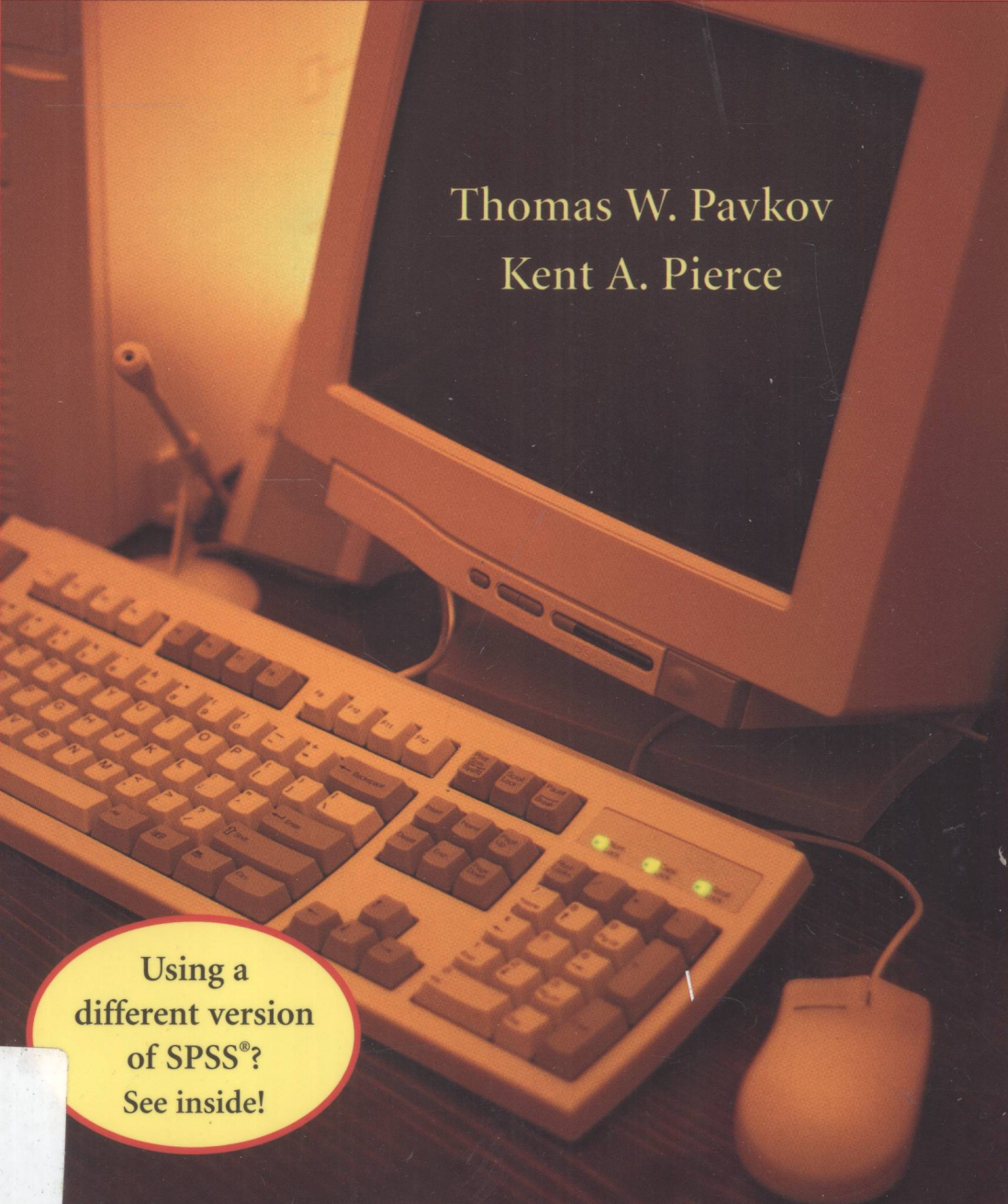


# *Ready, Set, Go!*

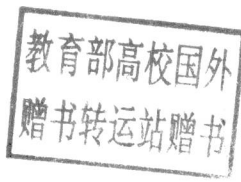
A Student Guide to SPSS® 10.0 for Windows®



Thomas W. Pavkov  
Kent A. Pierce

Using a  
different version  
of SPSS®?  
See inside!

C32  
P338



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Thomas W. Pavkov  
Kent A. Pierce

*Purdue University Calumet*



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## *Preface*

This handbook provides the basic information students need to use SPSS® for Windows® in both introductory statistics and research design courses. When used in conjunction with a primary statistics or research design textbook, this book is a flexible and up-to-date tool instructors can use to incorporate computerized statistical analysis into their courses.

This book emerged from our need to provide students with basic information on using SPSS for Windows, the statistical package that we use as part of our course of instruction in behavioral statistics. After searching without success for a guide that would efficiently and clearly provide this type of information, we developed our own instructional material for the course. *Ready, Set, Go! A Student Guide to SPSS® 10.0 for Windows®* is the result of our efforts. This handbook is an updated version designed for use with SPSS for Windows Version 10.0 or later.

This handbook is designed to be an inexpensive source of “how-to” information for student users of the SPSS for Windows software. Each assignment provides the user with background information linking statistical methods and the SPSS procedures associated with those methods. The steps of these procedures are illustrated by numerous screen shots of the SPSS graphical user interface. The book also provides basic information on the interpretation of output produced by SPSS. Each chapter ends with an “On Your Own” section containing a learning task that encourages students to undertake independent computer assignments.

This book may be used for more than reference; each assignment has been developed as a guided exercise. Students are introduced to the research process as they work through exercises—formulating research questions, choosing appropriate statistical procedures, summarizing results, and interpreting data. We believe this approach will help students understand the research process and increase their confidence in using SPSS datasets of their choice.

The book is organized topically, covering most of the basic concepts presented in introductory statistics courses. We begin with an assignment providing the student user with information on how to access basic SPSS procedures such as loading data and printing output. Assignments 2 and 3 cover SPSS procedures for descriptive statistics and for the graphical presentation of data. Assignments 4 through 7 focus on using SPSS to compare groups and paired-samples *t* tests and

then move to one-way analysis of variance for independent and related samples. Correlation and regression analysis are covered in Assignments 8 and 9. Finally, in assignment 10, the student user is introduced to using SPSS for producing contingency tables and calculating the chi-square statistic.

We wish to acknowledge the individuals at Mayfield Publishing Company for their support of this project. In particular, we would like to thank Frank Graham for his enthusiastic support of the concept. We would also like to thank Deneen Sedlack and Susan Breitbard. We would also like to thank our colleagues who reviewed this project in its earliest stages: Bruce Abbott (Indiana University–Purdue University at Fort Wayne), Dennis Berg (California State University–Fullerton), Kenneth Bordens (Indiana University–Purdue University at Fort Wayne), Bernardo Carducci (Indiana University Southeast), Paul C. Cozby (California State University–Fullerton), Bernard Gorman (Hofstra University), Louis Primavera (St. John’s University), Steve Slane (Cleveland State University), B. Michael Thorne (Mississippi State University), and Todd Zakrajsek (Southern Oregon State College).

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# ASSIGNMENT 1

## *Learning the Basics of SPSS*

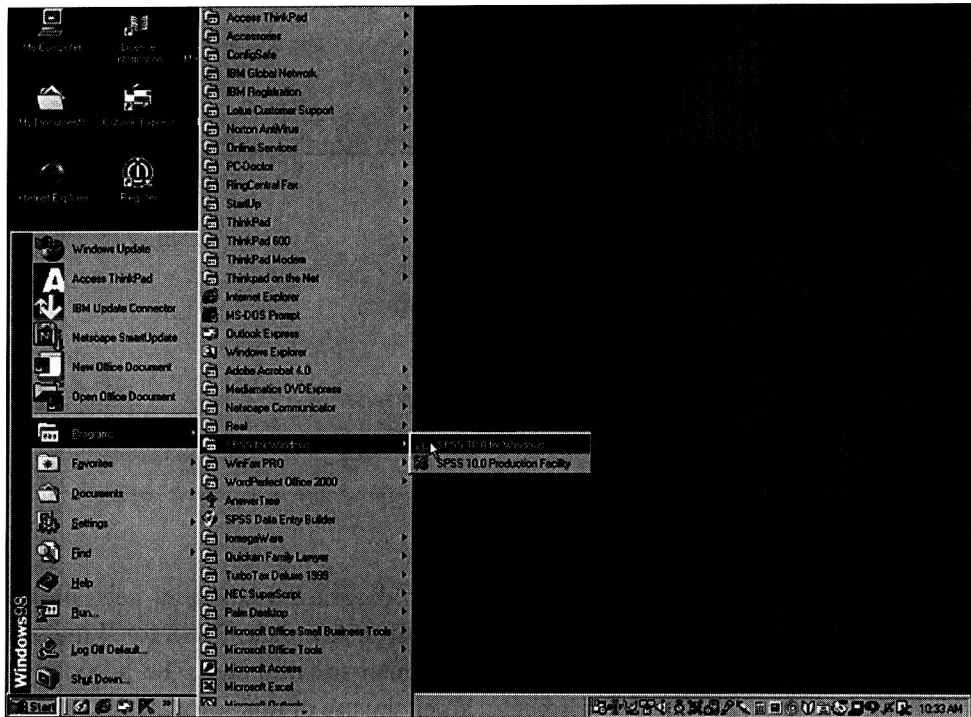
### **OBJECTIVES**

1. To learn how to load SPSS for Windows
2. To load a datafile into SPSS for Windows
3. To define SPSS variables
4. To obtain printouts from SPSS for Windows
5. To exit from SPSS for Windows

This section of the book will provide you with the information you need to use some of the basic procedures of SPSS for Windows. Access to SPSS for Windows varies from campus to campus and from computer to computer. The purpose of this book is to provide general information about the use of this software for student users of SPSS 10.0 for Windows or later. As you use SPSS, you may encounter some issues that are not covered by this book. In that case, you should seek assistance from your instructor or statistical consultant. For the student learning how to use SPSS for Windows, a number of general issues need to be addressed. Of primary importance is starting the software application. Next, you will need to know how to load data from an existing datafile, define data, and perhaps enter experimental data manually. You will also need to know how to print the results of your analysis following the completion of an SPSS procedure. These are the procedures you will learn in this section of the book.

### **STARTING SPSS**

To start SPSS for Windows, you will need to start from your Windows Desktop; see Figure 1.1 for an example. Depending on your computer installation, you can access SPSS for Windows in different ways. You can start SPSS either by double-clicking on the SPSS Shortcut icon on the Windows Desktop or by pointing to the SPSS icon on the Windows Desktop menu of program listings (e.g., Start>Programs>SPSS for Windows>SPSS 10.0 for Windows).



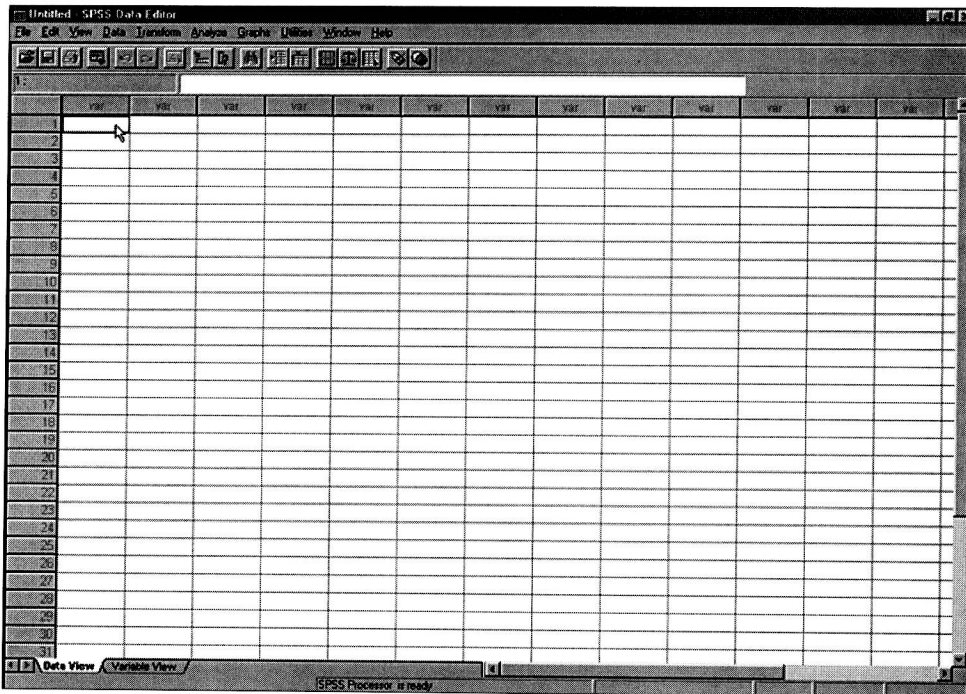
**FIGURE 1.1** Windows Program Manager

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After you double-click on the SPSS icon, the computer will load the SPSS software. You will know SPSS is loading when the Windows hourglass replaces the pointer on your screen. The time required to load SPSS varies depending on the characteristics of your computer. These factors include the power of your machine, the location or type of installation, and the load on network resources. You can enhance the performance of the machine you are using by making sure that other Windows applications are not running simultaneously with SPSS for Windows. If you find other applications loaded, unloading them prior to running SPSS may enhance performance.

## LOADING A FILE

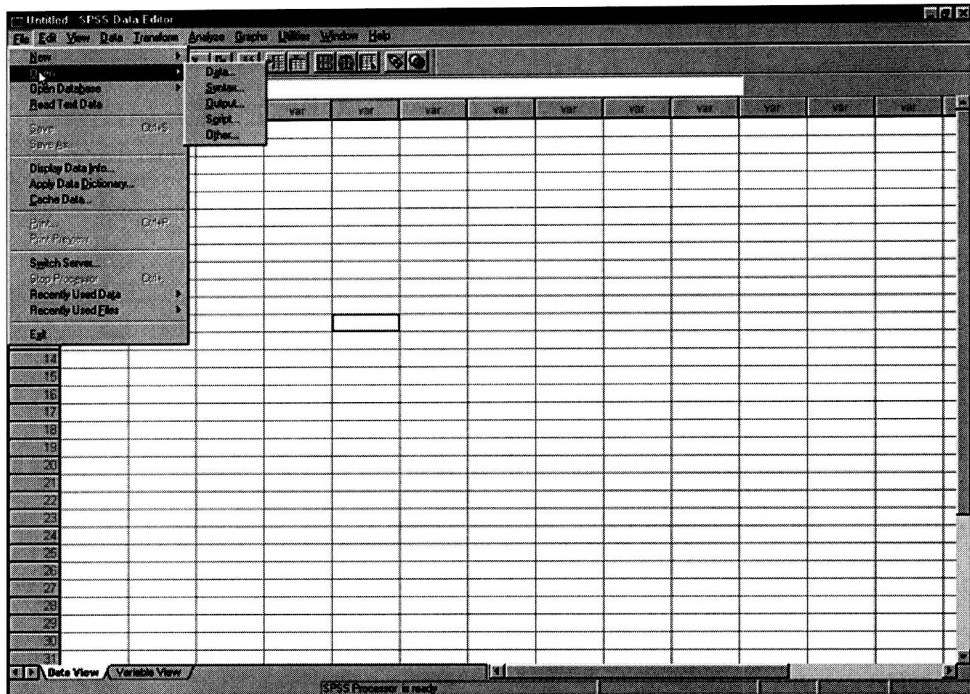
After you initiate the loading of the SPSS software, one of two series of screens appears, allowing you to initiate the data loading process. One method of loading data involves using the File pull-down menu, as in previous versions of



**FIGURE 1.2** Main SPSS Window with Data Editor Window Active

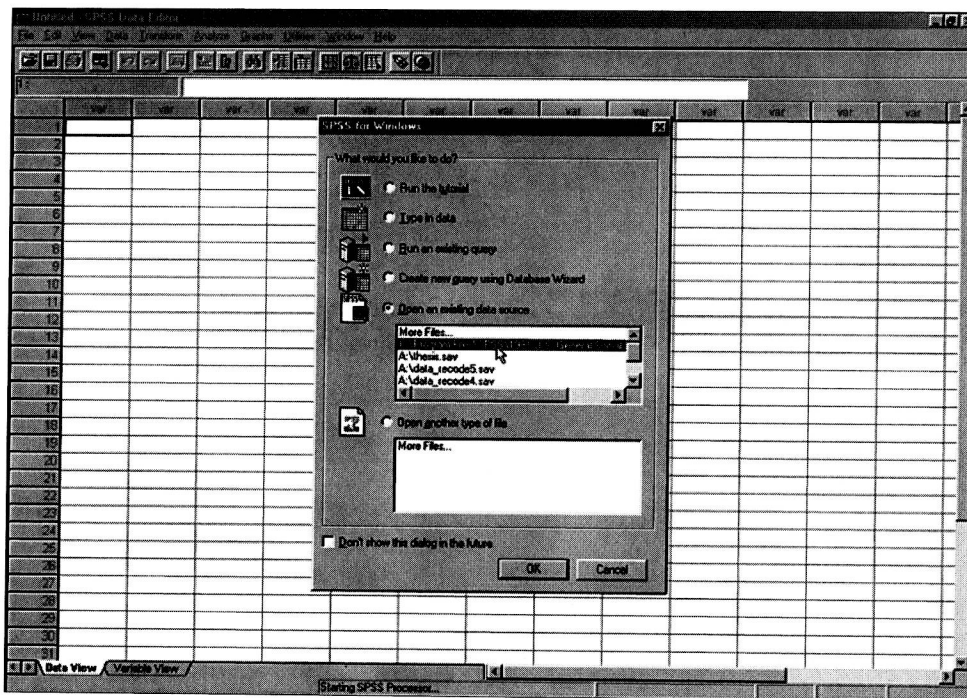
SPSS for Windows. A second method involves using an optional dialog query window. The method you use will depend on the way SPSS is installed at your location. Both methods are described in the following pages. If the dialog window is not in use at your location, a screen will appear that is similar to the screen shown in Figure 1.2. This screen is the active SPSS Data Editor window and the main SPSS for Windows screen. To load your data, point to the File menu and highlight one of the file loading options appearing on the window.

Figure 1.3 displays the selections available at the beginning of an SPSS session from the File pull-down menu. You have the choice of creating a new file, opening an existing file, or reading data from an ASCII (text) format file. As shown in Figure 1.3, the most recently accessed SPSS datasets are listed as well. You can access one of these files simply by pointing and single-clicking on the highlighted name of the file. You will use the Open option most often. In the pull-down menu, click on Open to open an existing file. In Figure 1.3, the Open choice is highlighted. If you choose the File>Open>Data option, the SPSS Open File window will appear next (see Figure 1.5).



**FIGURE 1.3** Opening a File from the SPSS File Menu

The second method of opening a datafile involves using a Windows dialog box, as shown in Figure 1.4. If your installation uses the dialog option, this box will appear along with the SPSS Data Editor in the background. This dialog window allows you to access the SPSS tutorial, type in data using the Data Editor window, create or run a query using a database table, or open an existing SPSS datafile. If you choose to use this dialog box in the future, you are most likely to use the default Open an existing file option. Recently accessed files are listed in the small box under this option. You can access one of these files by highlighting and double-clicking on the file. SPSS will then load the file, and data will appear in the SPSS Data Editor (see Figure 1.6). If the datafile you wish to access does not appear on the list, highlight and double-click on More Files. Then you can access your datafile using the Open File window, as illustrated in Figure 1.5. If you wish to open a file that is not a data source, you may select the Open another type of file option. If you do not wish to use this dialog box in the future, click on the Don't show this dialog in the future box in the lower part of the dialog window.



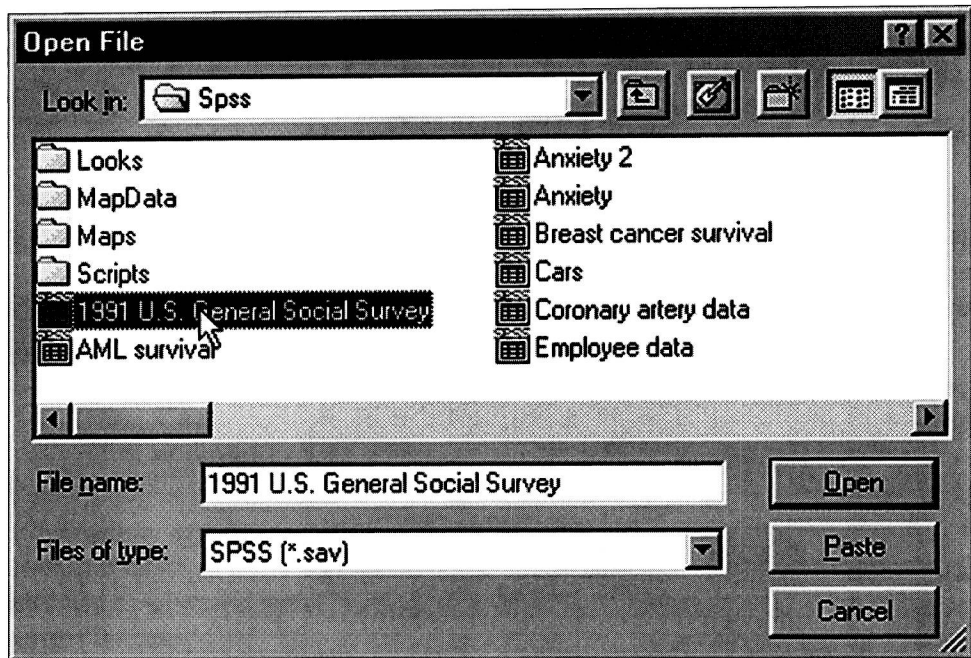
**FIGURE 1.4** SPSS for Windows Optional Dialog Box

## USING THE Open File WINDOW

Once you select Open, the Open File window appears. Because thousands of files may be stored in the computer system, you will need to identify the location and name of the dataset you are going to use in the assignment. The Open File window allows you to direct SPSS in accessing named datasets. As shown in Figure 1.5, the Look in box at the top of the window shows the active folder. The active folder corresponds with the directory or subdirectory to which SPSS for Windows is pointed. You can change the directory to which SPSS for Windows is pointing simply by clicking on the down arrow at the right-hand side of the Look in box, clicking on the device or directory you want to access. Moving back through previously selected directories is accomplished by clicking on the Up One Level button to the right of the Look in box.

The large box in the middle of the Open File window contains the names of the files in the active folder. Figure 1.5 shows a list of files stored in the SPSS folder. To load one of these files, you must first highlight it and then point and click on the





**FIGURE 1.5** Open File Window

Open button or point and double-click on the highlighted file. Notice in Figure 1.5 that SPSS automatically looks for files with the extension .sav as designated in the Files of type box at the bottom of the Open File window. These files are referred to as SPSS Save (.sav) files and contain data stored in a compressed binary format. To complete the assignment, you will need to identify the appropriate Save file, select that file, and load it. Your instructor will inform you which file (along with directory/folder location) to use as he or she makes each computer assignment. Once you locate the correct folder (see Figure 1.5), SPSS will automatically list the Save files in the large box in the middle of the window. In this example, the datafile named 1991 U.S. General Social Survey subset is highlighted. This file is located in the SPSS folder. Once you highlight it, you can load the file by pointing and clicking on the Open button or by pointing and double-clicking on the highlighted file.

Note that you can select other types of files. By pointing and clicking on the down arrow in the Files of type box, you can list a number of other file types in the large box, including a variety of database and spreadsheet formats. Generally, however, you will open only two other types of files. You can open the SPSS

Syntax files to analyze problems with SPSS syntax. (SPSS Syntax files are usually saved with the file extension designation of .sps. These files contain the actual SPSS program language needed to run your SPSS assignments.) You can also open SPSS Viewer files to examine and print the output from your SPSS assignments. These files are usually saved with the file extension designation of .spo. SPO files contain the information produced by SPSS statistical procedures. After you have directed SPSS to load a file, note the bottom bar on the SPSS window. This is called the status bar, and it will inform you of the status of the SPSS program during processing. When you are loading data, the SPSS status bar tells you that it is getting the file you have requested. SPSS also tells you the number of cases it is reading from the file as the datafile is loaded into memory. After the datafile is loaded, the SPSS status bar will inform you that the SPSS Processor is ready (see Figure 1.6).

## THE PULL-DOWN MENUS

Examine the SPSS Data Editor window, as illustrated in Figure 1.6. There are a number of pull-down menus across the top, and a toolbar with various icons appears below the menu bar. To operate the menus, use the mouse to point and then click on the menu. To activate a procedure represented by an icon, point to the icon and click on it.

For most of the computer assignments in this book, you will work with the File, Data, and Analyze menus. These menus contain the choices you will use for general operations (calling up or creating a datafile), for definitions of data (learning about variables contained in a pre-existing datafile or defining data entered manually), and for statistical operations (calling up a particular statistical procedure for analysis). The File menu also contains the commands for printing output from your SPSS analysis.

Take some time to familiarize yourself with the characteristics of these pull-down menus. Notice that after you single-click and then move the pointer from one selection to the next, a pull-down menu appears under each selection. Also notice that some menus are connected to submenus. These menus will appear when you point to a procedure that contains multiple subprocedures. You will use some of these procedures and subprocedures while working on the computer assignments in this book. Given the wide range of statistical procedures available in SPSS for Windows, however, you will probably not use all of the procedures. In terms of sophistication, many of these statistical procedures go far beyond the scope of this text and require specialized statistical expertise.

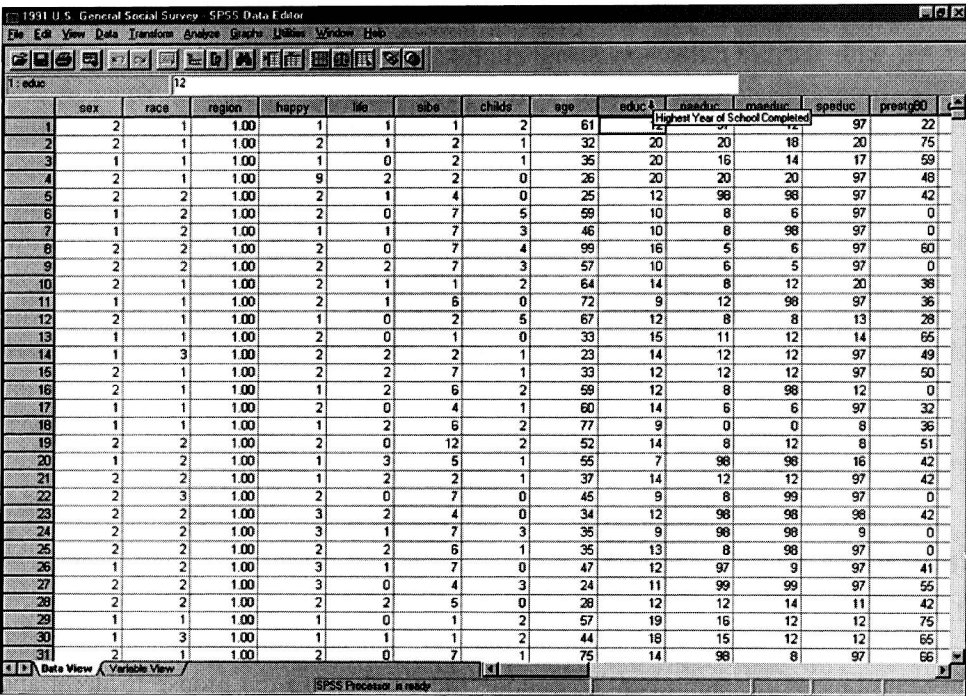


FIGURE 1.6 SPSS Data Editor Window Showing the Data View

EXAMINING DATA USING THE Data View

When you complete the data loading process, a screen similar to that shown in Figure 1.6 will appear. This is the SPSS Data Editor. The SPSS Data Editor comprises two views, the Data View and the Variable View. The Data View is the default view and has the appearance of a spreadsheet. The numbers appearing in the Data View are your actual data. The rows in the spreadsheet correspond to one case in the study (note the numbers in the left-hand column). The columns in the spreadsheet correspond to one variable measured in the study. At the top of each column of numbers is a label (e.g., educ or age); these are your variable names. Note that you can move the active cell (i.e., the cell in the spreadsheet shown with double-thick black lines) around the spreadsheet using the arrow keys on the keyboard. Or you can use the mouse to move the active cell by pointing and clicking on the cell to which you want to move. When moving the active cell around the spreadsheet, avoid making keystrokes on the computer keyboard, because you might accidentally change a value in the spreadsheet. As shown in Figure 1.6, pointing at the variable name will cause the variable label to appear below the variable name. This feature is useful in attempting to quickly understand value and variable definitions.