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CRIMINOLOGY
An Introduction Through MicroCase

Second Edition

by **Rodney Stark**

3 1/2 inch diskette
ENCLOSED

For IBM Personal Computers and Compatibles
Graphics Card Required

CRIMINOLOGY

An Introduction Through MicroCase

Second Edition

by

Rodney Stark
University of Washington

Software Created by
MicroCase Corporation

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Notice that the highlight is on: **H. Open, List, Erase, or Copy File**. This is the only task listed on this menu that is available in this version of the program, and that is why there is an asterisk to the left of the letter H. In order to analyze data, you must open a data file. So, *press the <ENTER> key*. The screen now displays the three data files available to you: **STATES, SURVEY, and COLLEGE**. To open a file, place the highlight over its name and *press <ENTER>*. You can always move the highlight around by using the arrow keys.

When you have opened a data file and *pressed <ENTER>* to return to the blue menu, you will notice that the highlight is at the top of the screen on: **Switch To STATISTICAL ANALYSIS MENU**. To do this, just *press <ENTER>*. That is, you can always move from one menu to the other by placing the highlight on the Switch To line and *pressing <ENTER>*. Now you are on the red menu, which looks like this:

```
%%%%%%%%%%%%%%%%%%%%%%%%%%% STATISTICAL ANALYSIS %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%


 *S. Switch To DATA AND FILE MANAGEMENT MENU

   BASIC STATISTICAL ANALYSIS:
     *A. Univariate Statistics           *F. Scatterplot
     *B. Tabular Statistics              *G. Correlation
      C. Analysis of Variance             H. Partial Correlation
      D. Covariance Analysis             *I. Regression
     *E. Mapping Variables

   ADVANCED STATISTICAL ANALYSIS:
      J. Regression Models                L. Factor Analysis
      K. Curve Fitting



 *X. EXIT from MicroCase


                                              OPEN FILE: STATES
```

Of these statistical functions, only six are available in this version of the software. Not all six are available at any one time, since several are suitable for only certain kinds of data. For example, mapping and scatterplot functions are only useful with aggregate data such as states, while cross-tabulation is appropriate only for survey data. Thus, what is available on the red screen will depend upon which data set you have open. You can tell which functions are available by noting the asterisks to the left of the names. In the exercises that follow, you will be introduced to each of these functions and learn how to use and interpret each.

When you are finished using MicroCase simply put the highlight on **EXIT from MicroCase** and *press <ENTER>*. The exit command appears on both the red and blue menus.

If these instructions have left you with a lot of questions, don't worry. Each exercise will carefully lead you through the pertinent parts of the program.

PART I: *MEASURING CRIME*

Research in criminology is based on four major sources of data. *Official crime rates* are based on crimes reported to or discovered by law enforcement agencies and on arrests. You will become familiar with these crime rates in Exercise 1. *Victimization data* calculate the incidence of crime on the basis of interviews with large national samples during which people are asked about crimes committed against them or members of their household. You will explore some victimization data in Exercise 2. In that exercise you also will examine public opinion on a number of criminal justice issues. Finally, a lot of studies of crime are based on *self-reports*. That is, people are asked whether they have committed various offenses. You will encounter self-report data in Exercise 3. Each kind of data has strengths and weaknesses. Used in conjunction, however, they produce quite consistent findings.

EXERCISE 1: The Geography of Official Crime Rates

Insert the diskette in any drive of your computer. *Type* **MC** and *press <ENTER>*. With the highlight on **H. Open, List, Erase, or Copy File** *press <ENTER>*. The diskette contains three files, or data sets: **STATES, COLLEGE** and **SURVEY**. Using the arrow keys to move the highlight, place it on **STATES** and *press <ENTER>*. The screen will tell you that this data file is based on the 50 states and includes 106 variables. *Press <ENTER>* to return to the MENU. *Move the highlight to the top of the screen* to the line reading **Switch To STATISTICAL ANALYSIS MENU** and *press <ENTER>*. This menu is red. Place the highlight on **E. Mapping Variables** and *press <ENTER>*. Now the screen asks you for the name or number of the **variable** you wish to map.

A **variable** is anything that varies among the objects being examined. Since we are about to examine the 50 states, let's consider things that vary among them. All 50 states have murders every year, therefore *having* murders *is not* a variable among the 50 states. However, the *number* of murders does vary among the states, and thus the *total* of each state's murders *is* a variable. States also differ in the proportions of their populations who are Hispanic, or who play golf, who go to church, or who rob gas stations and these are also variables. Or, if we are examining individuals rather than states, all traits and characteristics on which people differ -- height, weight, political opinions, hobbies, or religion, for example -- are variables.

The basic task of social science is to *explain variation*. We do this by trying *to discover connections among variables*. Suppose, for example, that we found that people who differ in terms of their political opinions also differ in terms of their religious affiliation. The next step would be to try to discover *why* these variables are connected.

So, let's look at a variable. Each year the U.S. Department of Justice publishes a volume known as the *Uniform Crime Reports* or as UCR statistics. This thick book contains data on the number of major crimes of various types reported to the police during the previous year. These statistics are gathered from reports submitted to the Federal Bureau of Investigation annually by each of the nation's local police and sheriffs departments. The UCR was first published in 1929 and is the primary source available to criminologists on arrests and on the number of crimes known to the police.

One of the primary offense categories reported by the UCR is called "larceny-theft." This includes all thefts in which no use of force or fraud was involved. Shoplifting, stripping or breaking into cars, and stealing bicycles are classified as larceny-thefts. Vehicle thefts are not included because these crimes are reported as a separate category, nor are forgery and bad checks classified as larceny-thefts, since each involves fraud. The UCR data also are known as official crime statistics. They have the advantage of having been quite carefully screened -- the police must believe that a crime actually was committed for the report to be counted. They have the disadvantage of being limited to only the crimes that are reported to the police or discovered by them. Crimes that go unreported or undiscovered do not show up in these rates. As we will see, sometimes the difference between the official crime rate and the actual rate of offenses is substantial. For example, many people fail to report burglaries, especially when they don't carry insurance. However, criminologists have found the official statistics quite adequate for many research uses.

To examine the larceny-theft variable *type* 2 and *press <ENTER>*.

A map of the United States appears on your screen. It shows the number of larceny-thefts that occurred in each state during 1990. The darker a state, the greater the number of larceny-thefts. The first group of states to color in are dark red, and are those where the most larcenies took place. *Press the space bar.* The next group of states were next highest in terms of larcenies. *Keep pressing the space bar until the map is entirely colored.* The map on your screen will look like this:
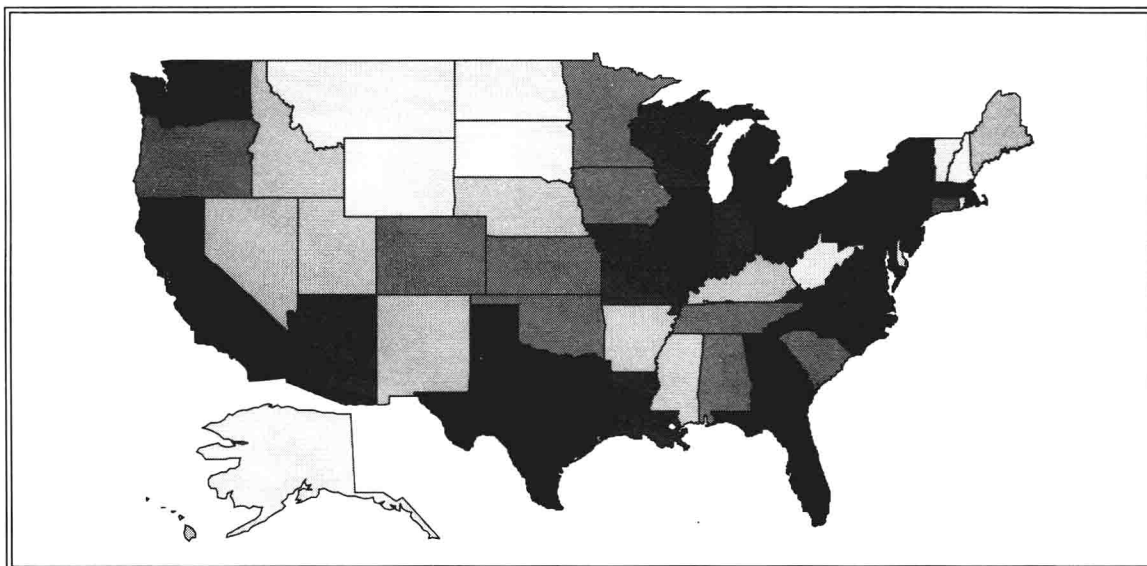
Now let's see which state was highest. *Type N* (for Name). The name California appears on the screen and a line points to that state. Below the name we see that 951,580 larceny-thefts were reported to the police in California during 1990. *Press the down arrow to move to the next highest state.* Now the screen shows us that Texas was second highest with 731,224 and the next highest was Florida with 591,210. If you keep pressing the down arrow you will be able to see the rate for each state as its name appears. However, if you want to see all 50 states ranked from high to low on larceny-thefts, simply *type D* (for Distribution). Here you can see that Wyoming is in last place -- 14,194. If you *type M* (for Map) you will return to the map.

Press <ENTER> and the screen asks you the name or number of the next variable you wish to map. This time type **POP 1990** and *press <ENTER>*. (In fact you need only type enough of the variable name to make it unique and the computer will type the rest. So, in this case you could have simply typed **POP 1** and *pressed <ENTER>*.) This map will appear:
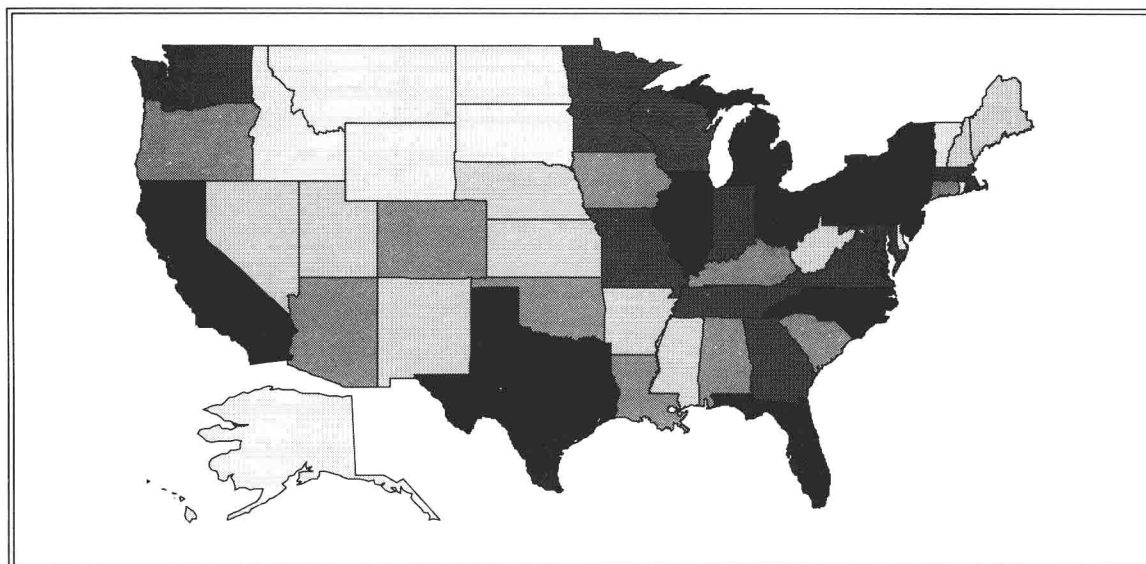
This map shows the 1990 population of each state in thousands. *Keep pressing the space bar until the map is entirely colored.*

Now let's see which state has the largest population. *Type N (for Name)*. Again the name California appears on the screen and a line points to that state. Below the name we see that in 1990 California's population was 29,760.0. Keep in mind that this population figure is in thousands so add three zeros to convert it into a total of nearly 30 million. *Press the down arrow to move to the next highest state.* Now the screen shows us that New York has the second largest population -- 17,990.5 (or nearly 18 million). To see all 50 states ranked from most to least populous, simply *type D (for Distribution)*. Notice that once again Wyoming is in last place, having the smallest population -- 453.6, or less than a half million.

Notice how extremely similar the map of larceny-theft is to this map of total population. That's because all larceny-thefts are committed by people, and where there are more people there are apt to be more thieves. Since California is by far the most populous state, it is not surprising that it is where the most larceny-thefts occur. Nor is it surprising that the fewest of these crimes occur in Wyoming, the least populous state.

It is not very interesting to know that some states are larger than others. But, that's about all that we can learn from examining raw numbers such as these. However, what we would really like to know is whether people in some states are unusually apt to commit larceny-thefts. That is, are variations in this crime statistic only a reflection of variations in population size, or do other factors enter in? The only way we can pose this question properly is by *removing variations in population size*. What we do is to make each state the same size by converting raw numbers into a **rate**.

A rate is created by reducing the numbers for each unit -- in this case, each state -- to a common base. Social scientists often use population as their common base. For example, criminologists typically divide the number of reported crimes for each state by its population and then multiply by 100,000. The resulting rate is the number of larceny-thefts per 100,000 population. This rate places California and Wyoming on equal footing.

So let's look at a map of the larceny-theft rate per 100,000. But this time, when the screen asks for the name or number of the variable, let's try a third technique for selecting variables. *Press the F3 Key.*

A window opens on the screen as shown below.

```
19) ASSAULT
20) BURGLARY
21) LARCENY
22) AUTO THEFT
23) COPS/10000
24) JAILERS
25) INMATES
26) % DROPOUTS
27) MATH SCORE
28) % COLLEGE
29) $PER PUPIL
30) STU/TEACH
31) ABORTION
32) % METROPOL
33) PLAYBOY
34) WARM WINTR
35) LIQUOR
36) WINE
```

This window shows you the name and number of every variable in any given MicroCase data file. Use the *up* and *down arrow keys* to place the highlight on a given variable. The *page up* and *page down keys* will let you move more rapidly up and down the list. The *end key* will take you to the end of the list. The *home key* will take you back to the beginning of the list.

Now place the highlight on the variable **21) LARCENY** *and press the right arrow key.* An additional window opens as shown below.

```
Minimum:       1522.7    Maximum:        4703.0
1990: LARCENY-THEFTS PER 100,000 (UCR, 1991)

19) ASSAUL
20) BURGLA
21) LARCENY
22) AUTO THEFT
23) COPS/10000
24) JAILERS
25) INMATES
26) % DROPOUTS
27) MATH SCORE
28) % COLLEGE
29) $PER PUPIL
30) STU/TEACH
31) ABORTION
32) % METROPOL
33) PLAYBOY
34) WARM WINTR
35) LIQUOR
36) WINE
```

This window shows you the full description of the variable named **21) LARCENY**. This lets you know that this variable is the larceny-theft rate. To close this window *press <ENTER>.* Now let's try a third way of selecting a variable to be mapped. Place the

highlight on **21) LARCENY** *and press the left arrow key.* Notice that a check mark appears next to the name of the variable. That indicates that you have selected it. Now *press <ENTER>.* The below map will appear on your screen. Press the space bar until it is entirely colored in.
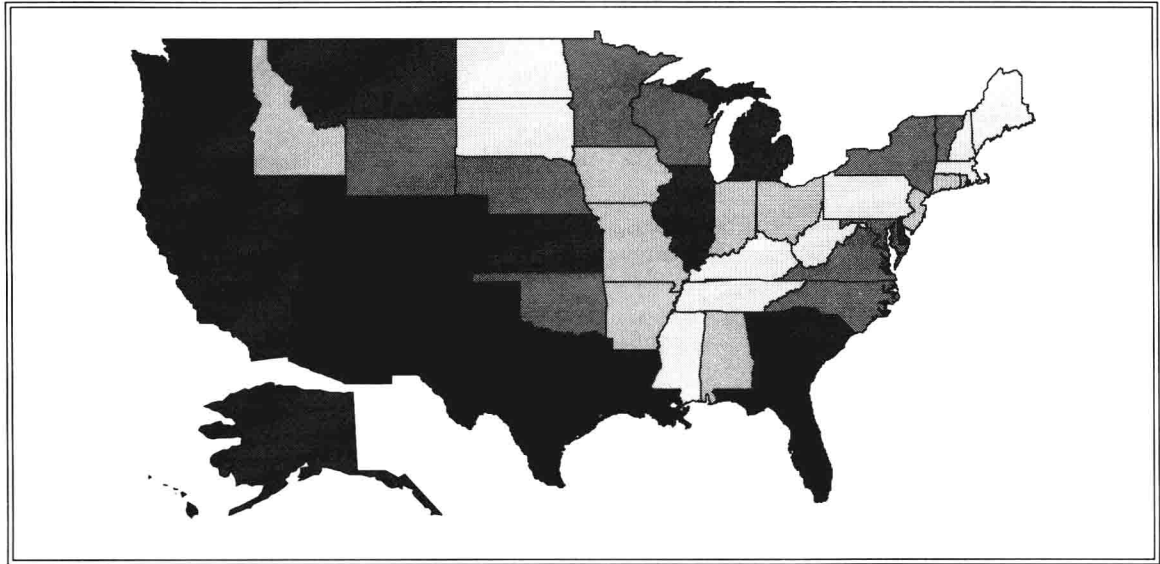
This map looks nothing like the two previous maps. *Type N* (for Name). Now the name Arizona appears on the screen and a line points to that state. Below the name we see that in 1990 there were 4,703 larceny-thefts for every 100,000 Arizonans. *Press the down arrow to move to the next highest state.* Now the screen shows that Florida had the second highest larceny-theft rate. To see all 50 states ranked from highest to lowest, simply *type D* (for Distribution). Notice that Wyoming is no longer last, but is 21st when we examine the rate rather than the number of offenses. Moreover, California and New York are far down the line, while populous Pennsylvania has fallen to 49th place. So, now we know where people are the most and least likely to commit larceny-thefts.

Now map another variable by typing **15** or **P. CRIMES** and *pressing <ENTER>.* Or, use the F3 window as explained above.

This variable is based on the total number of serious property crimes reported to the police: burglary, larceny-theft, and motor vehicle theft. These also have been transformed into a rate per 100,000 population.

Anyone who pays attention to crime stories in the national news media "knows" that crime rates are highest in the cities of the Northeast. For example, probably every TV news anchor would agree that compared with New York, New Jersey and Massachusetts, western states such as Arizona, New Mexico, Hawaii and Washington have low crime rates.

The first set of states to color in reveals that property crimes are overwhelmingly a western and southern phenomenon. Press the space bar until the map is entirely colored in. *Type N* (for Name). The name Florida appears on the screen and a line points to that state. Below the name we see that Florida's property crime is 7,566.5 offenses per 100,000 residents. *Press the down arrow to move to the next highest state.* Now the screen shows that Arizona has

the second highest rate. To see all 50 states ranked from highest to lowest on property crimes, simply *type D* (for Distribution). Notice that New York is only in 14th place and New Jersey is in 23rd. West Virginia nosed out the Dakotas for having the lowest rate.

Now map **13** or **COKE USERS**. Use any of the three techniques for selecting a variable. This map will appear:
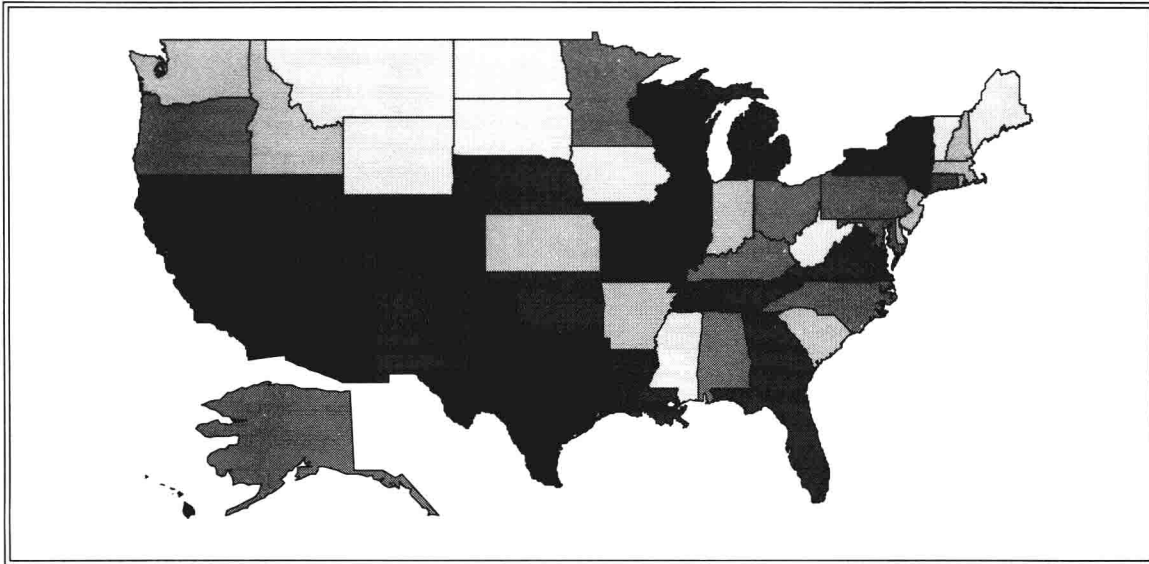

This variable is based on the estimated number of cocaine addicts per 1,000 population in 1990 as reported by the U.S. Senate Judiciary Committee. When the map is colored in it again reveals a westerly tilt. *Type N* (for Name). The name Nevada appears on the screen and a line points to that state. Below the name we see that Nevada's cocaine addiction rate is 24.9 per 1,000 residents. *Press the down arrow to move to the next highest state.* Now the screen shows that New York has the second highest rate -- 24.5. To see all 50 states ranked from highest to lowest on cocaine addiction, simply *type D* (for Distribution). Despite New York being number two, other northeastern states have relatively low rates compared with western states such as Arizona, California, Hawaii, Colorado, Texas, and New Mexico.

Now map **16** or **HOMICIDE**. This variable is based on the UCR data -- the number of homicides per 100,000 population. When the map is colored in it again reveals a modestly southern and western tilt. *Type N* (for Name). The name Louisiana appears on the screen and a line points to that state. Below the name we see that Louisiana's homicide rate is 17.2 per 100,000 residents. *Press the down arrow to move to the next highest state.* Now the screen shows that New York has the second highest rate (14.5), just ahead of Texas (14.1). To see all 50 states ranked from highest to lowest on homicide, simply *type D* (for Distribution). Despite New York being number two, once again the other northeastern states have relatively low rates compared with western and southern states such as Texas, Mississippi, California, and Georgia.

Now map **53** or **%NO RELIG.** This variable is based on a huge national survey of American adults conducted by Barry A. Kosmin in 1990. In all, 113,000 people were interviewed. Among the questions asked was: "What is your religion?" The map shows the
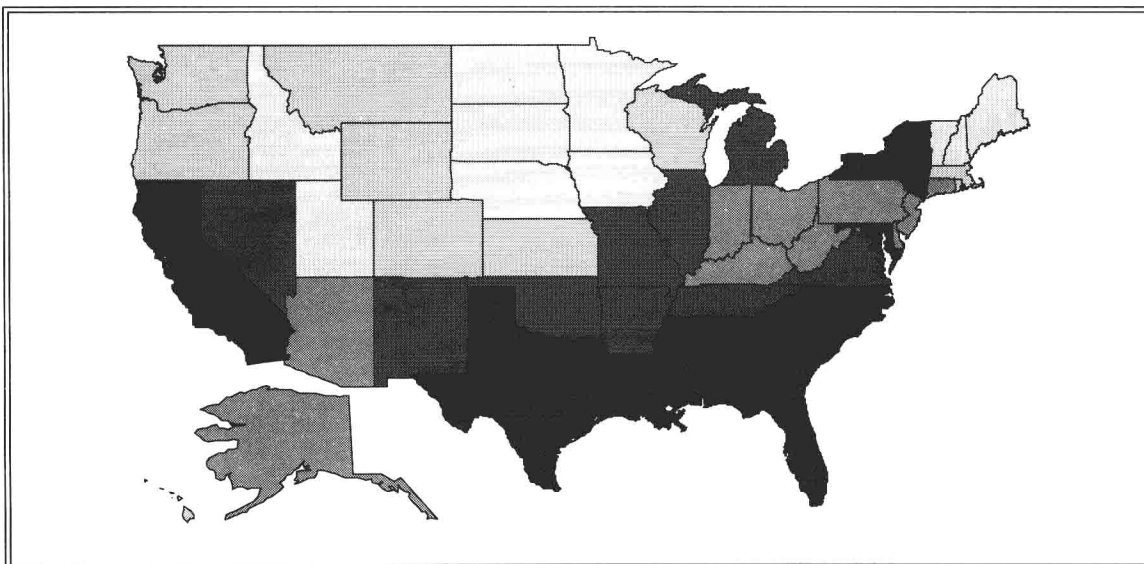
percentage of persons in each state who answered that they had no religion (see below). Percentages are also rates, except they are based on 100 rather than a larger number.
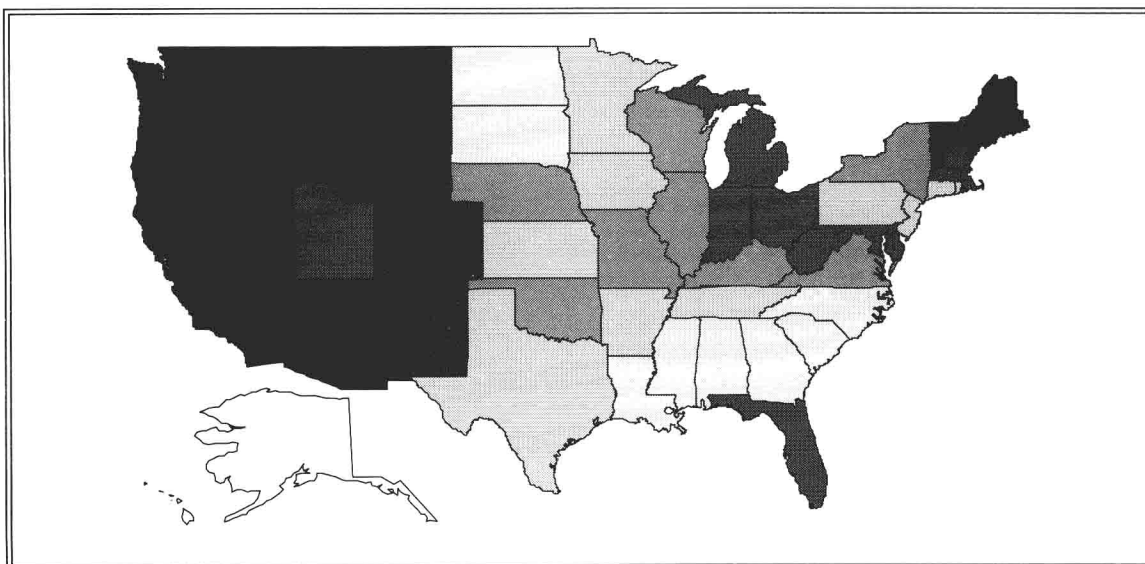
The first set of states to color in reveals that having no religion is a *very* western phenomenon. Press the space bar until the map is entirely colored in.

Type N (for Name). The name Oregon appears on the screen and a line points to that state. Below the name we see that 17.2 percent of adults in Oregon have no religion. *Press the down arrow to move to the next highest state.* Now the screen shows that Washington is the second highest state. To see all 50 states ranked from high to low, simply *type D* (for Distribution). North Dakota is lowest having only 1.6 percent without a religion, closely followed by South Dakota with 2.5 percent.

Notice that Hawaii and Alaska are at the end of the list with values of -99. This is the missing data code and will appear whenever no data are available for a particular case.

When Kosmin conducted his poll he did not include Alaska and Hawaii in his sample, and that's why we cannot give them a percentage and that's why they remained blank on the map.

Now map **31** or **ABORTION**. Use any of the three techniques for selecting a variable. This map will appear:
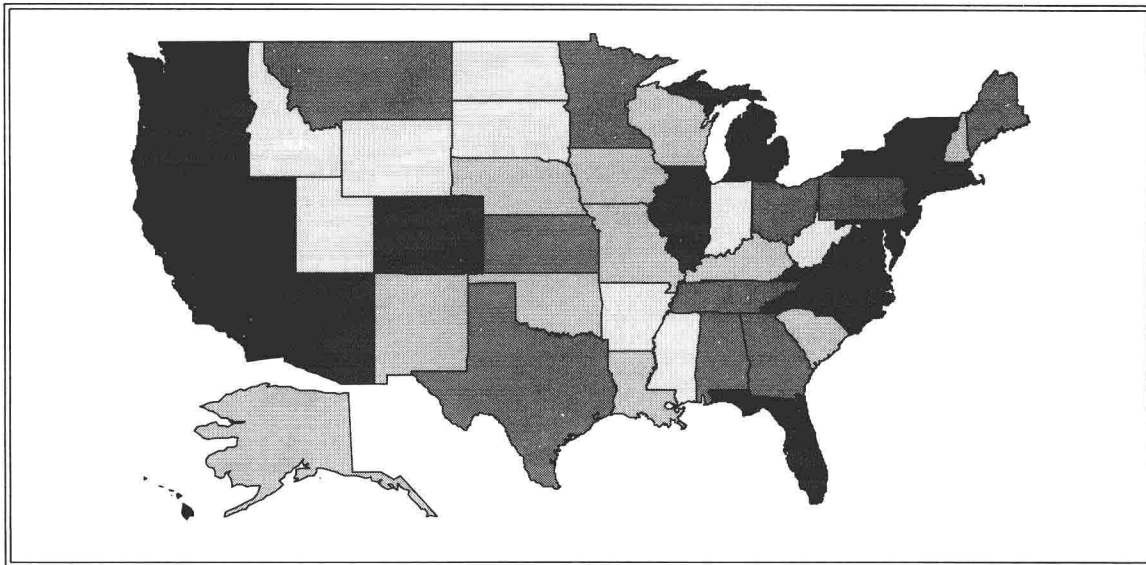
This variable is the abortion rate for states in 1988, the most recent year available. Unlike many other rates, the abortion rate is *not* based on the total population. While anyone could steal, not everyone could have an abortion. In fact, only pregnant women could have abortions. That being the case, an abortion rate based on the whole population could be seriously distorted if states differ greatly in their proportions of pregnant women. For example, a state with a quite elderly population will have fewer abortions than a state with a population that is mostly made up of young adults. But it could be that pregnant women are more likely to have abortions in the state with the more elderly population. To create an unbiased abortion rate, public health scientists base it on the number of live births, multiplied by 1,000. That is, these rates show the number of abortions per 1,000 live births.

The first set of states to color in reveals that the social geography of abortion is very different from that for homicide or lack of religion. Abortion is a *bi-coastal* phenomenon -- highest in the Atlantic Coast states of the northeast and the states along the Pacific. Press the space bar until the map is entirely colored in.

Type N (for Name). The name New York appears on the screen and a line points to that state. Below the name we see that for every 1,000 live births in New York during 1988, there were 634 abortions. *Press the down arrow to move to the next highest state.* Now the screen shows that California is the second highest state. To see all 50 states ranked on the abortion rate, simply *type D* (for Distribution). South Dakota is lowest having 82 abortions per 1,000 live births, closely followed by Wyoming with 90.

Now, it's your turn to explore and interpret some maps.

1. Open the **STATES** data file and select the mapping function. Map variable **38** or **% WINE.**

   Write in the caption of the map: _____

   _____

   List the three highest states: 1   _____

                                   2   _____

                                      3   _____

   List the three lowest states: 48   _____

                                   49   _____

                                   50   _____

   This map most closely resembles the map of **(circle one):**   ABORTION %NO RELIG. NEITHER

2. Map variable **17** or **RAPE.**

   Write in the caption of the map: _____

   _____

   List the three highest states: 1   _____

                                   2   _____

                                      3   _____

   List the three lowest states: 48   _____

                                   49   _____

                                   50   _____

   This map most closely resembles the map of **(circle one):**   ABORTION %NO RELIG. NEITHER

3. Map variable **18** or **ROBBERY.**

   Write in the caption of the map: _____

   _____