AN EXAMINATION OF THE RELATIONSHIP BETWEEN HOMICIDE RATES AND SOCIO-ECONOMIC FACTORS

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CHAPTER I

DESCRIPTION

The research described within this report examines the regional variation of homicide rates in the United States. It has been indicated through previous research that within the United States several distinct regions can be identified by using homicide rates. The most perplexing aspect of this pattern is the consistently high homicide rates found in the southern states. As an example of the North/South difference, Table I and Table II list the ten counties with the highest and lowest homicide rates respectively from a sample of sixty-five counties taken for this study. Figures 1 and 2 shows graphically the location of the ten highest and lowest counties within the 48 contiguous states. These figures clearly shows the pattern of high rates in the south as compared to the northern states.

In past years there has been an effort to explain the factors responsible for the difference in homicide rates between the southern and non-southern states. This effort has only resulted in several research projects which have produced differing conclusions.

TABLE I

COUNTIES WITH THE TEN HIGHEST HOMICIDE RATES

County	State	Homicide Rank	Homicide Rate Per 100,000
FULTON	GA	65	38.12
ORLEANS	LA	64	26.35
HINDS	MS	63	20.95
MILLER	AK	62	19.17
DAVIDSON	TN	61	19.15
JEFFERSON	AL	60	18.61
RICHLAND	SC	59	17.62
JEFFERSON	AK	58	17.11
E.BATON ROUGE	LA	57	17.04
PALM BEACH	FL	56	16.46

Source: U.S. Vital Statistics, 1969 to 1973 average

TABLE II

COUNTIES WITH THE TEN LOWEST HOMICIDE RATES

County	State	Homicide Rank	Homicide Rate Per 100,000
BERKSHIRE	MA	1	1.34
HILLSBOROUGH	NH	2	1.43
CAMBRIA	PA	3	1.50
WORCESTER	MA	4	2.10
MIDDLESEX	MA	5	2.25
PICKAWAY	OH	6	2.50
CLERMONT	OH	7	2.51
MACON	IL	8	3.04
CUMBERLAND	ME	9	3.22
DELAWARE	OH	10	3.26

Source: U.S. Vital Statistics, 1969 to 1973 average

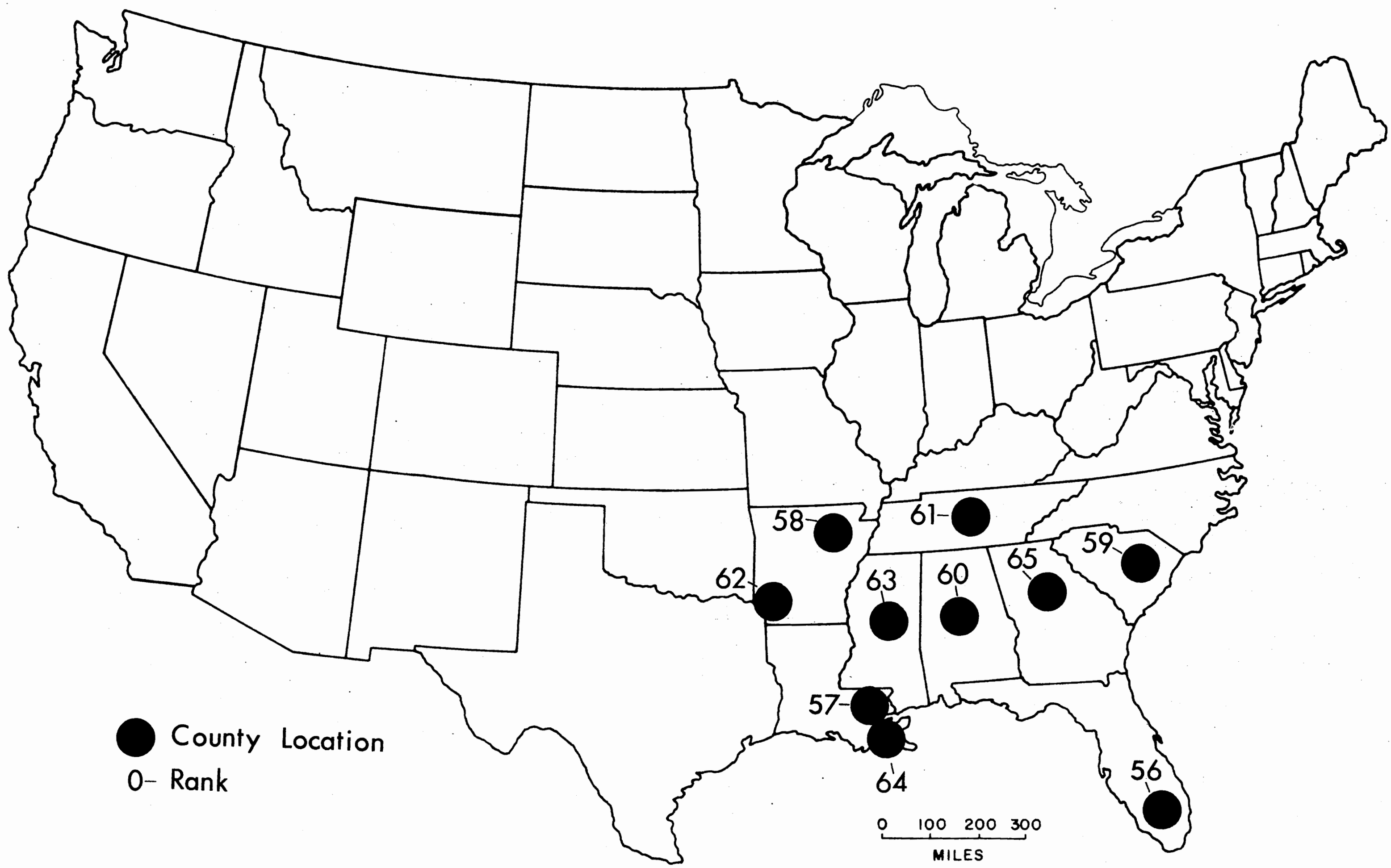

Figure 1. Ten Highest Counties by Homicide Rate

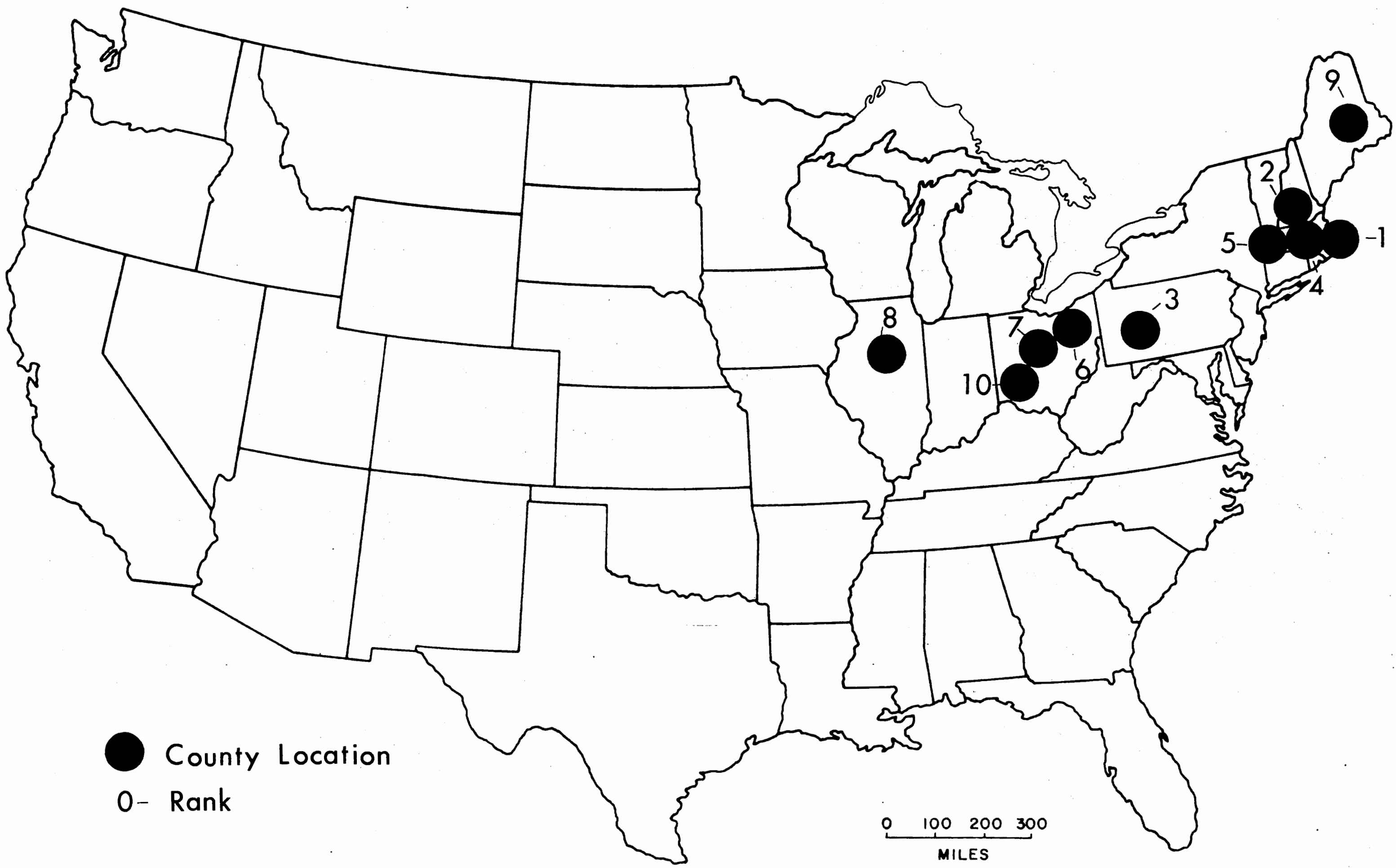

Figure 2. Ten Lowest Counties by Homicide Rate

There are basically two opposing theories; cultural and socio-economic. The cultural theory states that the major reason for higher homicide rates in the southern states is the inherently violent culture. Opposed to the cultural theory is the socio-economic theory which states that high homicide rates are found in areas of poverty. The research described within this paper examines the socio-economic theory in an effort to determine if it accurately describes the situation found in the United States.

Purpose

The purpose of this study is to replicate an analysis which examined the relationships between social and economic variables and the regional variation of homicide rates, using more recent data and smaller geographic units than those used in prior regional studies. This study also takes the analysis of prior research one step further by the inclusion of residual analysis.

Scope Of The Research

The units of observation are comprised of the component counties of a sample of forty Standard Metropolitan Statistical Areas (SMSA's). Only those SMSA's located within the continental United States are included. The social and economic variables included are those which are described in the literature review. A list of the variables included can be found in Table III .

Several recent variables which were not available to previous research are also included. These are social well-being scores covering health, family status, alienation and socio-economic conditions as developed by Ross (21) .

CHAPTER II

SELECTED LITERATURE REVIEW

Introduction

The tendency of the South to have high rates of violent crime has been examined since the early 1930's starting with Brearley (2) in 1934. Brearley examined the homicide rates in the U.S. for the early 1920's and discovered that southern states had rates that were two to three times as large as the rest of the country. In 1938, Lottier (15) narrowed the high homicide rate region to the southeastern states. His findings were replicated for the years 1946 to 1952 by Shannon (22) in 1954. Wolfgang (27) specifically examined homicides in great detail in his study of Philadelphia in 1958. Wolfgang established that murder in Philadelphia is more often committed by blacks, by the lower class, by men, and more by southerners than northerners. He also found that most murders are committed against persons known to the murderer, and many times they occur within the family.

Hackney and Gastil

Hackney (10) and Gastil (8) brought together the information previously presented on homicides and attempted to develop a cultural rationale for the high southern homicide rates. Both presented studies which examined various factors with possible ties to homicides. Although their methods were different, each concluded that various cultural forces contribute to the high rate of violence in the South. Hackney employed as a measure of the south, a dichotomy between confederate and non-confederate states(confederate=1,non-confederate=0). Gastil developed a Southernness Index which he used as an indicator of the southern region.

The Gastil and Hackney cultural theory was absorbed into the literature and was not seriously questioned until the appearance of new findings by Loftin and Hill (14) in 1974.

Loftin and Hill

The Loftin-Hill (14) study was designed to show that the relationship between region and homicide is very weak when socio-economic factors are controlled. They hypothesized that high rates of homicide occur in areas where the lowest levels of socio-economic status are disproportionately represented. Using the 48 contiguous states as their geographic base unit, they selected variables which would reflect socio-economic status. The variables they used were : infant mortality rate, percent of persons 25 years and older with less than 5 years of schooling, percent of population illiterate, percent of families with family income under $1000, armed forces mental test failures, and percent of children living with only one parent. These were combined into a Structual Poverty Index (SPI).

Along with the SPI, six other variables; percent of population non-white, percent of population aged twenty to thirty-four, percent of population living in rural areas, and number of hospital beds per 100,000 population, Gastil's Southernness Index, and Hackney's dummy variable for southern region were included in their analysis. These seven variables were tested against the average homicide rate for the years 1959-1961.

Measures such as median income, median school years completed and per-capita income were not included in the analysis. Results from the plotting of scattergrams showed that they were not significantly related to homicide rates.

Loftin and Hill used two basic types of statistical methods. First, they tested all of the independent variables, as well as the SPI, against themselves and the average homicide rate using the zero-order product moment correlation technique. Secondly, multiple regression analysis was used to test how strongly their model related to the homicide rate.

Correlation analysis showed that measures reflecting the number of people in extreme poverty status are very highly related to homicide rates. Percent of children with one parent, infant mortality rate, and the Structural Poverty Index had correlation coefficients with homocide rates of .88, .85, .93 respectively (Loftin and Hill, 14).

For the multiple regression analysis, a model including eight variables was tested against the mean homicide rate. The model included the SPI, percent of the population non-white, percent of the population aged 20-34, percent rural, hospital beds per 100,000 population, Gastil's southernness index, Hackney's confederate south dummy, and a Gini index for income inequality.

The results of the regression test showed that when socio-economic factors were held constant, "Southernness" of the state is not an important predictor of U.S. homicide rates. Loftin and Hill concluded that variables indicating low socio-economic status are closely related with state homicide rates and are directly involved in high levels of interpersonnal violence in the southern states (Loftin and Hill, 14).

Of the limitations Loftin and Hill pointed out with their research, aggregation bias of the data was the most important. In their study, the geographic base unit was the state. This means that data collected for the study are the sum totals of all information for the entire state.

Aggregated data does not permit accurate comments on the smaller units which make up the larger area. Smaller units may be affecting the data so as to change the results when combined into larger data units.

CHAPTER III

METHODOLOGY

Model

The model on which this research is based is the one presented by Loftin and Hill (14). Procedures used by them are replicated, with the addition of one statistical procedure. All but two variables used by Loftin and Hill are included. Data for Armed Forces Mental Test Failures and Percent of the Population Illiterate cannot be obtained on the county level.

The variables and procedures described which examine areas of inequality are supported by several research efforts other than Loftin and Hill. Braithwaite (1) and McDonald (16) have concluded that income inequality is directly related to homicide rates. Housing and employment inequality have been examined by Krohn (13) and Braithwaite (1) and were found to be related to overall crime rates, and specifically homicide rates. Inequality measures suggested by these reports dealing with differences in education, income, housing and poverty are included in the present research.

Data Base

The most common criticism of previous research dealing with homicide rates has been the use of the state as the data base unit. Subsequently previous studies have been questioned on possible aggregegration bias. When using the state as the base unit, gross generalizations must be made such as assuming each state to be homogeneous. Doerner (5) found that county to county differences vary within states considerably in the southern region, thus states are by no means homogeneous. This condition could be assumed to be the case in non-southern regions as well.

In research conducted by Quinney (19), the relationship between crime rates and other variables changed as the unit of observation changed. Quinney found that as he changed from large state level analysis down to smaller units such as city and county based data, relationships greatly varied.

To avoid the problems of using the state as the unit of observation, the present research uses counties. By using counties, aggregation bias is reduced. Counties also allow the development of substate regions, and each county could be assumed to be relatively more homogeneous than state-wide data. Although a smaller unit of observation would have been desirable, such as city or block data, the county is the smallest geographic area for which the necessary data are available.

In order to keep the data base to a managable size, a sample of U.S. counties was taken in the following manner. Of the 216 SMSA's defined by the U.S. Census Bureau in 1970, a stratified random sample of forty was taken. This sample was stratified by both region and population. The regions are based on the nine census regions as defined by the Census Bureau. Population is based on the F.B.I. Uniform Crime Report population groups.

Each SMSA consists of one or more counties, so the sample of forty SMSA's produced a sample of 70 counties. These 70 counties became the base units and data were obtained for them. (SMSA's in the New England states consist of towns rather than counties. In order to consistently use county data, the county in which each town is located was used.)

For various reasons, census data were suppressed for five of the 70 counties. Since the needed information could not be obtained, the five counties were dropped from the study.

Data Acquisition

Data on social and economic variables were obtained from several sources. The 1970 census publications, Characteristics of the Population (24) and Characteristics of Housing (25) supplied the main body of the data. At the time of this research, data from the 1980 census had not yet become available. Homicide data was taken from the *U.S. Vital Statistics* (26) for the years 1969 thru 1973. These years were choosen to be applicable to 1970 census data.

Statistical Tests

The statistical methods of correlation, and multiple regression were used. The final analysis is a multiple regression model combined with residual analysis.

CHAPTER IV

ANALYSIS AND FINDINGS

Introduction

The analysis takes the form of three separate stages. Each of the three stages is described in this chapter, in the order of execution. Each procedure was conducted so that the output from one flowed into the next, although each procedure offers its own conclusions on particular points. The three procedures are: 1. Correlation, 2. Regression Analysis, 3. Residual Analysis.

Correlation

For each of the sixty-five counties, data were collected or produced for forty variables. A list of the forty variables can be found in Table III.

These variables represent the socio-economic breakdown of each county. A correlation matrix of the forty variables was produced in order to obtain a perspective on the interrelationships between each of the variables. This correlation matrix has been reproduced in Table VIII, found in Appendix A. It was noted that many of the variables are highly intercorrelated. This prompted the use of the stepwise regression proceedure later in the analysis.

TABLE III

VARIABLE NAMES AND DESCRIPTIONS

Variable Name	Description
ALIENASC	Alienation score
BIRTHRAT	Birth rate per 100,000
BTOW	White to Black ratio
COLLEGE	Percent of population having completed college
DEATHRAT	Death rate per 100,000
DIFINCOM	Difference in median family income Blacks vs. Whites
DIFSCHF	Difference in median school years completed Females Black vs. Whites
DIFSCHM	Difference in median school years completed Males Blacks vs. Whites
FAMILYSC	Family score
FEMHEAD	Percent of families with female head of family
HEALTHSC	Health score
HOMRATE	Homicide rate per 100,000 population
INCO3T	Percent of familes with income under $3,000
INCO25T	Percent of families with income over $25,000
INFANTDA	Infant death rate per 100,000 population
MALE	Percent of population male
MEDAGE	Median age of population
MINCOMEW	Median family income Whites
MINCOMEB	Median family income Blacks
NONWHIT	Percent of population non-white

TABLE III (Continued)

Variable Name	Description
ONEPAR	Percent of families with one parent
PEROOMDF	Difference in number of persons per room Blacks vs. Whites
PERPOPMIG	Percent of total population having migrated
PTMIGNE	Percent of population having migrated from the Northeast
PTMIGNC	Percent of population having migrated from the Northcentral
POP2034	Population aged 20 to 34
SCH5YRS	Percent of population over 25 years old with less than five schools years
PTMIGS	Percent of total population having migrated from the south
SOCIEOSC	Socieo-economic score
POVB	Percent of Black families living in poverty
POVW	Percent of White families living in poverty
POVDIF	Difference in percent of families in poverty Blacks vs. Whites
POPLT5Y	Percent of population age less than five years
PEROOMB	Percent of housing with over one person per room- Blacks
PEROOMW	Percent of housing with over one person per room- Whites
UNEMPBM	Unemployment: black males
UNEMPBF	Unemployment: black females
UNEMPWM	Unemployment: white males
UMEMPWF	Unemployment: white females
URBAN	Percent of county urban

Listed in Table IV are the descriptive statistics for each of the forty selected variables. Shown is the mean (mean), standard deviation (std), overall range (range) and skewness (skew) for each variable.

Regression Analysis

To determine which of the forty variables were significantly related to the variation of the homicide rate, all forty were placed into a stepwise regression model, with the homicide rate as the dependent variable. The model was set up to indicate which of the forty variables met or exceeded a .50 significance level. This allowed the cut off of any variable which would only add a limited amount to the explanation of the variance in the homicide rate.

By using the stepwise regression method the problem of multicollinearity was reduced. Those independent variables which would explain the same amount of variation could be dropped after one of them had been entered in the model as the other variable could not meet the .50 significance level criterion.

Table V shows the results of the stepwise regression analysis. The variables are listed in the order they entered the equation. Shown in Table V is the R squared, the increase in R squared for each variable entered, and the SS error. Also shown is the model F-value after each of the variables was entered into the model.

TABLE IV

DESCRIPTIVE STATISTICS FOR 40 SELECTED VARIABLES

Variable	Mean	Std	Range	Skew
URBAN	71.78	22.59	83.00	-0.86
POPLT5Y	8.74	0.85	4.00	0.54
MEDAGE	27.72	2.84	12.00	0.55
BIRTHRAT	17.92	2.03	12.00	0.01
DEATHRAT	8.97	2.17	9.00	-0.11
MINCOMEW	9242.26	1289.70	5820.00	-0.05
POVW	11.15	4.63	19.00	0.90
UNEMPBM	6.04	3.51	24.00	2.02
UNEMPBF	7.86	4.44	26.00	1.18
UNEMPWF	5.89	4.95	40.00	6.79
UNEMPWM	3.06	1.03	6.00	1.28
POVB	28.95	9.15	43.00	-0.19
MINCOMEB	5895.38	1350.87	6042.00	0.46
SOCIEOSC	116.38	9.36	45.00	-0.84
HEALTHSC	105.65	10.32	48.00	-0.75
FAMILYSC	94.06	16.40	81.00	-0.78
ALIENASC	99.29	9.00	59.00	-1.70
SCH5YRS	5.97	2.79	10.00	0.44
COLLEGE	10.09	5.12	30.00	1.55
FEMHEAD	10.49	2.82	15.00	1.14
INCO25T	3.72	2.20	15.00	2.89
INCO3T	10.45	4.16	19.00	0.86
PEROOMW	8.45	2.45	9.00	0.54
PEROOMB	19.28	7.21	33.00	0.04
POVDIF	-17.80	6.96	30.00	0.16
DIFFSCHM	2.40	1.30	6.00	0.05
DIFFSCHF	1.95	1.10	5.00	0.24
DIFINCOM	63.45	9.29	38.43	0.43
PEROOMDF	-10.83	6.29	30.00	-0.13
PERPOMIG	9.28	5.11	22.32	1.25
PTMIGNE	1.63	1.95	9.12	2.02
HOMRATE	9.75	6.63	36.78	1.54
PTMITMC	2.00	1.46	7.09	1.45
PTMIGS	4.00	2.66	10.35	0.97
MALE	48.72	1.28	6.00	0.83
BTOW	37.84	79.29	421.90	3.75
POP2034	51005.03	56666.03	287954.00	2.18
ONEPAR	17.42	5.10	24.00	0.98
INFANTDA	2127.21	579.63	3563.43	-0.04
NONWHIT	12.78	11.23	44.91	1.17

TABLE V

STEPWISE REGRESSION RESULTS

Variable entered	R2	Increase in R2	SS Error	Model F-Value
NONWHIT	.68		.04	131.86
INCO25T	.73	.05	.20	85.19
SCH5YRS	.77	.04	.21	68.86
ONEPAR	.79	.02	.16	55.85
PTMIGS	.81	.02	.15	49.64

As shown in Table V, five variables were found to contribute the greatest increase in R-Squared at the .50 significant level. These were:

1. Nonwhit- Percent of population non-white.
2. Inco25t- Percent of population with income over $25,000 per year.
3. Sch5yrs- Percent of population over 25 years with less than 5 years schooling.
4. Onepar- Percent of families with one parent.
5. Ptmigs- Percent of total population having migrated from the south.

The results of the regression analysis are shown in Table VI. As Table VI shows, the model has an R-squared value of .81 with an F-Value of 49.64. This indicates that 81 percent of the variation in homicide rates is explained by these five variables.

TABLE VI

REGRESSION MODEL RESULTS

Source	Df	SS	Mean Square	F-Value	R-Square
model	5	2275.32	455.06	49.64	.81

Parameter	Estimate	F-value	PR>F-value
INTERCEPT	-8.48	X	X
INCO25T	1.03	95.31	.0001
SCH5YRS	0.68	93.09	.0001
ONEPAR	0.40	40.33	.0001
PTMIGS	0.38	15.77	.0002
NONWHIT	0.15	3.71	.0590

The following five figures show the plots of each of the five variables with the homicide rate. These plots indicate the relationships between each independent variable and the homicide rate. On each plot the solid line represents the linear regresssion line, and the dashed lines are the 90% confidence intervals.

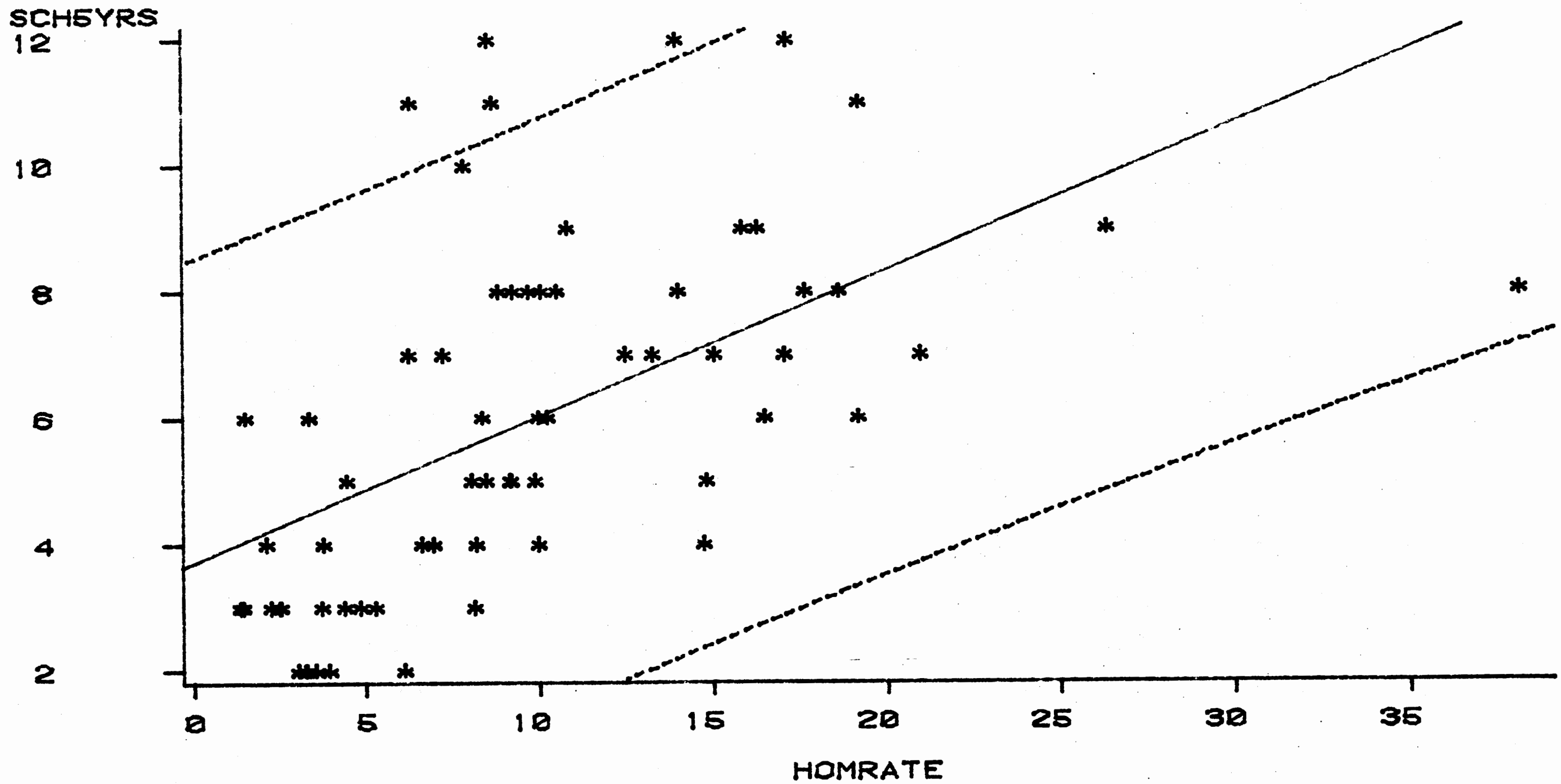

Figure 3. Plot of SCH5YRS vs. Homicide Rate

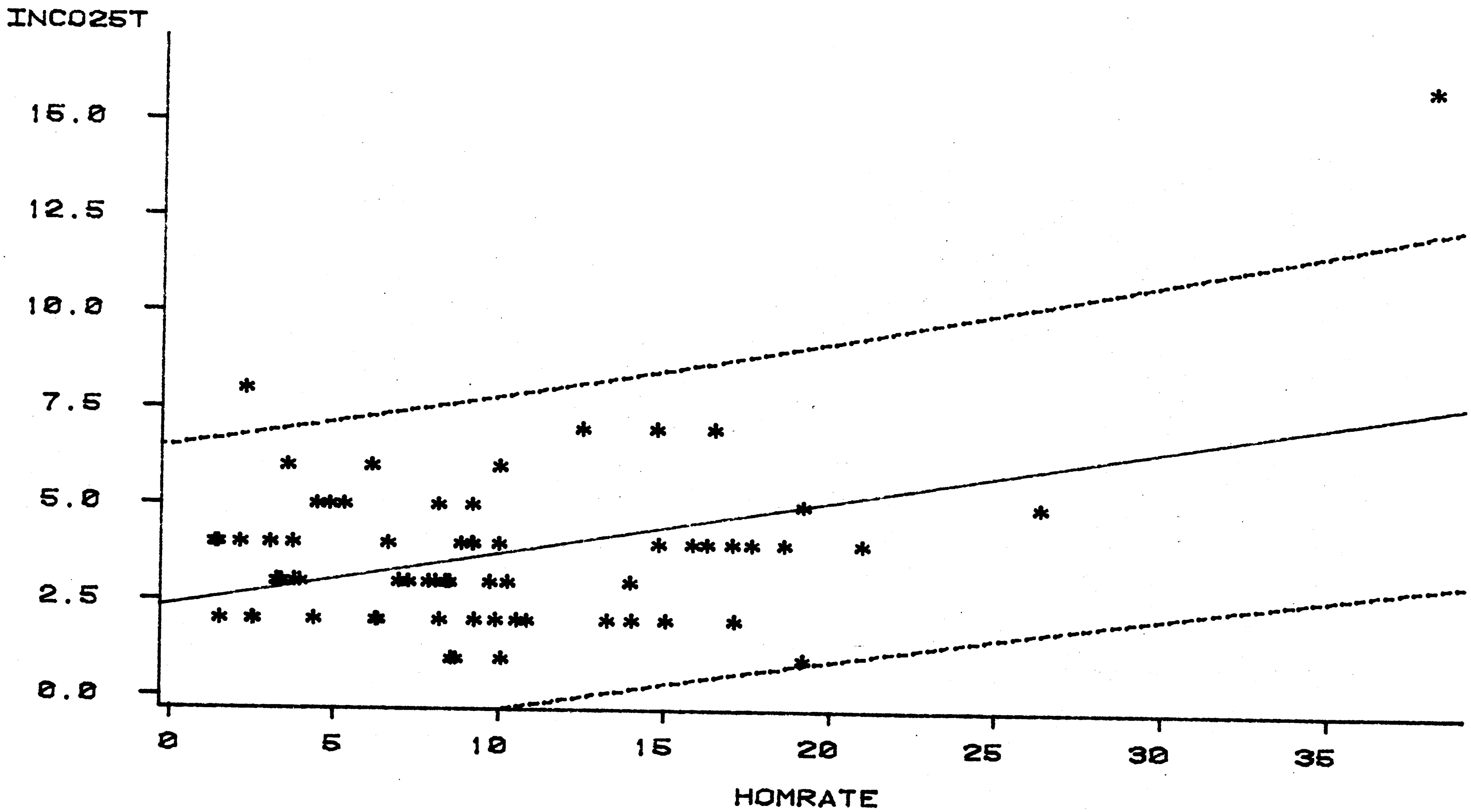

Figure 4. Plot of INCO25T vs. Homicide Rate

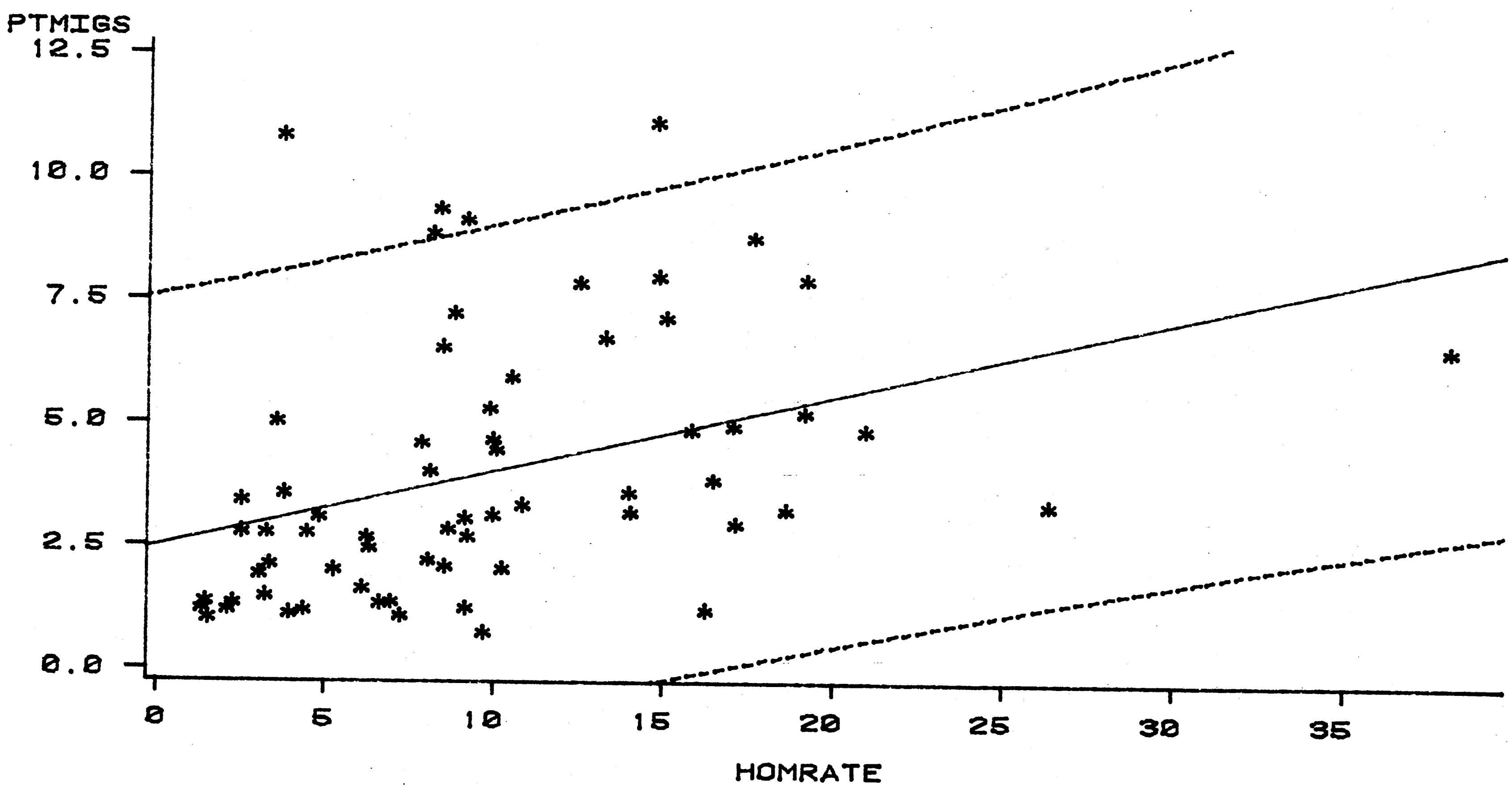

Figure 5. Plot of PTMIGS vs. Homicide Rate

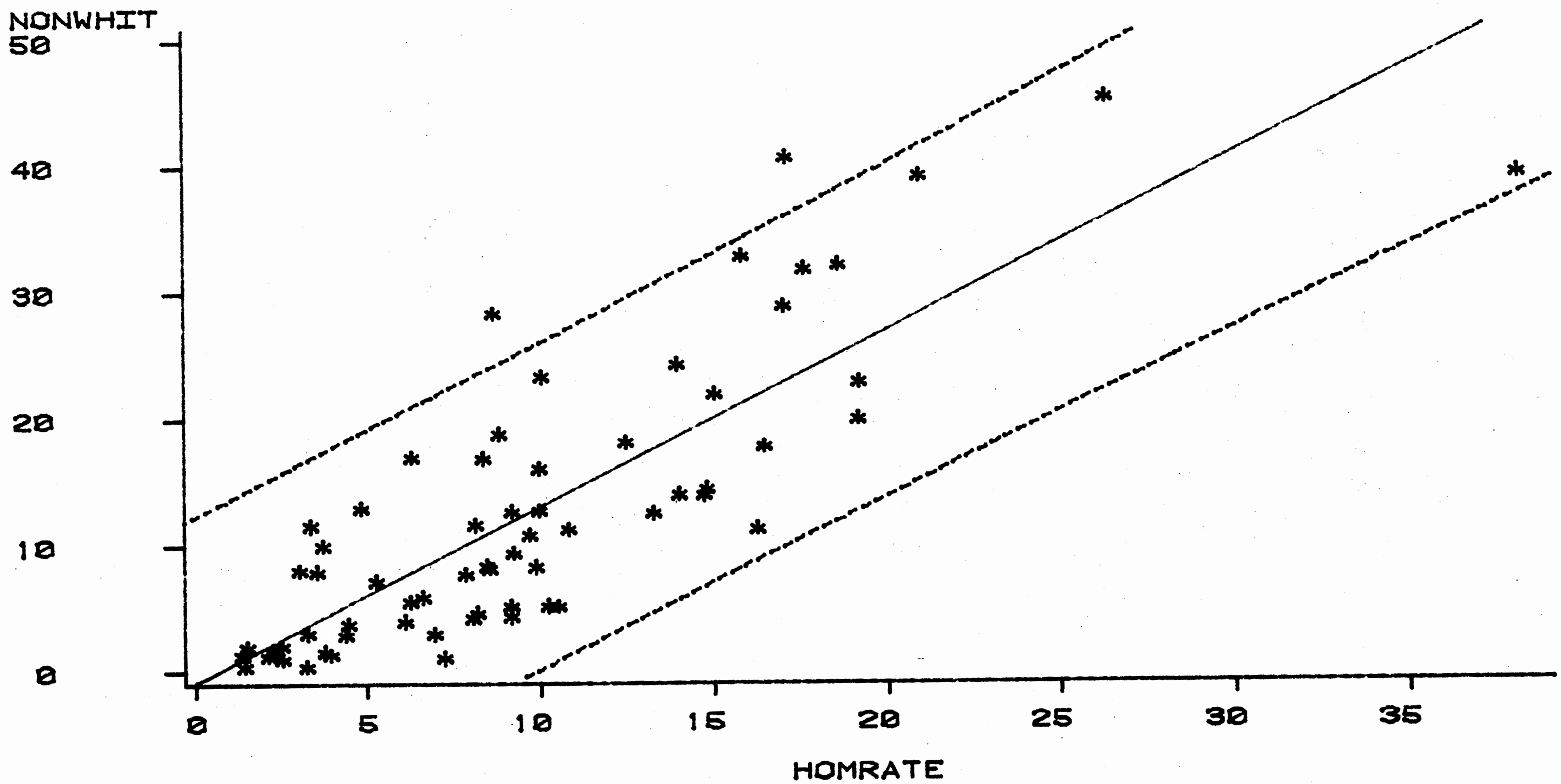

Figure 6. Plot of NONWHIT vs. Homicide Rate

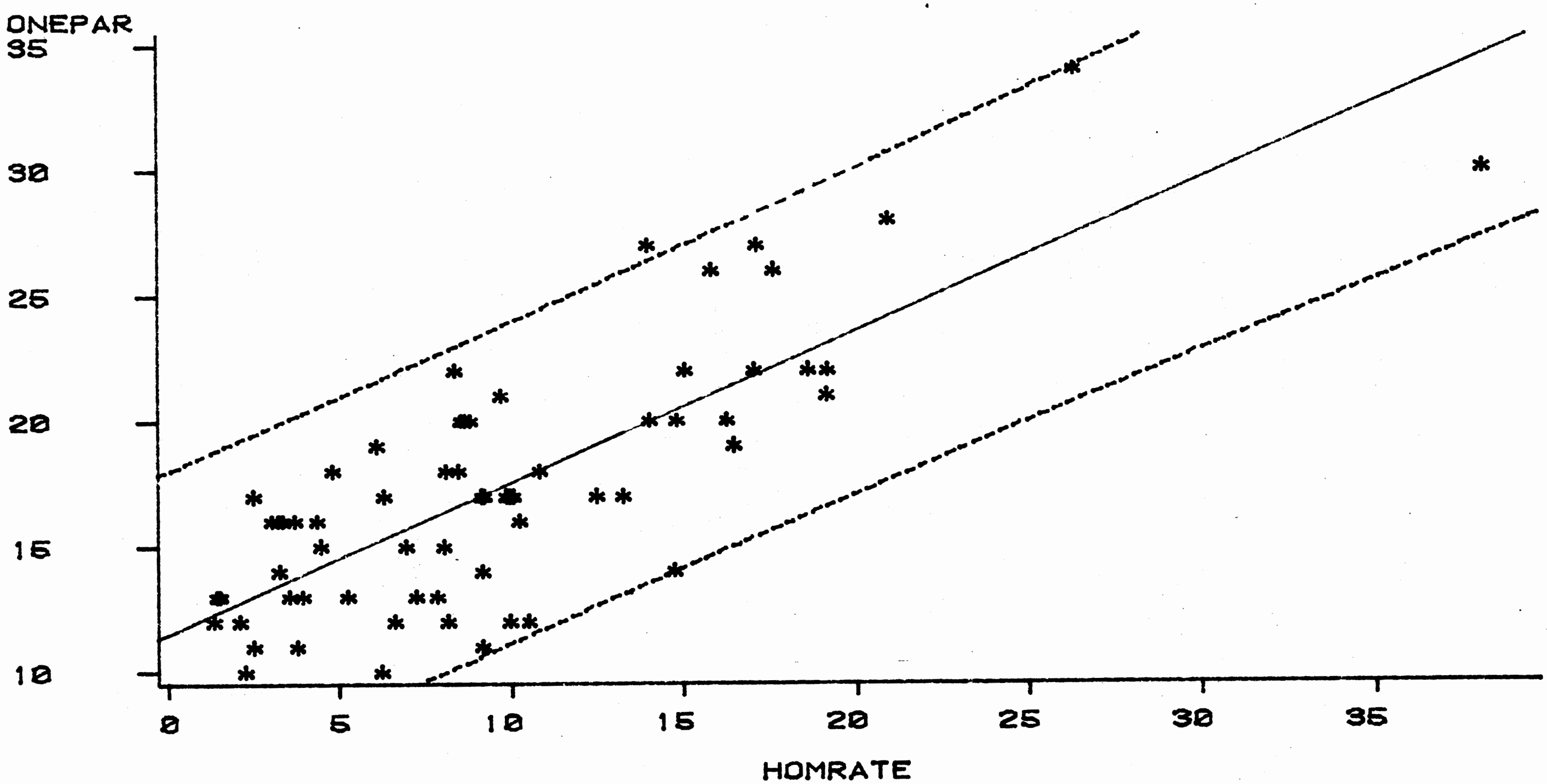

Figure 7. Plot of ONEPAR vs. Homicide Rate

Residuals

Out of the multiple regression analysis the residual value (actual homicide rate minus the predicted homicide rate) was obtained for each of the sixty-five counties. These residual values are listed in Table VII which is sorted by each residual value. Also shown in Table VII is the actual homicide rate, county name, and state to which the county belongs.

Residual values should be the result of the working of random error. This means that if a regression model explains all the major factors contributing to the variation of the dependant variable, the residual values should be randomly distributed amoung the sample sites. However, if there is some systematic error in terms of a regional variable missing from the regression model, it would show up in a map of the residual values as having a particular pattern.

To determine if the residual values obtained from the homicide regression model had a pattern, twenty-one of the extreme residual values were mapped. Figure 8 shows each of the twenty-one counties designated with a symbol which reflects its residual value in relation to the other counties.

Visual inspection of the residual map shows that certain patterns have developed. Generally, counties in the southern states have more extreme residual scores than those counties located in non-southern states.

Using the U.S. Census breakdown of southern and non-southern states, simple percentages indicate that the regression model fits non-southern counties better than southern ones. Of non-southern counties, 12% are in the areas with the most extreme residuals, while 41% of the southern counties are located in areas of extreme residuals.

Non-southern counties which have low residual values make up 67% of the total non-southern states,while only 16% of southern counties have low residual values.

Two states in particular have extreme residuals; Alabama and Georgia. Georgia has all positive residuals indicating that the model is under-estimating the actual homicide rate in that area. Alabama has both extreme positive and negative scores indicating the socio-economic model is not explaining the homicide rate very well in this area.

TABLE VII

COUNTIES SORTED BY REGRESSION RESIDUAL

County Name	State	Homicide Rate Per 100,000	Residual Values
ST TAMMANY	LA	8.81	-5.60
TUSCALOOSA	AL	13.96	-5.20
VIRGINIA BEACH CITY	VA	3.72	-3.90
SEMINOLE	FL	8.36	-3.70
MACON	IL	3.04	-3.60
VENTURA	CA	4.46	-3.50
FRANKLIN	OH	4.85	-3.40
CAMBRIA	PA	1.50	-2.90
DURHAM	NC	15.83	-2.70
MIDDLESEX	MA	2.25	-2.70
WASHOE	NV	6.11	-2.60
SHELBY	AL	6.31	-2.40
TULSA	OK	8.12	-2.30
SUMNER	TN	7.84	-2.20
OSAGE	OK	3.36	-2.00
BERKSHIRE	MA	1.34	-1.90
HUDSON	NJ	9.68	-1.60
RANKIN	MS	8.65	-1.30
DEKALB	GA	14.73	-1.30
JEFFERSON	AK	17.11	-1.10
HAMILTON	OH	9.96	-1.10
BUCHANAN	MO	4.37	-1.00
CAMPBELL	KY	7.23	-0.94
ST BERNARD	LA	6.25	-0.85
WALKER	AL	8.53	-0.77
WORCESTER	MA	2.10	-0.76
WICHITA	TX	8.46	-0.75
ALLEN	IN	5.28	-0.38
COBB	GA	9.15	-0.08
CHAMPAIGN	IL	3.55	-0.06
HILLSBOROUGH	NH	1.43	0.07
PICKAWAY	OH	2.50	0.15
JEFFERSON	LA	9.95	0.15
CREEK	OK	9.22	0.19
ORANGE	NC	12.48	0.26
CHESAPEAKE	VA	10.05	0.31
KENTON	KY	6.95	0.43

TABLE VII (Continued)

County Name	State	Homicide Rate Per 100,000	Residual Values
ECTOR	TX	10.24	0.65
BOWIE	TX	15.04	0.71
RICHLAND	SC	17.62	0.76
CUMBERLAND	ME	3.22	0.85
GRAYSON	TX	9.85	0.99
CLAYTON	GA	8.17	1.11
HINDS	MS	20.93	1.17
E. BATONROUGE	LA	17.04	1.24
ORLEANS	LA	26.35	1.40
FULTON	GA	38.12	1.48
DAVIES	KY	8.05	1.57
WARREN	OH	3.77	1.64
MAHONING	OH	9.16	1.73
WILSON	TN	10.81	1.84
DELAWARE	OH	3.26	1.85
ETOWAH	AL	14.02	1.88
CLERMONT	OH	2.51	1.97
MILLER	AK	19.17	1.98
TRUMBULL	OH	6.62	2.55
LANE	OR	3.94	2.81
JEFFERSON	AL	18.60	2.92
LEXINGTON	SC	13.26	3.19
ORANGE	FL	14.81	3.51
DAVIDSON	TN	19.15	3.59
MARICOPA	AZ	9.14	3.72
SANJOAQUIN	CA	16.26	4.39
GWINNETT	GA	10.50	4.54
PALM BEACH	FL	16.46	4.99

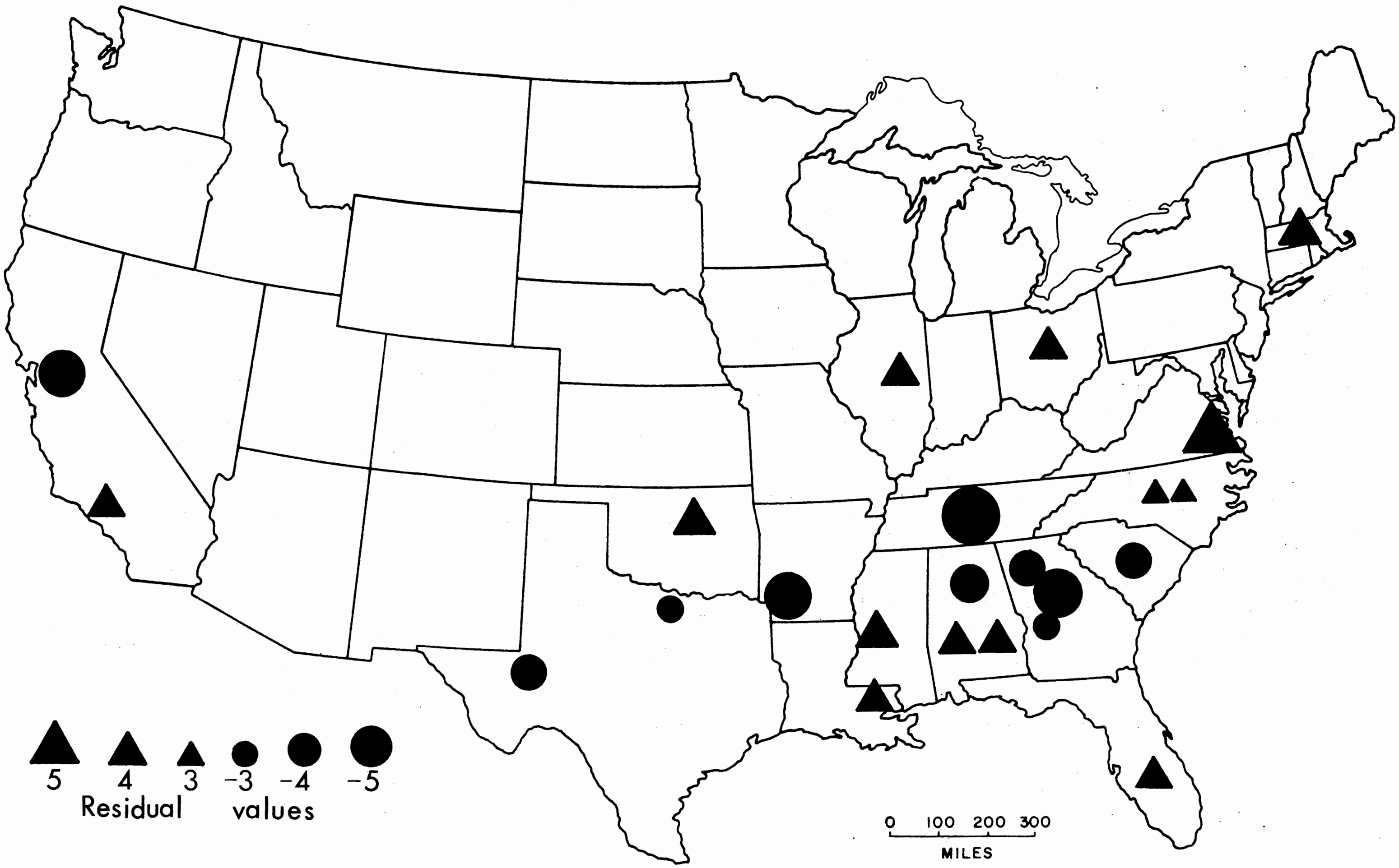

Figure 8. Residual Map of Regression Model Analysis

CHAPTER V

CONCLUSIONS

The purpose of this study was to examine the relationships between socio-economic variables and homicide rates by replication of a study by Loftin and Hill (14). Results from the present study support their conclusions that homicide rates are indeed closely related to socio-economic variables especially those which measure poverty. By using county data instead of state wide data, this study reduces the problem of aggregation bias found in the Loftin and Hill study.

The results of the residual analysis do not agree with Loftin and Hill's conclusions about regions. Loftin and Hill suggested that when socio-economic factors were controlled, the relationship between region and homicide rates was very low. Residual analysis in this study indicates that there is a relationship between homicide rates and certain regions in the United States.

When residuals from the regression model were mapped (Figure 8), differences between Southern and non-Southern states developed. This seems to indicate that there is some type of relationship between homicide rates and regions.

The one item Loftin and Hill fail to report in their study was the residual values from their regression analysis. It would be interesting to know whether their model, which obtained an exceptionally high R-square value, showed any particular patterns when the residual values were mapped.

The regression model used in this research controlled for a large number of socio-economic variables which have been shown to have any relationship with homicide rates by previous research. If these variables were the only factors related to the homicide rate, the residual values should have been randomly distributed. In these results they are not.

There are two possible ways to explain the residual patterns. First, either some socio-economic factor has not been included in the model, or second, there is a non socio-economic factor present. Gastil and Hackney put this non socio-economic factor in the realm of culture. Within the confines of this research it is impossible to determine just what causes the residual patterns. Although, with the large amount of socio-economic data used in this research, the answer does point in the direction of some type of cultural variable.

Suggestions for Further Research

Any results or conclusions drawn from this analysis can only be viewed in terms of an urban environment. Due to the nature of the sample, almost all sample counties were highly urbanized. There may in fact be major differences in the outcome of this type of study if it were performed with rural populations included.

If a specific method of measuring cultural attributes of a given population were developed, it should be included into this type of homicide research. This would allow much more definitive statements to be made concerning the relationships between homicide rates and cultural factors.

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APPENDIX A

CORRELATION TABLE

TABLE VIII

CORRELATION MATRIX OF 40 VARIABLES

	Variable Name	1	2	3	4	5	6	7
1)	URBAN	1.00	-0.08	-0.04	0.23	-0.06	0.41	-0.30
2)	POPLT5Y	-0.08	1.00	-0.57	0.68	-0.56	0.37	-0.20
3)	MEDAGE	-0.04	-0.57	1.00	-0.65	0.79	-0.27	0.05
4)	BIRTHRAT	0.23	0.68	-0.65	1.00	-0.51	0.18	0.08
5)	DEATHRAT	-0.06	-0.56	0.79	-0.51	1.00	-0.47	0.31
6)	MINCOMEW	0.41	0.37	-0.27	0.18	-0.47	1.00	-0.87
7)	POVW	-0.30	-0.20	0.05	0.08	0.31	-0.87	1.00
8)	UNEMPBM	0.11	-0.18	0.17	-0.09	0.21	-0.04	0.00
9)	UNEMPBF	0.15	0.04	0.14	0.05	0.06	-0.18	0.23
10)	UNEMPWF	-0.03	0.03	0.01	0.03	0.04	-0.13	0.11
11)	UNEMPWM	0.04	-0.24	0.22	-0.20	0.20	-0.14	0.17
12)	POVB	-0.12	0.01	-0.06	0.17	0.03	-0.62	0.67
13)	MINCOMEB	0.20	0.14	-0.09	-0.06	-0.19	0.78	-0.75
14)	SOCIEOSC	0.54	0.18	-0.19	0.05	-0.39	0.92	-0.88
15)	HEALTHSC	-0.09	0.15	-0.21	-0.14	-0.50	0.40	-0.46
16)	FAMILYSC	-0.24	0.45	-0.14	-0.10	-0.42	0.40	-0.54
17)	ALIENASC	-0.32	0.19	-0.21	0.05	-0.22	-0.23	0.18
18)	SCH5YRS	-0.26	-0.06	0.06	0.18	0.20	-0.72	0.84
19)	COLLEGE	0.32	-0.19	-0.38	0.10	-0.31	0.29	-0.18
20)	FEMHEAD	0.42	-0.37	0.19	0.06	0.49	-0.29	0.46
21)	INCO25T	0.43	-0.09	-0.07	0.07	-0.07	0.42	-0.24
22)	INCO3T	-0.32	-0.33	0.21	-0.07	0.45	-0.92	0.97
23)	PEROOMW	-0.14	0.26	-0.19	0.33	0.04	-0.46	0.61
24)	PEROOMB	0.00	0.30	-0.24	0.45	-0.24	-0.21	0.38
25)	POVDIF	-0.04	-0.15	0.11	-0.17	0.16	0.24	-0.21
26)	DIFFSCHM	0.02	0.27	-0.30	0.36	-0.32	-0.13	0.27
27)	DIFFSCHF	-0.06	0.14	-0.30	0.26	-0.32	-0.16	0.28
28)	DIFINCOM	-0.06	-0.13	0.11	-0.26	0.13	0.27	-0.36
29)	PEROOMDF	-0.05	-0.25	0.20	-0.38	0.29	0.06	-0.20
30)	PERPOMIG	0.25	-0.05	-0.21	0.06	-0.31	0.23	-0.23
31)	PTMIGNE	0.20	-0.18	0.06	-0.15	0.02	0.30	-0.36
32)	HOMRATE	0.28	-0.11	-0.04	0.30	0.14	-0.34	0.55
33)	PTMIGNC	0.26	-0.16	-0.04	-0.09	-0.07	0.13	-0.22
34)	PTMIGS	0.07	0.27	-0.43	0.37	-0.43	0.01	0.12
35)	MALE	-0.24	0.13	-0.50	0.05	-0.67	0.17	-0.18
36)	BTOW	-0.08	0.00	0.04	-0.15	0.06	0.19	-0.33
37)	POP2034	0.53	-0.01	0.02	0.08	-0.01	0.46	-0.27
38)	ONEPAR	0.16	-0.33	0.06	0.12	0.35	-0.56	0.73
39)	INFANTDA	-0.03	-0.12	-0.03	0.14	0.08	-0.30	0.42
40)	NONWHIT	0.17	-0.16	-0.11	0.29	0.15	-0.45	0.69

TABLE VIII (Continued)

	Variable Name	8	9	10	11	12	13	14
1)	URBAN	0.11	0.15	-0.03	0.04	-0.12	0.20	0.54
2)	POPLT5Y	-0.18	0.04	0.03	-0.24	0.01	0.14	0.18
3)	MEDAGE	0.17	0.14	0.01	0.22	-0.06	-0.09	-0.19
4)	BIRTHRAT	-0.09	0.05	0.03	-0.20	0.17	-0.06	0.05
5)	DEATHRAT	0.21	0.06	0.04	0.20	0.03	-0.19	-0.39
6)	MINCOMEW	-0.04	-0.18	-0.13	-0.14	-0.62	0.78	0.92
7)	POVW	0.00	0.23	0.11	0.17	0.67	-0.75	-0.88
8)	UNEMPBM	1.00	0.21	0.22	0.48	0.07	-0.09	0.05
9)	UNEMPBF	0.21	1.00	0.23	0.38	0.30	-0.34	-0.17
10)	UNEMPWF	0.22	0.23	1.00	0.29	0.09	-0.12	-0.10
11)	UNEMPWM	0.48	0.38	0.29	1.00	0.14	-0.08	-0.05
12)	POVB	0.07	0.30	0.09	0.14	1.00	-0.81	-0.57
13)	MINCOMEB	-0.09	-0.34	-0.12	-0.08	-0.81	1.00	0.71
14)	SOCIEOSC	0.05	-0.17	-0.10	-0.05	-0.57	0.71	1.00
15)	HEALTHSC	-0.07	-0.11	0.00	0.00	-0.16	0.23	0.42
16)	FAMILYSC	0.01	0.07	0.06	-0.08	-0.27	0.31	0.30
17)	ALIENASC	-0.13	-0.04	-0.00	-0.29	0.17	-0.15	-0.23
18)	SCH5YRS	-0.07	0.32	0.02	0.05	0.61	-0.69	-0.82
19)	COLLEGE	-0.07	-0.33	-0.14	-0.14	-0.19	0.21	0.43
20)	FEMHEAD	0.09	0.09	-0.01	0.16	0.21	-0.25	-0.20
21)	INCO25T	-0.05	-0.17	-0.10	-0.03	-0.24	0.32	0.48
22)	INCO3T	0.05	0.22	0.14	0.23	0.62	-0.75	-0.89
23)	PEROOMW	-0.02	0.37	0.16	0.13	0.54	-0.50	-0.56
24)	PEROOMB	-0.31	0.22	-0.03	-0.21	0.52	-0.53	-0.29
25)	POVDIF	-0.09	-0.25	-0.05	-0.07	-0.87	0.57	0.16
26)	DIFFSCHM	-0.19	0.24	0.03	-0.18	0.44	-0.45	-0.12
27)	DIFFSCHF	-0.12	0.19	0.00	-0.08	0.59	-0.49	-0.15
28)	DIFINCOM	-0.12	-0.37	-0.07	-0.01	-0.67	0.81	0.25
29)	PEROOMDF	0.35	-0.11	0.10	0.29	-0.39	0.41	0.12
30)	PERPOMIG	-0.13	-0.27	-0.10	-0.10	0.04	-0.03	0.36
31)	PTMIGNE	0.07	-0.31	-0.18	-0.19	-0.34	0.27	0.40
32)	HOMRATE	-0.09	0.14	-0.02	0.04	0.44	-0.43	-0.28
33)	PTMIGNC	-0.07	-0.15	0.06	-0.13	0.04	-0.04	0.26
34)	PTMIGS	-0.34	-0.10	-0.14	-0.35	0.32	-0.28	0.04
35)	MALE	-0.11	-0.15	-0.07	-0.09	-0.01	0.12	0.13
36)	BTOW	0.54	-0.37	-0.02	0.17	-0.34	0.29	0.23
37)	POP2034	0.01	-0.17	-0.13	-0.01	-0.29	0.42	0.45
38)	ONEPAR	-0.02	0.07	-0.02	0.17	0.49	-0.52	-0.45
39)	INFANTDA	0.02	0.04	0.02	0.01	0.34	-0.31	-0.34
40)	NONWHIT	-0.12	0.14	-0.08	0.01	0.52	-0.47	-0.39

TABLE VIII (Continued)

	Variable Name	15	16	17	18	19	20	21
1)	URBAN	-0.09	-0.24	-0.32	-0.26	0.32	0.42	0.43
2)	POPLT5Y	0.15	0.45	0.19	-0.06	-0.19	-0.37	-0.09
3)	MEDAGE	-0.21	-0.14	-0.21	0.06	-0.38	0.19	-0.07
4)	BIRTHRAT	-0.14	-0.10	0.05	0.18	0.10	0.06	0.07
5)	DEATHRAT	-0.50	-0.42	-0.22	0.20	-0.31	0.49	-0.07
6)	MINCOMEW	0.40	0.40	-0.23	-0.72	0.29	-0.29	0.42
7)	POVW	-0.46	-0.54	0.18	0.84	-0.18	0.46	-0.24
8)	UNEMPBM	-0.07	0.01	-0.13	-0.07	-0.07	0.09	-0.05
9)	UNEMPBF	-0.11	0.07	-0.04	0.32	-0.33	0.09	-0.17
10)	UNEMPWF	0.00	0.06	-0.00	0.02	-0.14	-0.01	-0.10
11)	UNEMPWM	0.00	-0.08	-0.29	0.05	-0.14	0.16	-0.03
12)	POVB	-0.16	-0.27	0.17	0.61	-0.19	0.21	-0.24
13)	MINCOMEB	0.23	0.31	-0.15	-0.69	0.21	-0.25	0.32
14)	SOCIEOSC	0.42	0.30	-0.23	-0.82	0.43	-0.20	0.48
15)	HEALTHSC	1.00	0.55	0.06	-0.44	0.23	-0.64	-0.05
16)	FAMILYSC	0.55	1.00	0.18	-0.44	-0.34	-0.88	-0.33
17)	ALIENASC	0.06	0.18	1.00	0.16	-0.06	-0.24	-0.35
18)	SCH5YRS	-0.44	-0.44	0.16	1.00	-0.28	0.36	-0.23
19)	COLLEGE	0.23	-0.34	-0.06	-0.28	1.00	0.22	0.59
20)	FEMHEAD	-0.64	-0.88	-0.24	0.36	0.22	1.00	0.39
21)	INC025T	-0.05	-0.33	-0.35	-0.23	0.59	0.39	1.00
22)	INC03T	-0.45	-0.52	0.16	0.79	-0.21	0.44	-0.27
23)	PEROOMW	-0.33	-0.21	0.14	0.62	-0.38	0.25	-0.24
24)	PEROOMB	-0.09	-0.18	0.12	0.54	-0.06	0.13	-0.04
25)	POVDIF	-0.09	0.00	-0.11	-0.25	0.13	0.03	0.15
26)	DIFFSCHM	0.05	-0.11	0.26	0.32	0.10	0.04	-0.03
27)	DIFFSCHF	0.04	-0.10	0.11	0.28	0.12	-0.02	-0.01
28)	DIFINCOM	-0.01	0.10	-0.03	-0.41	0.05	-0.12	0.09
29)	PEROOMDF	-0.02	0.12	-0.08	-0.37	-0.08	-0.05	-0.05
30)	PERPOMIG	0.41	-0.02	-0.26	-0.31	0.52	-0.07	0.30
31)	PTMIGNE	0.20	-0.04	-0.09	-0.35	0.37	0.02	0.30
32)	HOMRATE	-0.48	-0.72	-0.13	0.55	0.18	0.70	0.42
33)	PTMIGNC	0.34	0.06	-0.22	-0.32	0.34	-0.11	0.23
34)	PTMIGS	0.10	-0.09	0.19	0.12	0.35	0.01	0.14
35)	MALE	0.47	0.36	0.05	-0.12	0.25	-0.52	-0.09
36)	BTOW	0.14	0.20	-0.02	-0.41	0.02	-0.18	-0.05
37)	POP2034	-0.08	-0.20	-0.20	-0.23	0.37	0.36	0.60
38)	ONEPAR	-0.53	-0.89	-0.13	0.56	0.16	0.83	0.19
39)	INFANTDA	-0.30	-0.41	-0.05	0.35	-0.08	0.37	0.00
40)	NONWHIT	-0.47	-0.80	0.04	0.61	0.22	0.74	0.22

TABLE VIII (Continued)

	Variable Name	22	23	24	25	26	27	28
1)	URBAN	-0.32	-0.14	0.00	-0.04	0.02	-0.06	-0.06
2)	POPLT5Y	-0.33	0.26	0.30	-0.15	0.27	0.14	-0.13
3)	MEDAGE	0.21	-0.19	-0.24	0.11	-0.30	-0.30	0.11
4)	BIRTHRAT	-0.07	0.33	0.45	-0.17	0.36	0.26	-0.26
5)	DEATHRAT	0.45	0.04	-0.24	0.16	-0.32	-0.32	0.13
6)	MINCOMEW	-0.92	-0.46	-0.21	0.24	-0.13	-0.16	0.27
7)	POVW	0.97	0.61	0.38	-0.21	0.27	0.28	-0.36
8)	UNEMPBM	0.05	-0.02	-0.31	-0.09	-0.19	-0.12	-0.12
9)	UNEMPBF	0.22	0.37	0.22	-0.25	0.24	0.19	-0.37
10)	UNEMPWF	0.14	0.16	-0.03	-0.05	0.03	0.00	-0.07
11)	UNEMPWM	0.23	0.13	-0.21	-0.07	-0.18	-0.08	-0.01
12)	POVB	0.62	0.54	0.52	-0.87	0.44	0.59	-0.67
13)	MINCOMEB	-0.75	-0.50	-0.53	0.57	-0.45	-0.49	0.81
14)	SOCIEOSC	-0.89	-0.56	-0.29	0.16	-0.12	-0.15	0.25
15)	HEALTHSC	-0.45	-0.33	-0.09	-0.09	0.05	0.04	-0.01
16)	FAMILYSC	-0.52	-0.21	-0.18	0.00	-0.11	-0.10	0.10
17)	ALIENASC	0.16	0.14	0.12	-0.11	0.26	0.11	-0.03
18)	SCH5YRS	0.79	0.62	0.54	-0.25	0.32	0.28	-0.41
19)	COLLEGE	-0.21	-0.38	-0.06	0.13	0.10	0.12	0.05
20)	FEMHEAD	0.44	0.25	0.13	0.03	0.04	-0.02	-0.12
21)	INCO25T	-0.27	-0.24	-0.04	0.15	-0.03	-0.01	0.09
22)	INCO3T	1.00	0.52	0.28	-0.17	0.17	0.20	-0.32
23)	PEROOMW	0.52	1.00	0.52	-0.30	0.32	0.26	-0.35
24)	PEROOMB	0.28	0.52	1.00	-0.44	0.71	0.57	-0.61
25)	POVDIF	-0.17	-0.30	-0.44	1.00	-0.40	-0.59	0.64
26)	DIFFSCHM	0.17	0.32	0.71	-0.40	1.00	0.65	-0.55
27)	DIFFSCHF	0.20	0.26	0.57	-0.59	0.65	1.00	-0.57
28)	DIFINCOM	-0.32	-0.35	-0.61	0.64	-0.55	-0.57	1.00
29)	PEROOMDF	-0.12	-0.21	-0.94	0.38	-0.68	-0.55	0.56
30)	PERPOMIG	-0.22	-0.40	0.06	-0.20	0.25	0.31	-0.23
31)	PTMIGNE	-0.34	-0.43	-0.18	0.21	-0.02	-0.10	0.13
32)	HOMRATE	0.48	0.38	0.46	-0.22	0.36	0.35	-0.34
33)	PTMIGNC	-0.15	-0.30	-0.02	-0.20	0.09	0.19	-0.16
34)	PTMIGS	0.04	-0.08	0.41	-0.35	0.60	0.58	-0.39
35)	MALE	-0.24	-0.18	0.05	-0.10	0.12	0.26	0.04
36)	BTOW	-0.28	-0.23	-0.56	0.23	-0.44	-0.39	0.26
37)	POP2034	-0.28	-0.21	-0.16	0.20	-0.20	-0.23	0.20
38)	ONEPAR	0.69	0.39	0.29	-0.16	0.22	0.22	-0.28
39)	INFANTDA	0.34	0.46	0.29	-0.17	0.19	0.27	-0.19
40)	NONWHIT	0.60	0.45	0.45	-0.22	0.36	0.36	-0.31

TABLE VIII (Continued)

	Variable Name	29	30	31	32	33	34	35
1)	URBAN	-0.05	0.25	0.20	0.28	0.26	0.07	-0.24
2)	POPLT5Y	-0.25	-0.05	-0.18	-0.11	-0.16	0.27	0.13
3)	MEDAGE	0.20	-0.21	0.06	-0.04	-0.04	-0.43	-0.50
4)	BIRTHRAT	-0.38	0.06	-0.15	0.30	-0.09	0.37	0.05
5)	DEATHRAT	0.29	-0.31	0.02	0.14	-0.07	-0.43	-0.67
6)	MINCOMEW	0.06	0.23	0.30	-0.34	0.13	0.01	0.17
7)	POVW	-0.20	-0.23	-0.36	0.55	-0.22	0.12	-0.18
8)	UNEMPBM	0.35	-0.13	0.07	-0.09	-0.07	-0.34	-0.11
9)	UNEMPBF	-0.11	-0.27	-0.31	0.14	-0.15	-0.10	-0.15
10)	UNEMPWF	0.10	-0.10	-0.18	-0.02	0.06	-0.14	-0.07
11)	UNEMPWM	0.29	-0.10	-0.19	0.04	-0.13	-0.35	-0.09
12)	POVB	-0.39	0.04	-0.34	0.44	0.04	0.32	-0.01
13)	MINCOMEB	0.41	-0.03	0.27	-0.43	-0.04	-0.28	0.12
14)	SOCIEOSC	0.12	0.36	0.40	-0.28	0.26	0.04	0.13
15)	HEALTHSC	-0.02	0.41	0.20	-0.48	0.34	0.10	0.47
16)	FAMILYSC	0.12	-0.02	-0.04	-0.72	0.06	-0.09	0.36
17)	ALIENASC	-0.08	-0.26	-0.09	-0.13	-0.22	0.19	0.05
18)	SCH5YRS	-0.37	-0.31	-0.35	0.55	-0.32	0.12	-0.12
19)	COLLEGE	-0.08	0.52	0.37	0.18	0.34	0.35	0.25
20)	FEMHEAD	-0.05	-0.07	0.02	0.70	-0.11	0.01	-0.52
21)	INCO25T	-0.05	0.30	0.30	0.42	0.23	0.14	-0.09
22)	INCO3T	-0.12	-0.22	-0.34	0.48	-0.15	0.04	-0.24
23)	PEROOMW	-0.21	-0.40	-0.43	0.38	-0.30	-0.08	-0.18
24)	PEROOMB	-0.94	0.06	-0.18	0.46	-0.02	0.41	0.05
25)	POVDIF	0.38	-0.20	0.21	-0.22	-0.20	-0.35	-0.10
26)	DIFFSCHM	-0.68	0.25	-0.02	0.36	0.09	0.60	0.12
27)	DIFFSCHF	-0.55	0.31	-0.10	0.35	0.19	0.58	0.26
28)	DIFINCOM	0.56	-0.23	0.13	-0.34	-0.16	-0.39	0.04
29)	PEROOMDF	1.00	-0.22	0.04	-0.38	-0.10	-0.50	-0.13
30)	PERPOMIG	-0.22	1.00	0.54	0.04	0.68	0.64	0.41
31)	PTMIGNE	0.04	0.54	1.00	-0.17	0.29	0.14	0.14
32)	HOMRATE	-0.38	0.04	-0.17	1.00	-0.09	0.38	-0.31
33)	PTMIGNC	-0.10	0.68	0.29	-0.09	1.00	0.26	0.16
34)	PTMIGS	-0.50	0.64	0.14	0.38	0.26	1.00	0.32
35)	MALE	-0.13	0.41	0.14	-0.31	0.16	0.32	1.00
36)	BTOW	0.55	0.01	0.37	-0.40	-0.16	-0.35	0.02
37)	POP2034	0.10	0.07	0.18	0.14	0.13	-0.08	-0.26
38)	ONEPAR	-0.18	0.04	-0.11	0.79	-0.06	0.21	-0.33
39)	INFANTDA	-0.15	-0.14	-0.08	0.32	-0.08	-0.06	-0.09
40)	NONWHIT	-0.34	-0.02	-0.14	0.82	-0.16	0.33	-0.30

TABLE VIII (Continued)

	Variable Name	36	37	38	39	40
1)	URBAN	-0.08	0.53	0.16	-0.03	0.17
2)	POPLT5Y	0.00	-0.01	-0.33	-0.12	-0.16
3)	MEDAGE	0.04	0.02	0.06	-0.03	-0.11
4)	BIRTHRAT	-0.15	0.08	0.12	0.14	0.29
5)	DEATHRAT	0.06	-0.01	0.35	0.08	0.15
6)	MINCOMEW	0.19	0.46	-0.56	-0.30	-0.45
7)	POVW	-0.33	-0.27	0.73	0.42	0.69
8)	UNEMPBM	0.54	0.01	-0.02	0.02	-0.12
9)	UNEMPBF	-0.37	-0.17	0.07	0.04	0.14
10)	UNEMPWF	-0.02	-0.13	-0.02	0.02	-0.08
11)	UNEMPWM	0.17	-0.01	0.17	0.01	0.01
12)	POVB	-0.34	-0.29	0.49	0.34	0.52
13)	MINCOMEB	0.29	0.42	-0.52	-0.31	-0.47
14)	SOCIEOSC	0.23	0.45	-0.45	-0.34	-0.39
15)	HEALTHSC	0.14	-0.08	-0.53	-0.30	-0.47
16)	FAMILYSC	0.20	-0.20	-0.89	-0.41	-0.80
17)	ALIENASC	-0.02	-0.20	-0.13	-0.05	0.04
18)	SCH5YRS	-0.41	-0.23	0.56	0.35	0.61
19)	COLLEGE	0.02	0.37	0.16	-0.08	0.22
20)	FEMHEAD	-0.18	0.36	0.83	0.37	0.74
21)	INCO25T	-0.05	0.60	0.19	0.00	0.22
22)	INCO3T	-0.28	-0.28	0.69	0.34	0.60
23)	PEROOMW	-0.23	-0.21	0.39	0.46	0.45
24)	PEROOMB	-0.56	-0.16	0.29	0.29	0.45
25)	POVDIF	0.23	0.20	-0.16	-0.17	-0.22
26)	DIFFSCHM	-0.44	-0.20	0.22	0.19	0.36
27)	DIFFSCHF	-0.39	-0.23	0.22	0.27	0.36
28)	DIFINCOM	0.26	0.20	-0.28	-0.19	-0.31
29)	PEROOMDF	0.55	0.10	-0.18	-0.15	-0.34
30)	PERPOMIG	0.01	0.07	0.04	-0.14	-0.02
31)	PTMIGNE	0.37	0.18	-0.11	-0.08	-0.14
32)	HOMRATE	-0.40	0.14	0.79	0.32	0.82
33)	PTMIGNC	-0.16	0.13	-0.06	-0.08	-0.16
34)	PTMIGS	-0.35	-0.08	0.21	-0.06	0.33
35)	MALE	0.02	-0.26	-0.33	-0.09	-0.30
36)	BTOW	1.00	-0.01	-0.31	-0.12	-0.43
37)	POP2034	-0.01	1.00	0.05	-0.05	0.09
38)	ONEPAR	-0.31	0.05	1.00	0.46	0.87
39)	INFANTDA	-0.12	-0.05	0.46	1.00	0.42
40)	NONWHIT	-0.43	0.09	0.87	0.42	1.00

APPENDIX B

SORTED LISTS OF SAMPLE COUNTIES

TABLE IX

COUNTIES SORTED BY NAME

County Name	State	Homicide Rate Per 100,000	Residual Values
ALLEN	IN	5.28	-0.38
BERKSHIRE	MA	1.34	-1.90
BOWIE	TX	15.04	0.71
BUCHANAN	MO	4.37	-1.00
CAMBRIA	PA	1.50	-2.90
CAMPBELL	KY	7.23	-0.94
CHAMPAIGN	IL	3.55	-0.06
CHESAPEAKE CITY	VA	10.05	0.31
CLAYTON	GA	8.17	1.11
CLERMONT	OH	2.51	1.97
COBB	GA	9.15	-0.08
CREEK	OK	9.22	0.19
CUMBERLAND	ME	3.22	0.85
DAVIDSON	TN	19.15	3.59
DAVIES	KY	8.05	1.57
DEKALB	GA	14.73	-1.30
DELAWARE	OH	3.26	1.85
DURHAM	NC	15.83	-2.70
E. BATONROUGE	LA	17.04	1.24
ECTOR	TX	10.24	0.65
ETOWAH	AL	14.02	1.88
FRANKLIN	OH	4.85	-3.40
FULTON	GA	38.12	1.48
GRAYSON	TX	9.85	0.99
GWINNETT	GA	10.50	4.54
HAMILTON	OH	9.96	-1.10
HILLSBOROUGH	NH	1.43	0.07
HINDS	MS	20.93	1.17
HUDSON	NJ	9.68	-1.60
JEFFERSON	LA	9.95	0.15
JEFFERSON	AK	17.11	-1.10
JEFFERSON	AL	18.60	2.92

TABLE IX (Continued)

County Name	State	Homicide Rate Per 100,000	Residual Values
KENTON	KY	6.95	0.43
LANE	OR	3.94	2.81
LEXINGTON	SC	13.26	3.19
MACON	IL	3.04	-3.60
MAHONING	OH	9.16	1.73
MARICOPA	AZ	9.14	3.72
MIDDLESEX	MA	2.25	-2.70
MILLER	AK	19.17	1.98
ORANGE	NC	12.48	0.26
ORANGE	FL	14.81	3.51
ORLEANS	LA	26.35	1.40
OSAGE	OK	3.36	-2.00
PALM BEACH	FL	16.46	4.99
PICKAWAY	OH	2.50	0.15
RANKIN	MS	8.65	-1.30
RICHLAND	SC	17.62	0.76
SANJOAQUIN	CA	16.26	4.39
SEMINOLE	FL	8.36	-3.70
SHELBY	AL	6.31	-2.40
ST BERNARD	LA	6.25	-0.85
ST TAMMANY	LA	8.81	-5.60
SUMNER	TN	7.84	-2.20
TRUMBULL	OH	6.62	2.55
TULSA	OK	8.12	-2.30
TUSCALOOSA	AL	13.96	-5.20
VENTURA	CA	4.46	-3.50
VIRGINIA BEACH CITY	VA	3.72	-3.90
WALKER	AL	8.53	-0.77
WARREN	OH	3.77	1.64
WASHOE	NV	6.11	-2.60
WICHITA	TX	8.46	-0.75
WILSON	TN	10.81	1.84
WORCESTER	MA	2.10	-0.76

TABLE X

COUNTIES SORTED BY HOMICIDE RATE

County Name	State	Homicide Rate Per 100,000	Residual Values
BERKSHIRE	MA	1.34	-1.90
HILLSBOROUGH	NH	1.43	0.07
CAMBRIA	PA	1.50	-2.90
WORCESTER	MA	2.10	-0.76
MIDDLESEX	MA	2.25	-2.70
PICKAWAY	OH	2.50	0.15
CLERMONT	OH	2.51	1.97
MACON	IL	3.04	-3.60
CUMBERLAND	ME	3.22	0.85
DELAWARE	OH	3.26	1.85
OSAGE	OK	3.36	-2.00
CHAMPAIGN	IL	3.55	-0.06
VIRGINIA BEACH CITY	VA	3.72	-3.90
WARREN	OH	3.77	1.64
LANE	OR	3.94	2.81
BUCHANAN	MO	4.37	-1.00
VENTURA	CA	4.46	-3.50
FRANKLIN	OH	4.85	-3.40
ALLEN	IN	5.28	-0.38
WASHOE	NV	6.11	-2.60
ST BERNARD	LA	6.25	-0.85
SHELBY	AL	6.31	-2.40
TRUMBULL	OH	6.62	2.55
KENTON	KY	6.95	0.43
CAMPBELL	KY	7.23	-0.94
SUMNER	TN	7.84	-2.20
DAVIES	KY	8.05	1.57
TULSA	OK	8.12	-2.30
CLAYTON	GA	8.17	1.11
SEMINOLE	FL	8.36	-3.70
WICHITA	TX	8.46	-0.75
WALKER	AL	8.53	-0.77

TABLE X (Continued)

County Name	State	Homicide Rate Per 100,000	Residual Values
RANKIN	MS	8.65	-1.30
ST TAMMANY	LA	8.81	-5.60
MARICOPA	AZ	9.14	3.72
COBB	GA	9.15	-0.08
MAHONING	OH	9.16	1.73
CREEK	OK	9.22	0.19
HUDSON	NJ	9.68	-1.60
GRAYSON	TX	9.85	0.99
JEFFERSON	LA	9.95	0.15
HAMILTON	OH	9.96	-1.10
CHESAPEAKE CITY	VA	10.05	0.31
ECTOR	TX	10.24	0.65
GWINNETT	GA	10.50	4.54
WILSON	TN	10.81	1.84
ORANGE	NC	12.48	0.26
LEXINGTON	SC	13.26	3.19
TUSCALOOSA	AL	13.96	-5.20
ETOWAH	AL	14.02	1.88
DEKALB	GA	14.73	-1.30
ORANGE	FL	14.81	3.51
BOWIE	TX	15.04	0.71
DURHAM	NC	15.83	-2.70
SANJOAQUIN	CA	16.26	4.39
PALM BEACH	FL	16.46	4.99
E. BATONROUGE	LA	17.04	1.24
JEFFERSON	AK	17.11	-1.10
RICHLAND	SC	17.62	0.76
JEFFERSON	AL	18.60	2.92
DAVIDSON	TN	19.15	3.59
MILLER	AK	19.17	1.98
HINDS	MS	20.93	1.17
ORLEANS	LA	26.35	1.40
FULTON	GA	38.12	1.48

APPENDIX C

HISTOGRAMS OF SIX SELECTED VARIABLES

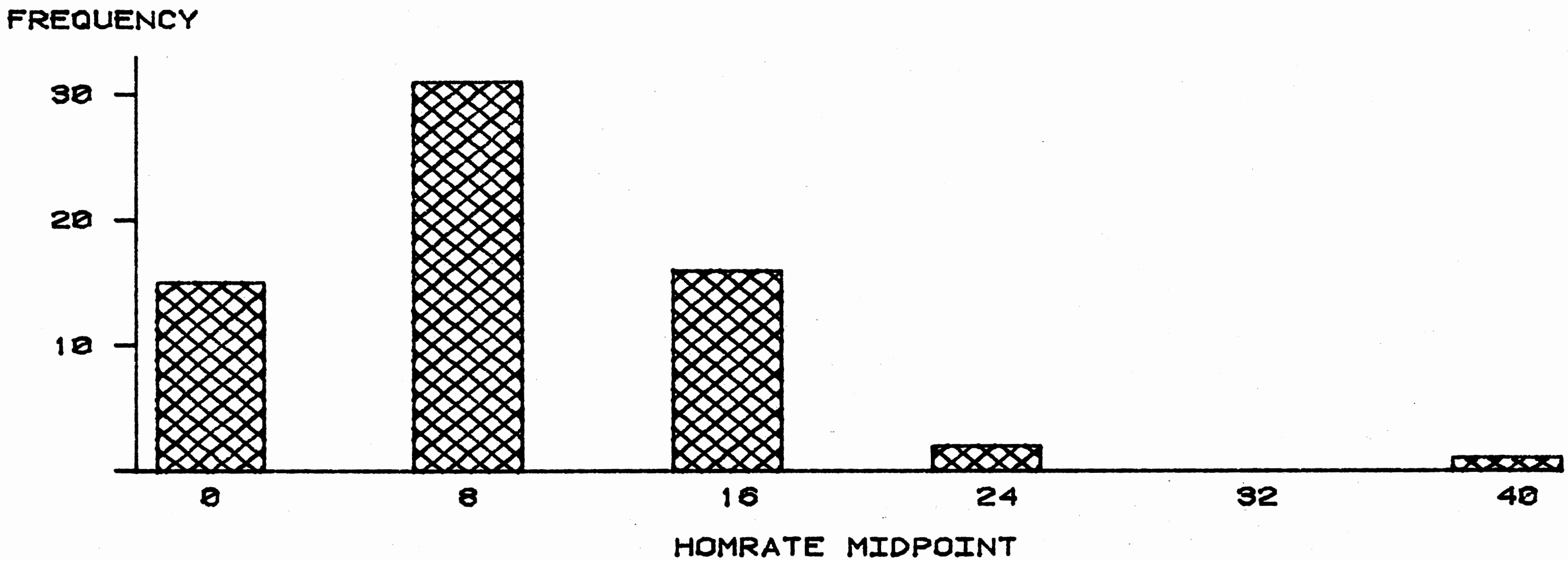

Figure 9. Histogram of Homicide Rate per 100,000 Population

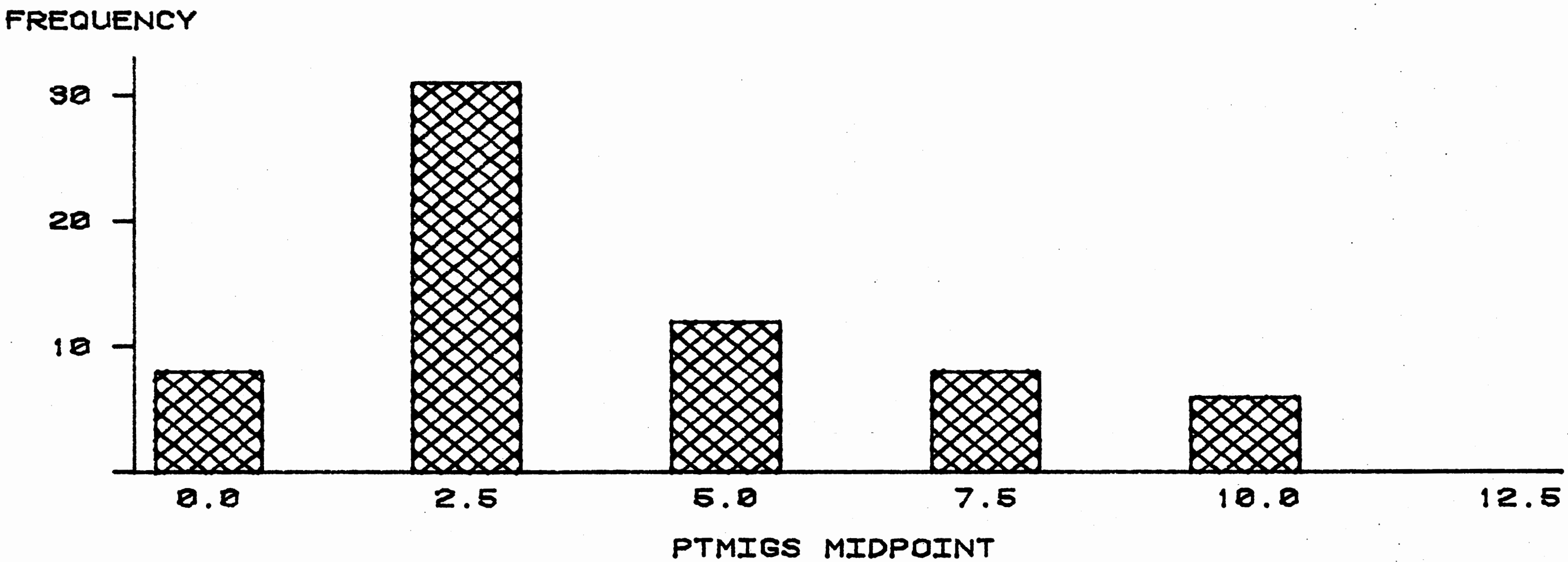

Figure 10. Histogram of Percentage of Population Having Migrated From the South

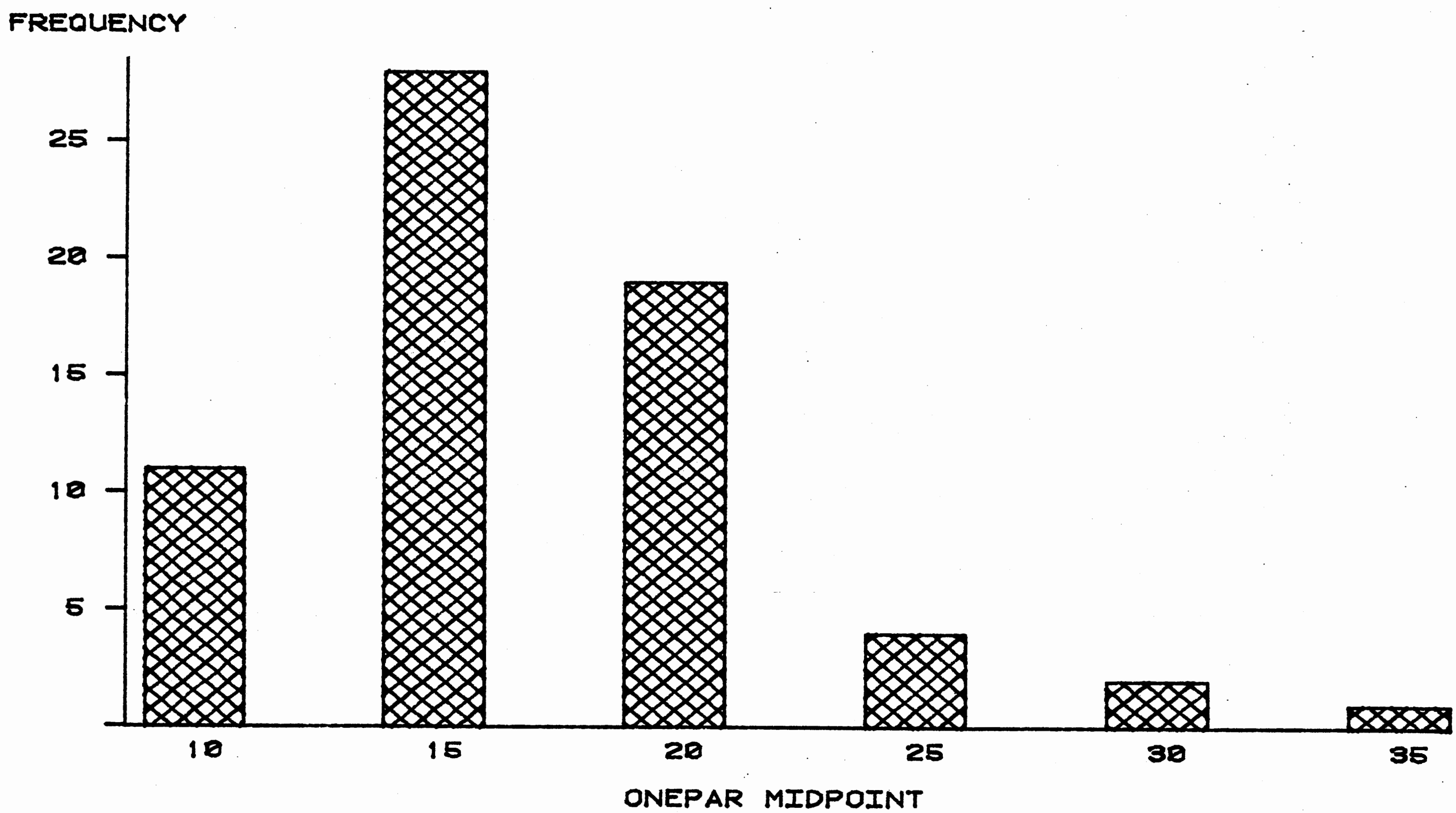

Figure 11. Histogram of Percentage of Families With One Parent

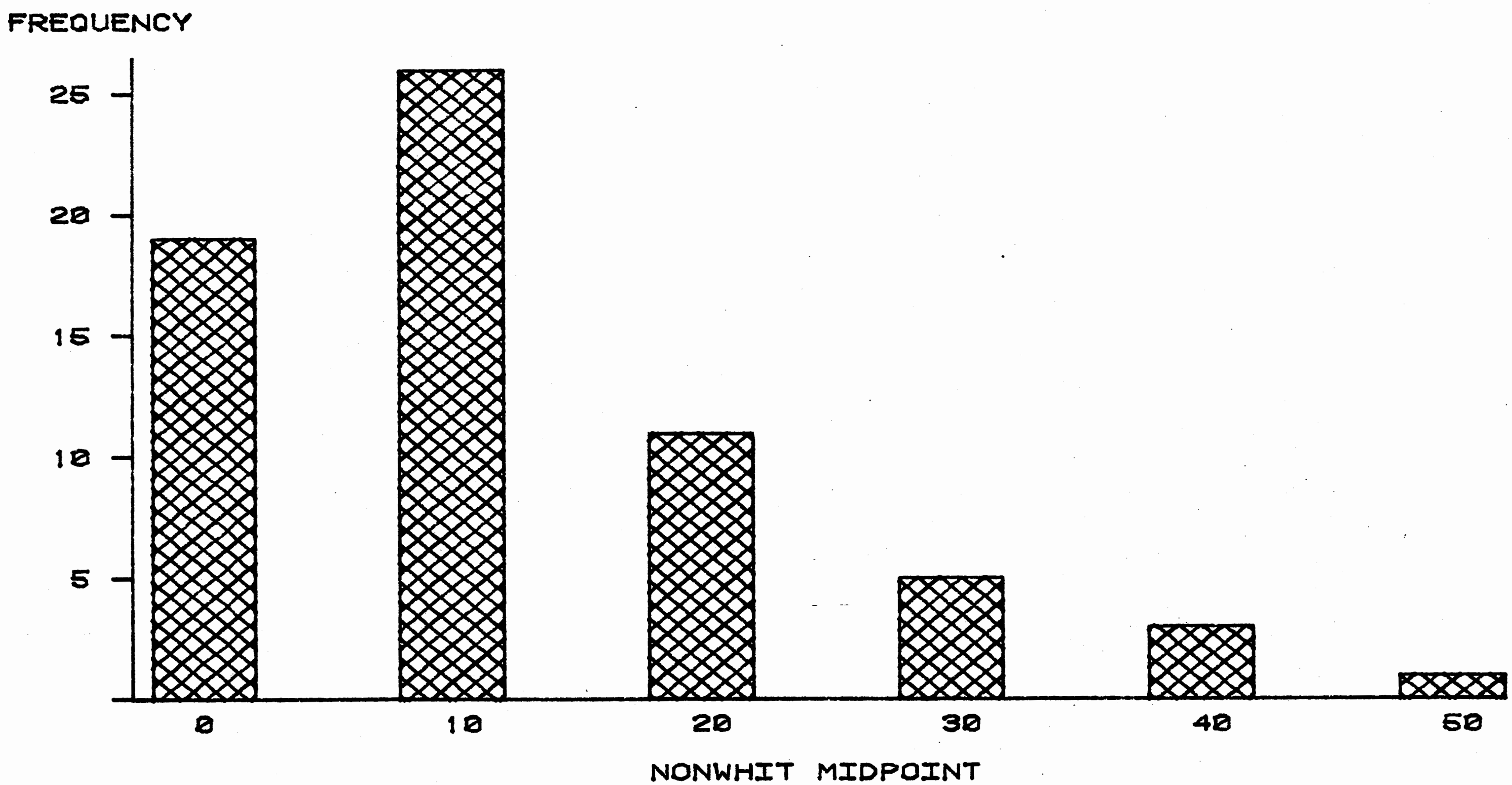

Figure 12. Histogram of Percentage of Population Non-White

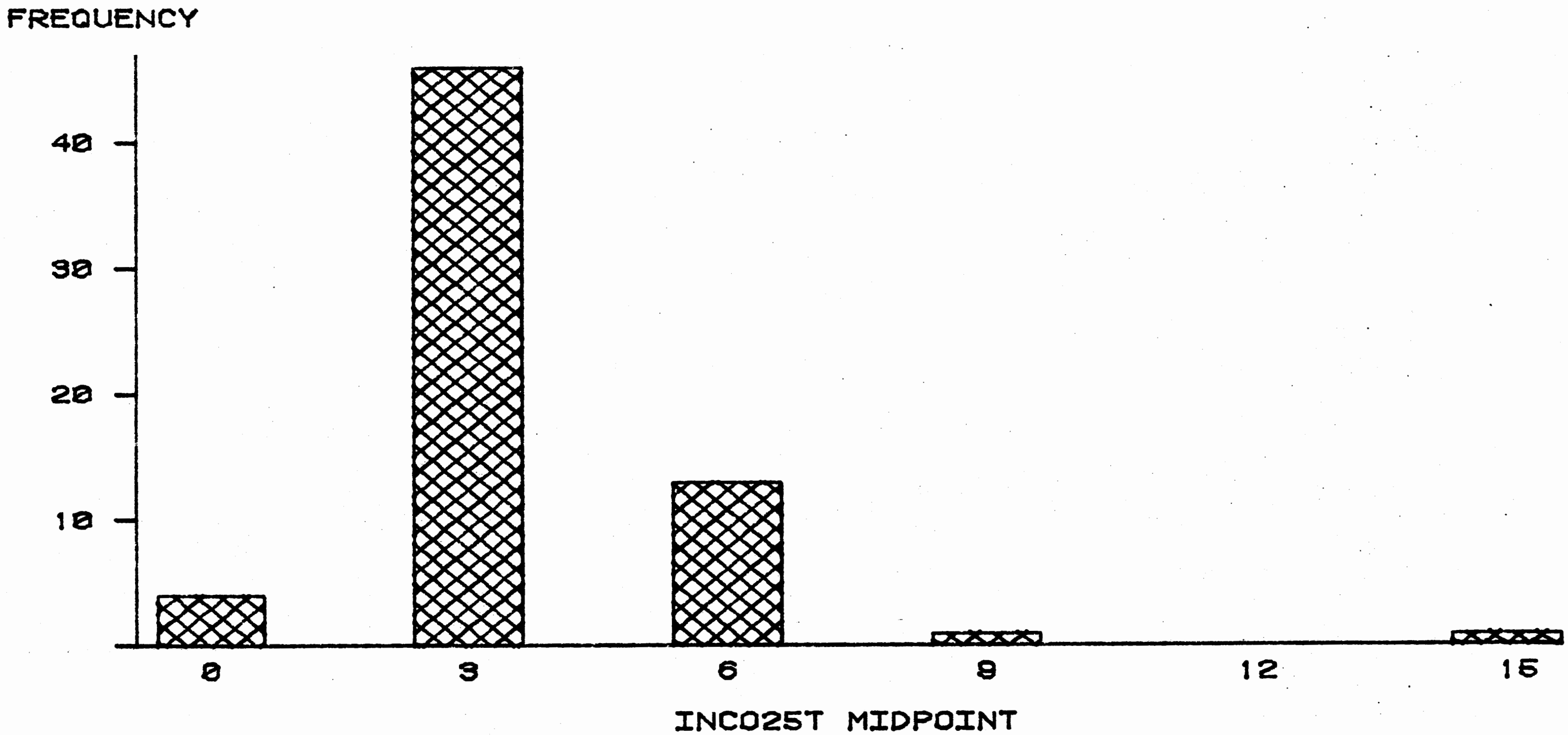

Figure 13. Histogram of Percentage of Population With Income Over $25,000

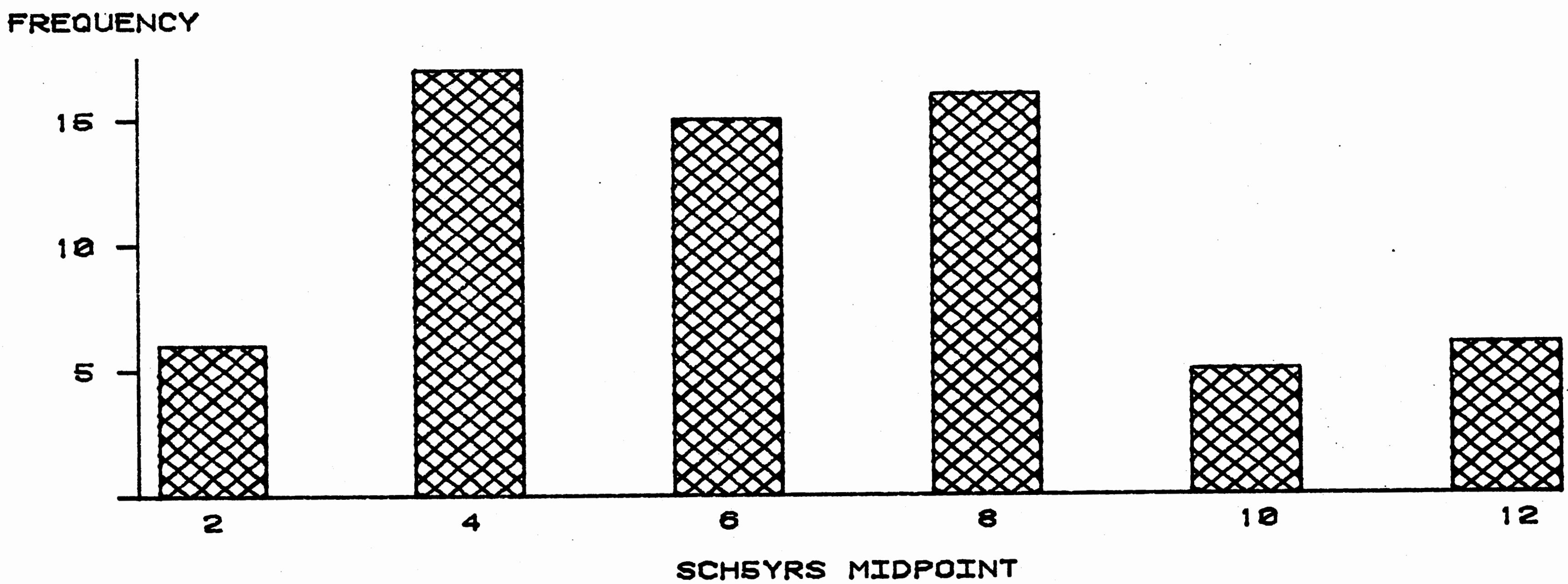

Figure 14. Histogram of Percentage of Population Over 25 With Less Than Five Years Schooling

VITA

Stephen H. Rabolt

Candidate For The Degree Of

Master of Science

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