that have considerable industries located

within, usually require a community climate that is favorable to change as well as an attitude willing to promote adaptability before business locates there. The adverse would probably be true of communities which have little or no interaction with adjacent communities.

Social-climate variable number thirteen, number non-white population, which represents the cluster of variables previously discussed, has a significant negative correlation to the criterion variable at the .01 level of confidence. It should be pointed out at this point that this negative correlation is in contrast to the significant positive correlation of social-climate variable number three, number non-white persons, twenty-five years old and over, median school years completed, which will be discussed in a later paragraph. The relationship that exists between variable number thirteen and the criterion variable indicates to the investigator that the larger the number of non-whites in a community or school district the less likely social adaptation in the area of school desegregation. This is not a surprising indication due to the stereotype impressions that exist in the South in regards to Negroes. The fear of lowering the quality of education through desegregation is envisioned by many of the highly educated and uneducated alike in many quarters.

Although it is recognized that not enough research has been conducted on this subject, the research that is available tends to invalidate this belief. Existing research such as the "Coleman Report"[36] required by the Civil Rights Act of 1964, and the recent "Report of the United States Commission on Civil Rights,"[37] indicates that isolationism and particularly racial isolationism, limits the quality of education for those isolated. The above research also indicates that if students are taken out of isolationism and placed in situations where there is the proper climate for learning that the students who were not isolated and now attend schools with those that were, will not lose in their achievement and might even gain.

Social-climate variable number eight, percent of non-white public school students, has a significant negative correlation to the criterion variable. This variable is the strongest correlated variable to the criterion

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[36]James S. Coleman, Equality of Educational Opportunity, Washington, D. C., United States Government Printing Office, 1966.

[37]United States Commission on Civil Rights, Racial Isolation in the Public Schools, Washington, D. C., United States Government Printing Office, 1967.

variable. Most of the statements made by the investigator about variable number thirteen, is also applicable to this variable. The sixteen strongest significant positive inter-correlations at the .01 level of confidence are the sixteen variables which are clustered and represented by variable number thirteen. This reveals to the investigator that in the selected school districts that the districts that have the highest percentage of Negroes also generally have the largest numbers. There is an additional psychological factor implied which is a deterent to social adaptability in desegregation for variable number eight that may or may not be present in variable number thirteen. The threat of being in a minority is a psychological factor that could and has prevented many communities from taking positive steps toward the elimination of the dual school system of education.

Social-climate variable number sixty-seven, local ability index, has a significant positive correlation to the criterion variable at the .05 level of confidence. Since this variable represents wealth in terms of taxable property, it seems to indicate that if a community has a higher degree of this type wealth, the promotion of social adaptability such as public school desegregation will take

place at a more rapid pace than in a community that has a lesser degree of the same type wealth. This is not too surprising considering the type of community that we are discussing. Usually this type community is made up of industry and other type property that carry high assessed evaluation. As was said previously, this type community which usually contains industry is normally liberal in its attitude toward social change. The many outside contacts that are required by industry helps bring this about. There is another possible explanation, in that where there is considerable wealth in the form of land, the power structure feels less threatened by the minority which are being changed in the social order.

The last variable referred to is perhaps the most enlightning. Social-climate variable number three, non-white persons, twenty-five years old and over, median school years completed, has a significant positive correlation to the criterion variable at the .01 level of confidence. Considering the negative relationships of the cluster of non-white characteristics represented by variable number thirteen and variable number eight, it is surprising to see such a contrast. This correlation seems to indicate that regardless of the number or percentage of non-whites,

the median school years completed by the non-whites has a positive relationship with social adaptation represented by desegregation. This could mean that the power structure of a given community has a real fear in the lowering of educational quality. Common beliefs exist today among many that the argument used to impede or prevent desegregation based upon lowering the quality of education is a hoax. It has been assumed by most personnel responsible for removing the dual school system of education that this argument was used by some as a preventive measure only, but not really believed by the change agents responsible. The above data seems to refute the possibility of this assumption being the case. Another implication that can be drawn from the relationship of this variable is that through increased education, the Negro can communicate with the power structure and the main stream of society allowing the Negro or non-white to become a change agent and help bring about social change. The affect on the community of this higher level of education could also refute the stereotype thinking mentioned before, thus eliminating one of the major obstacles to desegregation in the South. Since this variable is one that can be influenced by the educational enterprise, it is certainly

a factor that should be looked at with great depth and concern in future basic research.

One of the most interesting bi-products that was discovered from the study is the implication that can be drawn from the inter-correlation between variables eight, percent of non-white public school students; sixty-five, local effort index; sixty-six, local initiative index; and sixty-seven, local ability index. Variables number sixty-five and sixty-six have a significant positive inter-correlation to variable number eight at the .01 level of confidence. Variable number sixty-seven is not significantly inter-correlated to variable number eight, although it is strongly correlated to the same. All this implies that the higher the percentage of non-white public school students, which will normally be indicative of a similar percentage in the community, the stronger the support in local effort and local initiative for the support of public education. This finding calls for additional research in future studies.

Summary

Since this is a pilot study which required certain interpolating of data and other defined limitations, this study should serve primarily as a guide to future research

in this area. As the related research indicates, it is probable that adaptability techniques have not been used in base line research of this nature.

The major findings of this study produced three significant positive variables and five significant negative variables to the criterion variable. It should be remembered that one of these social-climate significant negative variables represents a cluster of sixteen variables which are logically and statistically interrelated.

Based upon the significant negative relationships of the variables that are represented by total non-white population, percentage of non-white public school students and the significant positive relationship of the social-climate variable, non-white persons, twenty-five years old and over, median school years completed, it is apparent that this contrast is important to the study. Where total non-white population and percentage of non-white public school students have a significant negative relationship, the other has a significant positive relationship. This indicates to the investigator that larger non-white population and larger percentage of non-white public school students impedes the process

of voluntary desegregation and social adaptability; the reverse is true of increased education for non-whites. Since the treatment of this anomaly lies within the capacities of the educational enterprise, the findings have particular value and meaning to educators in change positions.

In the base study to follow, particular attention will be given the significant social-climate variables which expressed the stronger relationships in this study. Much additional research is needed to explore the many unanswered questions in regards to the adaptability process in regards to social change.

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APPENDICES

APPENDIX A

SOCIAL CLIMATE VARIABLES

APPENDIX A

68. CRITERION VARIABLE: That percentage of non-white students, within a given school district, that were voluntarily assigned to schools for the school year 1963-64, by means other than race.

EDUCATIONAL VARIABLES:

1. Number of disadvantaged youth in schools, with family income under $2,000 per year.
2. Persons 25 years old and over, median school years completed.
3. Non-white persons, 25 years old and over, median school years completed.
4. Male, 25 years old and over, median school years completed.
5. Female, 25 years old and over, median school years completed.
6. Number of public elementary school enrollment, grades 1 through 8.
7. Number of public high school enrollment, grades 9 through 12.

8. Percent of non-white public school students.
9. Number of non-white elementary school enrollment, grades 1 through 8.
10. Number non-white high school enrollment, grades 9 through 12.
11. Number students non-public school.

SOCIAL VARIABLES:

12. Number total population.
13. Number non-white population.
14. Number foreign born.
15. Number of foreign or mixed parentage.
16. Number native white parentage.
17. Number native non-white parentage.
18. Number foreign or mixed white parentage.
19. Number foreign or mixed non-white parentage.
20. Number born in state of residence.
21. Number non-white born in state of residence.
22. Number born in different state.
23. Number non-white born in different state, abroad, etc.
24. Number population 5 years old and over.

25. Number residence not changed between 1955 and 1960.
26. Number residence changed, but subjects still living in U. S.
27. Number residence changed, but subjects still living in same county.
28. Number residence change, but subjects living in different county.
29. Number always lived in same residence.
30. Number married couples with own children under 6 yrs.
31. Number married couples with own children under 18 yrs.
32. Number married couples.
33. Number non-white married couples with own children under 6 yrs.
34. Number non-white married couples with own children under 18 yrs.

ECONOMIC VARIABLES:

35. Number worked in county of residence.
36. Number worked outside county of residence.
37. Number male, 14 yrs. old and over, in labor force.

38. Number male, 14 yrs. old and over, not in labor force.
39. Number female, 14 yrs. old and over, in labor force.
40. Number female, 14 yrs. old and over, not in labor force.
41. Number non-white male, 14 yrs. old and over, in labor force.
42. Number non-white male, 14 yrs. old and over, not in labor force.
43. Number non-white female, 14 yrs. old and over, in labor force.
44. Number non-white female, 14 yrs. old and over, not in labor force.
45. Number male employed in professional, technical, and kindred occupations.
46. Number female employed in professional, technical, and kindred occupations.
47. Number non-white male employed in professional, technical and kindred occupations.

48. Number non-white female employed in professional, technical and kindred occupations.
49. Number male employed in agriculture.
50. Number female employed in agriculture.
51. Number non-white employment in agriculture, forestry, and fisheries.
52. Number male, experienced, unemployed.
53. Number female, experienced, unemployed.
54. Median family income.
55. Median non-white family income.
56. Male, median income.
57. Female, median income.
58. Percent of families under $3,000 income.
59. Percent of families $10,000 and over income.
60. Number of housing units.
61. Number home ownership, occupied by white owner.
62. Number home ownership, occupied by non-white owner.
63. Percent of white collar workers.

SPECIAL VARIABLES:

64. Current expenditure per pupil.

65. Local effort index (amount of money that is locally raised, divided by Average Daily Attendance).

66. Local initiative index (amount of tax rate which is below or above the required tax rate of Kentucky's Minimum Foundation Program).

67. Local ability index (equalized assessed evaluation of non-exempted taxable property; divided by the number of students in local unit).

APPENDIX B

MATRICES

MATRIX FOR GROUP 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		-28	-11	-14	-19	73	72	-07	49	50	45	62	49	43
2	-28		41	70	69	08	10	-20	11	10	15	13	13	28
3	-11	41		59	51	08	09	-21	04	05	10	11	06	24
4	-14	70	59		87	23	25	13	17	15	24	26	18	37
5	-19	69	51	87		23	25	20	21	19	27	27	23	35
6	73	08	08	23	23		99	10	79	77	90	97	78	83
7	72	10	09	25	25	99		12	82	80	90	98	81	84
8	-07	20	-21	13	20	10	12		37	35	16	17	39	23
9	49	11	04	17	21	79	82	37		99	85	89	99	85
10	50	10	05	15	19	77	80	35	99		84	88	99	83
11	45	15	10	24	27	90	90	16	85	84		96	84	88
12	62	13	11	26	27	97	98	17	89	88	96		88	89
13	49	13	06	18	23	78	81	39	99	99	84	88		85
14	43	28	24	37	35	83	84	23	85	83	88	89	85	
15	48	17	16	27	28	90	91	21	91	90	97	97	90	92
16	64	12	11	27	27	98	98	14	85	83	95	XX	84	88
17	49	13	06	18	22	78	81	39	99	99	84	88	XX	85
18	48	17	15	27	28	90	91	21	91	90	97	97	90	92
19	28	33	34	42	36	53	54	24	63	61	55	60	65	82
20	65	10	08	22	25	97	98	16	89	88	95	XX	88	87
21	49	13	04	18	23	78	81	41	99	99	84	88	XX	84
22	49	24	20	39	38	91	92	21	83	80	91	95	82	89
23	49	14	09	19	20	76	80	36	97	97	83	86	98	87
24	62	13	11	26	27	97	98	18	90	88	95	XX	89	89
25	68	07	07	20	21	96	98	16	90	89	94	99	90	87
26	58	16	13	29	31	96	97	19	88	86	96	XX	87	89
27	60	12	08	23	25	96	97	18	90	88	97	99	89	88
28	43	29	28	46	47	84	84	18	71	68	79	86	71	80
29	84	-07	-00	06	04	89	90	09	82	83	79	88	82	74
30	59	15	12	28	29	98	97	15	83	81	96	99	82	88
31	60	14	11	28	29	98	98	14	83	80	96	99	82	87
32	60	13	11	26	28	97	98	17	88	87	96	XX	87	89
33	49	12	07	17	21	77	80	37	99	XX	84	88	XX	85
34	49	11	07	17	20	77	80	37	99	XX	83	87	XX	84
35	55	14	08	24	27	93	94	20	91	89	96	98	90	88
36	14	14	19	30	29	36	36	-06	23	22	44	39	23	39
37	56	16	15	30	31	95	96	19	88	87	95	99	88	90
38	76	05	06	17	19	95	97	16	89	88	88	96	89	83
39	49	15	08	24	28	76	79	27	91	92	84	86	91	79
40	61	08	08	21	22	79	83	16	85	85	81	85	85	77
41	48	14	08	20	23	77	80	40	99	98	82	87	XX	87
42	49	13	04	18	24	78	81	40	99	99	84	88	99	83
43	48	13	06	17	23	77	80	39	99	99	83	87	XX	83
44	49	12	05	17	21	77	81	39	99	XX	84	88	XX	84
45	49	21	12	31	36	93	93	19	85	83	95	97	84	87
46	57	16	10	26	30	94	95	22	92	91	95	99	91	89
47	46	16	09	20	27	75	78	42	97	97	81	86	98	82
48	49	12	07	15	21	78	81	38	99	99	85	89	99	84
49	05	-21	-15	-04	04	05	04	-09	-00	-03	02	05	-01	-00
50	00	-15	-10	01	13	14	12	-06	05	02	11	13	04	05
51	-01	06	-24	15	21	11	10	48	20	14	06	13	20	16
52	75	04	06	16	15	92	94	18	90	91	85	94	90	82
53	53	14	09	23	28	87	89	29	97	96	91	95	97	87
54	-27	75	33	63	69	17	19	29	20	18	31	23	21	34
55	-34	60	41	36	29	-08	-08	15	00	01	04	-04	01	14
56	-06	52	39	67	75	33	34	14	25	23	41	36	25	40
57	-01	45	31	53	69	36	37	22	31	28	43	40	32	43
58	29	-76	-34	-66	-69	-15	-17	-33	-19	-17	-28	-21	-20	-32
59	-18	72	21	49	63	22	23	27	23	21	33	27	24	35
60	58	07	08	15	17	81	84	24	96	97	85	89	96	82
61	60	07	08	15	16	83	87	22	96	97	87	91	96	84
62	49	10	04	15	19	74	78	37	99	99	81	85	99	81
63	12	55	23	51	58	33	34	20	23	20	29	33	24	35
64	-26	47	18	44	57	16	17	28	25	24	35	24	26	29
65	-16	23	22	39	45	12	14	12	20	19	25	19	21	24
66	-18	37	11	32	32	09	10	36	16	15	19	13	16	20
67	-27	37	16	36	48	07	08	17	17	16	24	15	18	19
68	-02	04	26	04	08	06	04	-43	01	02	11	06	-00	10

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	48	64	49	48	28	65	49	49	49	62	68	58	60	43
2	17	12	13	17	33	10	13	24	14	13	07	16	12	29
3	16	11	06	15	34	08	04	20	09	11	07	13	08	28
4	27	27	18	27	42	22	18	39	19	26	20	29	23	46
5	28	27	22	28	36	25	23	38	20	27	21	31	25	47
6	90	98	78	90	53	97	78	91	76	97	96	96	96	84
7	91	98	81	91	54	98	81	92	80	98	98	97	97	84
8	21	14	39	21	24	16	41	21	36	18	16	19	18	18
9	91	85	99	91	63	89	99	83	97	90	90	88	90	71
10	90	83	99	90	61	88	99	80	97	88	89	86	88	68
11	97	95	84	97	55	95	84	91	83	95	94	96	97	79
12	97	XX	88	97	60	XX	88	95	86	XX	99	XX	99	86
13	90	84	XX	90	65	88	XX	82	98	89	90	87	89	71
14	92	88	85	92	82	87	84	89	87	89	87	89	88	80
15		95	90	XX	64	96	89	95	90	97	96	97	97	85
16	95		84	96	58	99	83	95	82	99	98	99	99	87
17	90	84		90	65	88	XX	82	98	89	89	87	89	71
18	XX	96	90		64	96	89	95	90	97	96	97	97	85
19	64	58	65	64		57	62	66	74	60	57	61	57	64
20	96	99	88	96	57		88	92	86	XX	99	99	XX	83
21	89	83	XX	89	62	88		81	96	89	89	87	88	71
22	95	95	82	95	66	92	81		83	95	91	97	93	95
23	90	82	98	90	74	86	96	83		87	88	85	86	69
24	97	99	89	97	60	XX	89	95	87		99	XX	99	86
25	96	98	89	96	57	99	89	91	88	99		97	99	80
26	97	99	87	97	61	99	87	97	85	XX	97		99	89
27	97	99	89	97	57	XX	88	93	86	99	99	99		82
28	85	87	71	85	64	83	71	95	69	86	80	89	82	
29	82	87	82	82	51	90	81	77	82	89	93	84	87	65
30	96	XX	82	96	57	99	82	95	80	99	97	99	99	87
31	95	XX	81	95	56	99	81	94	79	99	97	99	99	86
32	97	XX	87	97	58	XX	87	95	85	XX	99	99	XX	85
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MATRIX FOR GROUP 2

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