Research Methods in Political Science
An Introduction Using MicroCase®
Seventh Edition
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CHAPTER 1

A Brief Overview of Research Methods in Political Science

Tasks: Univariate, Mapping
Data Files: NES 04, GLOBAL, GSS, STATES, HOUSE

INTRODUCTION

To give you an overview of things to come, this chapter provides

- an explanation of the goals of the book
- a description of the organization of the book
- a brief overview of the overall research process in political science
- an introduction to the use of the MicroCase software with the data files

GOALS OF THE BOOK

This book will describe and explain the basic features of the research process in political science. These features will also be demonstrated through the Student Version of the MicroCase Analysis System, but the same ideas and basic procedures would also apply if you were using a different statistical analysis system such as SPSS or SAS. After completing this book, you will be able to

- define and explain the core concepts used in the discussion of research methods in political science
- explain the basic strategy and stages—from the beginning stage to the ending stage—of political science research
- create a data file and do the appropriate statistical analysis of variables in data files

ORGANIZATION OF THE BOOK

This first chapter gives an overview of the research process in political science. Each of the subsequent chapters covers certain aspects of the research process in political science: measurement, sampling, data preparation, variables, hypotheses, and so on. The final chapter puts the pieces back together into an integrated whole.

Each chapter has two major parts. The first part discusses and explains the topic of the chapter. The second part provides step-by-step computer exercises that demonstrate the topic of the chapter; for this part, you will go to a computer and follow the directions included in the exercise. As you go through the exercises, you will respond to the questions on the worksheets.

THE OVERALL POLITICAL RESEARCH PROCESS

As a political science student, you need to understand the basic processes of political research. You need to be able to evaluate the research done by others, and you need to be able to carry out your own research. Sometimes students say, "I'm not really interested in the research aspects of political science; I'm more interested in analyzing political issues." Even for these students, however, it is important to understand research methods and to be able to evaluate the research of other people. The discussion of political issues often involves assumptions or questions that could be investigated empirically—through systematic, "objective" sensory observations rather than just an expression of opinions.

For example, there are often discussions of the effects of providing economic assistance to the poor. Such discussions generate a great deal of heat, because different people bring different values and different assumptions about reality to the discussion. What kinds of people are most likely to receive assistance? How long do people usually rely on assistance? Does assistance produce a group of people who become dependent on it and cannot help themselves? Does assistance usually provide temporary help for people who then get back on their feet economically? What kinds of psychological effects does assistance have on the people who receive it? Many of those questions about reality could be assessed through research or through analysis of research findings that already exist.

We might further be interested in the kinds of people who hold different views concerning assistance to the poor. Some people, for example, take a negative view of those who receive economic assistance; others take a more positive view. What accounts for the difference between these views? How are these attitudes concerning public assistance to the poor related to other political and social attitudes that people hold?

Using comparative data (for different political units such as cities, states, or nations), we might further be interested in the effects of public assistance on the overall political system. In the United States, for example, what differences are there from one state to another in terms of public assistance policies? What effects do these policies have? Does spending on public assistance help or hurt the economy of a state? How is spending on public assistance related to such matters as the crime rate or the education level in the state? We could also ask those *types* of questions about nations, since there are great variations among the countries of the world in terms of assistance to the poor.

Many political controversies involve questions of how political reality operates; these questions can be investigated through political research. However, you need to be able to evaluate whether the research has been done properly and whether its conclusions are justified on the basis of the research.

As students of politics, we attempt to develop descriptions and explanations of aspects of political reality. Different political scientists have different views on the best way to define politics; they also have different views on which particular aspects of politics are the most important to study. Nevertheless, although we may do a great deal of exploratory research when moving toward our goals, our overall goal is to describe and explain political reality, no matter how we may define the term. This leads to research on many questions related to politics at various levels and in various types of situations. The following questions provide a very small sample of the types of questions that political scientists have investigated:

- What kinds of people are most likely to become fascists?
- Which city government structure is the most efficient in achieving its goals?
- In which economic situations within nations is rebellion most likely to occur?
- What effects does educational level have on people's political views?
- How do people's religious beliefs affect their political beliefs? How, for example, are their religious beliefs related to their attitudes toward war? Toward abortion? Toward welfare?

We can all come up with our own *opinions* on such matters, but the scientific approach in political science requires that we go beyond this. Our goal is to develop explanations of political reality that can be verified by other researchers who employ the scientific approach.

There are various approaches within political science, but the scientific process has a general overall strategy. We will briefly review the typical stages of doing research in political science. Note that in reality, however, the order in which these stages occur is not necessarily the order in which they are presented below. For example, in the stages below, the researcher develops the hypotheses first and then collects the necessary data to test those hypotheses. However, in reality a political scientist might already have access to important data and then develop hypotheses that could be tested using those data.

Stage 1: Formulating the Research Idea

The first stage in the research process is to develop the research idea. Research ideas can come from various sources. They might be based on the interests of the researcher—for example, a person might be interested in political tolerance and decide to investigate the sources of tolerance or intolerance. The research idea might originate in questions raised by others (e.g., students or professional colleagues). The researcher might be working on one idea and come across materials that lead to the development of another idea.

The researcher might start out with a specific hypothesis or set of hypotheses. Conversely, the researcher might start with a fairly broad research idea (e.g., the question of the extent to which people's political attitudes are linked to their personality traits) and then narrow this idea down to a set of specific hypotheses as the research process unfolds.

Stage 2: Conducting the Literature Review

The next stage is to find out what research has already been done in this area. Scientific research is cumulative; we build onto what has already been done rather than start from scratch each time we do research. It might be that someone else has already done the research you want to do, or that someone has done research that has important implications for the research you want to do. At any rate, the political researcher must find out what has already been done and what needs to be done in this particular area. In conducting the literature review, the political researcher will primarily examine the books and the professional journals in this area.

Stage 3: Formulating the Hypothesis

At some point, the researcher formulates a specific hypothesis or set of hypotheses. The hypothesis should grow out of a theoretical framework—an explanation of the aspects of political reality being investigated. A researcher starts, for example, with a theory to explain how and why certain personality traits affect political attitudes. The researcher then develops one or more hypotheses in order to test the theory. Since a hypothesis is a prediction based on the theory, the test of the hypothesis has implications for the validity of the theory.

Stage 4: Defining the Concepts

We need to measure the concepts we are dealing with. Before the measurement process begins, however, it is important that we have a clear idea of exactly what these concepts are. For example, if we are going to do research on political tolerance, we need to start with a clear notion of what we mean by political tolerance. Thus, we need to formulate clear definitions of our concepts early in the research process. A *conceptual* (or *nominal*) *definition* is a statement of the meaning of a concept.

Stage 5: Operationalizing the Concepts

If we want to use a concept in scientific research, we need a way to measure the concept. An *operational definition* is a specification of the steps by which a concept is measured. For example, how would you go about measuring the concept of political tolerance? You would probably develop a series of questions to ask people. In this case, the operational definition of political tolerance would consist of the specific set of questions and the procedures for developing an actual measurement of political tolerance.

An operational definition must be so specific and complete that someone else could use your operational definition and obtain the same results that you did. It is important in scientific research that the procedures we use be made explicit so that others can replicate our research. Thus, we need to be clear about how we define concepts, how we measure concepts, how we analyze data, and so on.

Stage 6: Measuring the Data

At this point, the actual measurement process is carried out. If we are collecting new data, this process begins with data collection. We might collect data through surveys, from public records (such as the voting records of public officials), from aggregate data sources (such as the United States Census), through experiments, or through other methods.

Sometimes the data already exist. We might, for example, use data that were collected by an organization (the Census Bureau, a survey organization, the *Congressional Record* staff, and so on) to be used for various purposes. However, even in this situation, we are still involved in measurement, because the measurement process also includes alterations in existing data. For example, in the General Social Survey (GSS) data file you will be using for the worksheets, there are several questions that might be used to measure racism. Instead of using those questions individually, a researcher might develop a composite measure of racism based on a combination of several questions.

Stage 7: Selecting the Statistical Technique

After the data have been collected, the researcher must select the appropriate statistical techniques to test the hypotheses. There are many different methods of statistical analysis; some are more useful in a particular situation than others. To a very great extent—as you will see—we select the statistical technique on the basis of the characteristics of the data we are using.

Stage 8: Drawing Conclusions

After the statistical analysis, the researcher draws conclusions about the theoretical meaning of the results. Do the results support the theory with which the researcher started? How has the research contributed to what was already known in this particular area? Do the results suggest that further research is needed? Have new questions been raised by the research?

Stage 9: Writing the Research Report

After the study is finished, the researcher writes a report on it. The nature of the report can vary, depending on the audience for which it is intended. Essentially, however, it includes information describing the stages of this particular research: the background of the research question, the literature review, the operational definitions, the data-collection procedures, the statistical results, and the conclusions.

EXPLORING THE DATA FILES

Important: For the worksheet portion of each chapter, go to the computer you will be using and start MicroCase by following the directions in the "Getting Started" section at the beginning of the book. If you have not yet carefully read the "Getting Started" section, please do that before continuing.

In this section, we will explore the data files that came with your Student MicroCase software. We will open data files, view variable lists and variable descriptions, select variables for analysis, obtain frequency distributions (with bar graphs and pie charts), and so on. In the course of doing this, you will see that it is easy to use Student MicroCase. After this exploration, the worksheets at the end of the chapter will guide you through a second tour and provide you with questions to answer.

The Data Files

There are seven data files included with Student MicroCase:

- **HOUSE** Selected information on the voting behavior and backgrounds of U.S. representatives for the 109th Congress (2005–2006)
- **NES** A selection of variables from the 2006 American National Election Study survey of a national sample of adults in the United States
- **NES 04** A selection of variables from the 2004 American National Election Study survey of a national sample of adults in the United States
- **GSS** Selected variables from the 2006 General Social Survey of a national sample of adults in the United States
- **GSS 04** A selection of variables from the 2004 General Social Survey of a national sample of adults in the United States
- **STATES** A selection of variables (e.g., rate of violent crime, percentages of the votes given to presidential candidates, and data from the 2000 U.S. Census) for the 50 U.S. states updated in 2006
- **GLOBAL** A variety of variables for 172 nations each with a population of 200,000 or more, updated in 2006

These data files represent a variety of different kinds of data. Four files (NES, NES 04, GSS, and GSS 04) contain survey data. The STATES file and the GLOBAL file each contain aggregate data from a variety of sources including some data originally collected through survey methods. The HOUSE file contains data from public records (e.g., information on how representatives voted on a term-limits bill) and from other sources (e.g., census data on the population characteristics of representatives' districts).

In addition to the data files that are included with Student MicroCase, you will see in Chapter 7 that you can create a MicroCase data file yourself.

Exploring Data Files Based on Individuals

Three of the data files are based on data collected from or about individuals. The NES and GSS files are based on surveys of individuals, and the HOUSE file contains data characterizing individual U.S. representatives or qualities of their districts. By contrast, the STATES file and the GLOBAL file contain aggregate data—information for larger units. Let's first explore a data file based on individuals and then explore a data file based on larger units.

Exploring Univariate Statistics and Graphs

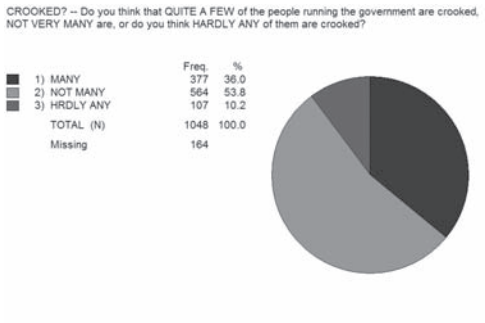
Follow the directions in the software guide below.

➤ Data File: **NES 04**
➤ Task: **Univariate**

Below the software guide, you sometimes will be provided additional information or tips on how to follow the instructions in the guide—especially at the beginning of this book. This information will be in bold, as it is here. For this particular example, remember that these two instructions mean you should open the NES data file and then select the UNIVARIATE task. You will need to select the STATISTICS menu before selecting the UNIVARIATE task.

Before we select a variable, note the variable list on the left side of the window that opened when you selected the UNIVARIATE task. Click on several of the variables and read their descriptions in the Variable Description box in the lower right corner of this window. Now let's select a particular variable.

Data File: **NES 04**
Task: **Univariate**
➤ Primary Variable: **97) CROOKED?**
➤ View: **Pie**

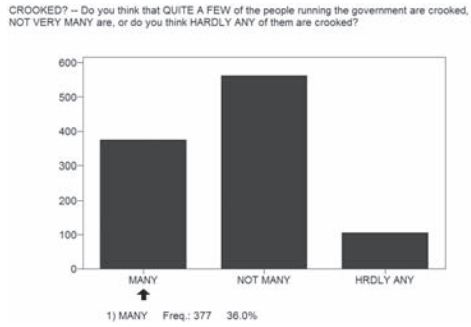


Remember that you must perform only those tasks that have the ➤ symbol in front of them. Here you have already performed the instructions in the first two lines, so there is no ➤ symbol in front of these two lines. So, you begin with the third line, which asks you to select 97) CROOKED? as the Primary Variable. Note also that in this particular situation you do not actually need to do anything else for the fourth line, because the default view was the pie chart, so it was automatically selected for you.

Also remember that you can select the variable—97) CROOKED?—in several different ways. You could have double-clicked the name of the variable in the box that lists the variable numbers and names, you could have typed in the number of the variable [97] in the Primary Variable box, or you could have typed in the name of the variable [CROOKED?] in the Primary Variable box. You also could have highlighted the variable name in the variable number or name box and clicked on the little arrow on the left side of the Primary Variable box.

At this point you see a pie chart representing the distribution of responses for a question asking people how many public officials they thought were crooked. This pie chart presents the results graphically so that you can quickly and easily grasp the basic distribution. These results show that 377 respondents (36.0%) believe that many public officials are crooked, 564 respondents (53.8%) believe that not many public officials are crooked, and 107 respondents (10.2%) believe that hardly any public officials are crooked. The *Total (N)* of 1,048 refers to the total number of respondents who answered this question. The *Missing* figure of 164 means that there were 164 respondents who did not answer this question. Next, let's view these same results in a different way.

Data File: **NES 04**
Task: **Univariate**
Primary Variable: **97) CROOKED?**
➤ View: **Bar - Freq.**



To obtain this graph, simply click the [Bar-Freq.] option.

Now you have a bar graph that gives you the same information you had in the pie graph. When you click on a particular bar, the results below the bar graph change to give details about the category represented by that particular bar. For example, when you click on the middle bar (the *Not Many* category), the results below the bar graph show that there are 564 respondents in this category (or 53.8% of all the respondents who answered this question). We can also see this information in a table format along with some additional statistics.

Data File: **NES 04**
Task: **Univariate**
Primary Variable: **97) CROOKED?**
➤ View: **Statistics (Summary)**

CROOKED? -- Do you think that QUITE A FEW of the people running the government are crooked, NOT VERY MANY are, or do you think HARDLY ANY of them are crooked?

Mean:	1.742	Std.Dev.:	0.629	N:	1048
Median:	2.000	Variance:	0.396	Missing:	164

99% confidence interval +/- mean: 1.692 to 1.792
95% confidence interval +/- mean: 1.704 to 1.780

Category	Freq.	%	Cum.%	Z-Score
1) MANY	377	36.0	36.0	-1.180
2) NOT MANY	564	53.8	89.8	0.409
3) HRDLY ANY	107	10.2	100.0	1.999

To obtain this table, simply click the [Summary] option.

We won't worry about what these results mean now. We'll learn more about this later. Be aware that you can print any of this information (if you have a printer available) by clicking the printer icon at the top of the screen.

Searching for Variables

There are many variables in the data files you will be using. Finding a particular variable in one of these files might be difficult if you were trying to find the variable by just scrolling through the variable names and descriptions. However, MicroCase makes the job of searching for a variable easy and convenient. Let's see how this works.

First, assuming that you still have the statistical results for 97) CROOKED? on the screen, return to the window that lists the variables by clicking on the [↩] button. Note that while we will demonstrate the search procedure within the UNIVARIATE task, this applies to all other statistical tasks as well. That is, whenever you select any statistical task, a window containing a list of variables will appear on the screen. When that window appears, you can then search for a variable or set of variables.

Click on the [Search] button under the list of variables. A window will appear with a box in which you can type a search term. When you specify a particular search term, the program will search for any variable that has that term in its name or its variable description. For example, let's search for any variable that contains the word "trust" in either its name or variable description. So, type the word *trust* in the box and click [OK].

Note that this search produced a list of nine variables containing the word "trust." You can select variables for statistical analysis from this list using the same methods that you use to select variables from the full list. When you want to return to the full list of variables, simply click the [Full List] button.

Click on the [Full List] button, and let's do another search. If you wanted to search for any variable dealing with attitudes toward women, you could use the term "women," and then you could do another search using the term "woman." However, you can combine both of these searches into one search by simply typing the letters "wom." This will find any variable that contains "wom" in its name or variable description. Try this: Click on the [Search] button, type in *wom* as the search term, and click [OK].

Here's another tip. When you are searching for variables related to some particular topic, think about all relevant terms that might reasonably be used as search terms for that topic. In the preceding example, if you were interested in attitudes concerning sexual equality, you might search for all variables that contain any of the following terms (and perhaps others as well): sexual, equality, women, woman, female, gender, sexism, and affirmative.

By the way, in case you prefer to search through a paper copy of the list of variables, Appendix C contains a list of variables for the HOUSE and GLOBAL data files.

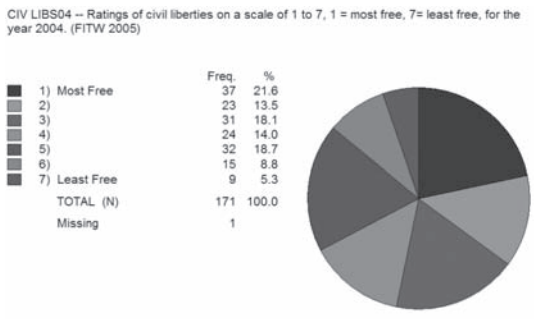
Exploring a Data File Based on Larger Units

The procedures for examining either the STATES file or the GLOBAL file will be similar to each other. The biggest difference between analysis of those two data files and analysis of the three data files based on individuals (NES, GSS, and HOUSE) is that we can use the MAPPING task with the STATES and the GLOBAL files. For present purposes, let's use the GLOBAL file. We will begin with a brief look at univariate statistics for some variables in this file and then go to the MAPPING task.

Univariate Statistics

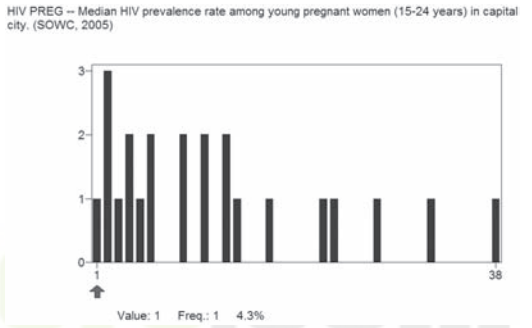
The type of results for the UNIVARIATE task for GLOBAL will be partly similar to and partly different from those for the NES 04 data file we examined earlier. Let's first look at a situation when the type of results does not differ from the type of results we achieved when examining the NES 04.

➤ Data File: **GLOBAL**
➤ Task: **Univariate**
➤ Primary Variable: **314) CIV LIBS04**
➤ View: **Pie**



Here we see a pie chart for the variable 314) CIV LIBS04. Note that this particular variable has only seven categories. Now let's look at a variable that has more categories.

Data File: **GLOBAL**
Task: **Univariate**
➤ Primary Variable: **99) HIV PREG**
➤ View: **Bar - Freq.**



The category range for HIV PREG (which goes from 1 to 38) is much greater than the range for CIV LIBS04. Note that the pie chart option has been dimmed on the screen. Because pie charts with more than 10 slices are difficult to interpret, MicroCase does not allow you to create a pie chart with this many categories. Instead, a bar graph is shown by default, provided there are fewer than 100 potential categories.

In the previous two analyses, the categories were based on whole numbers (that is, the categories did not have any numbers to the right of the decimal point). Let's see what happens when we have a variable that uses decimal points.

Data File: **GLOBAL**
Task: **Univariate**
➤ Primary Variable: **28) BIRTHRATE**
➤ View: **Statistics (Summary)**

BIRTHRATE -- Crude birth rate indicates the number of live births occurring during the year per 1,000 people estimated at midyear. (WDI, 2005)

Categories generated by truncating last digit. Median is estimated.
Mean: 23.748 Std.Dev.: 11.587 N: 169
Median: 21.759 Variance: 134.260 Missing: 3
99% confidence interval +/- mean: 21.445 to 26.051
95% confidence interval +/- mean: 21.996 to 25.500

Range	Freq.	%	Cum.%	Z-Score
8.16 - 8.25	1	0.6	0.6	-1.345
8.36 - 8.45	1	0.6	1.2	-1.328
8.56 - 8.65	2	1.2	2.4	-1.311
8.66 - 8.75	1	0.6	3.0	-1.302
8.76 - 8.85	2	1.2	4.1	-1.294
8.86 - 8.95	1	0.6	4.7	-1.285
9.16 - 9.25	2	1.2	5.9	-1.259
9.26 - 9.35	1	0.6	6.5	-1.250
9.36 - 9.45	3	1.8	8.3	-1.242
9.46 - 9.55	2	1.2	9.5	-1.233
9.56 - 9.65	3	1.8	11.2	-1.225
9.66 - 9.75	1	0.6	11.8	-1.216
9.76 - 9.85	2	1.2	13.0	-1.207
9.96 - 10.05	1	0.6	13.6	-1.190

As shown in the left column, the categories for the birthrate variable have two decimal digits. Because two digits of precision are used for these categories, each nation tends to have a unique population growth rate. Because most categories represent a single nation, it doesn't make much sense to show the rate graphically. Notice the summary statistics located at the top of the screen. For this variable, we see that the mean (average) birthrate for these 172 nations is 23.748.

Mapping Variables

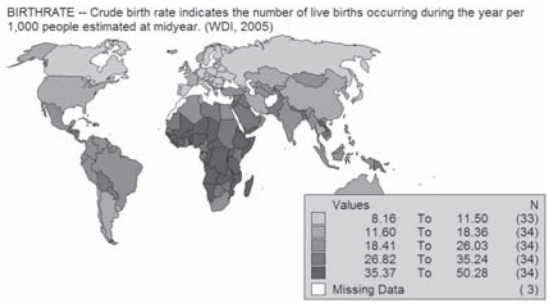
We will now map some of the variables in the GLOBAL file. Let's begin with the birthrate variable that we just used.

Data File: **GLOBAL**
➤ Task: **Mapping**
➤ Variable 1: **28) BIRTHRATE**
➤ View: **Map**

You have already opened the GLOBAL data file, so you need to first select the MAPPING task, and then select 28) BIRTHRATE for Variable 1. The first view is the Map view. (Remember, the ➤ symbol indicates which steps you need to perform if you are doing all examples as you follow along in the text. So, in the next example, you need only select the [Legend] option—that is, you don't need to repeat the first four steps, because they were already done in this example.)

The resulting map shows the 172 countries in terms of five different colors, and these colors correspond to the five levels of the birthrate. Look at the legend on your computer screen to see the birthrates that correspond to particular colors.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
View: **Map**
➤ Display: **Legend**

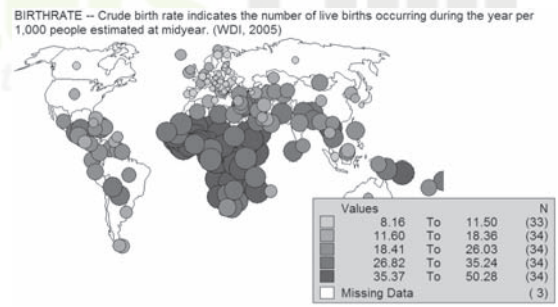


As indicated by the ➤ symbol, if you are continuing from the previous example, select the [Legend] option.

The nations are divided roughly equally into five groups. Here the 33 nations that have the highest birthrate are in the highest fifth. Next are the 34 nations in the second highest fifth. And so it goes down to the 34 nations in the lowest fifth.

We can easily see from this map that the highest birthrate countries are in Africa and that some of the lowest birthrate countries are in Europe. Another way to examine these results is to look at the spot map. First, deselect the legend by clicking on the [Legend] option again. Then select the [Spot] option.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
View: **Map**
➤ Display: **Spot Fill**



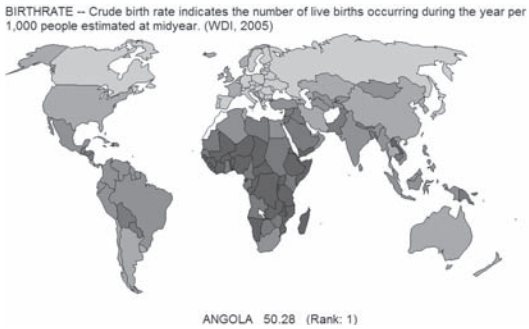
These spots are colored in the same way as the countries. Additionally, the size of the spot indicates how high the birthrate is—the larger the spot, the higher the birthrate. Deselect the spots by clicking [Spot] again.

For the variable being mapped, you can get specific information for a particular nation by simply clicking on it. Click on the United States and you will see that its birthrate is 13.88 and that it ranks 123 (out of 172 nations) in terms of birthrate. Click on Russia and you will see that it has a birthrate of 9.82 and that it ranks 149 out of 172. Click on Angola and you will see that it has a high birthrate (50.28) and that it is ranked number 1 out of 172 countries in terms of birth rate.

You say that you didn't find Angola on the map? Well, there's an easy way to do this. MicroCase has a [Find Case] option that makes it easy to locate a geographic area. You will first need to click the [Find Case] box to deselect it (the box will have been checked while you were clicking

on countries). Now, continue with this example by selecting the [Find Case] option again as indicated by the following software guide.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
View: **Map**
➤ Display: **Find Case: Angola**



Once you have selected the [Find Case] option, locate Angola in the list of nations. Click on the box next to Angola to select it and then click [OK] to close the window. The selected case is highlighted on the map, and its value on the variable is shown.

Angola will now be highlighted, and an arrow will point to it. Go ahead and find some other countries this way.

While the methods for finding particular countries on the map are interesting ways to examine birthrates, you might want a listing of all the countries at once. This can be done quite easily.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
➤ View: **List: Rank**

RANK	CASE NAME	VALUE
1	Angola	50.28
2	Somalia	49.99
3	Guinea-Bissau	48.56
4	Niger	48.23
5	Mali	47.53
6	Congo, Dem. Republic	44.97
7	Chad	44.77
8	Malawi	44.36
9	Congo, Republic	44.17
10	Uganda	43.98

As indicated by the ➤ symbol, select the [List: Rank] option. The number of rows shown on your screen may be different from that shown here. Use the cursor keys and scroll bar to move through the list if necessary.

The window that opens lists all 172 nations from highest to lowest in terms of birthrate. As we saw earlier, Angola has the highest birthrate (50.28), and (if you scroll down) Georgia has the lowest (8.16). You might, however, want an alphabetized list of countries. This is also easy.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
➤ View: **List: Alpha**

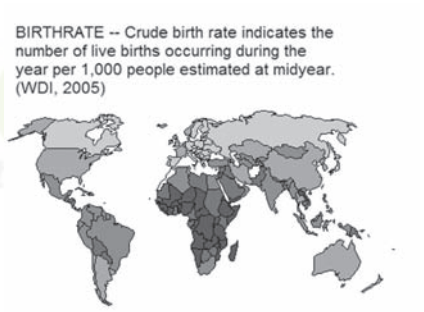
RANK	CASE NAME	VALUE
--	Afghanistan	
109	Albania	17.05
86	Algeria	21.64
1	Angola	50.28
105	Argentina	18.24
158	Armenia	9.36
130	Australia	12.50
154	Austria	9.50
114	Azerbaijan	16.26
104	Bahamas	18.33

As indicated by the ➤ symbol, select the [List: Alpha] option.

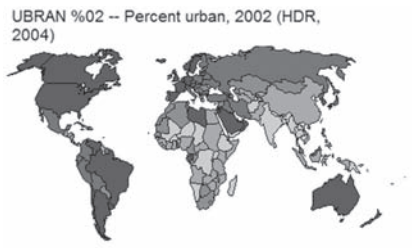
This presents an alphabetized list of nations with the value and ranking for each nation.

You can also have two maps on the screen at the same time to compare the results. Return to the list of variables and follow the software guide below.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
➤ Variable 2: **22) URBAN %02**
➤ Views: **Map**



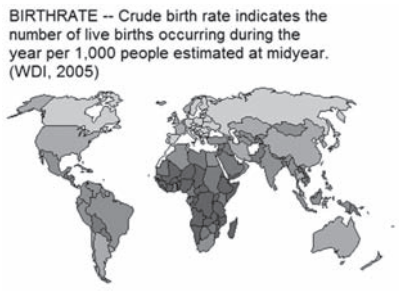
r = –0.621**



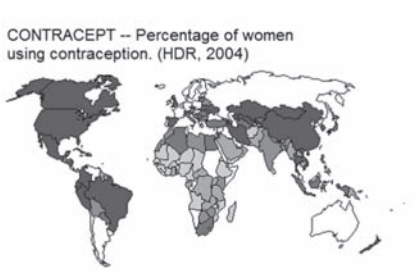
If you are continuing from the previous example, return to the variable selection screen for the MAPPING task by clicking on the [↩]. 28) BIRTHRATE should still be selected for Variable 1. Now select 22) URBAN %02 for Variable 2.

Compare the two maps on the screen and you will see that they look very different. Thus, nations that are more urban have lower birthrates. Let's change the second variable and view two more maps.

Data File: **GLOBAL**
Task: **Mapping**
Variable 1: **28) BIRTHRATE**
➤ Variable 2: **109) CONTRACEPT**
➤ Views: **Map**



r = –0.793**



For the map showing 109) CONTRACEPT, note that some countries are not colored. These countries are missing cases for this variable—we do not have data for this particular variable for these countries. For all of the data files we're using with Student MicroCase, there will be some missing data for some of the variables.

For those countries that have data available for both variables (birthrate and percentage of women using contraception), note that the two maps are very different. That is, if a country is dark on one map (e.g., high in terms of birthrate), then it is light on the other map (a low percentage of women use contraception). This means that countries that have a high birthrate have a low percentage of women using contraception, and vice versa.

Your Turn

Now it's your turn. The worksheets that follow include instructions and questions to give you a better feel for Student MicroCase and the data files included with it. Enjoy!