

SURVEY FOR WINDOWS

TO PRINT THESE INSTRUCTIONS, SELECT <FILE>

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THE SURVEY PROGRAM

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THE SURVEY PROGRAM FOR WINDOWS

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Provided tht the following conditions are met, you have permission to use SURVEY, and to copy it and distribute it to your friends and associates, or to electronic bulletin boards (It must be titled SURVYWxx.ZIP, where "xx" is the Version of the program, such as "20" for Version 2.0):

1). No fees are charged other than for distribution services.

2). SURVEY may only be distributed in its original, unmodified state, including WSURVEY.EXE, WMKSRVY.EXE, WRSURVEY.EXE, WSRVYADD.EXE, WSVYINFO.EXE, BC450RTL.DLL WSURVEY.ICO, WSURVEY.DOC, README.TXT, INSTALL.EXE, and the demonstration files, DEMO.PRO, and DEMO.DTA.

You are urged to try the program on an opinion survey of your own making. You will probably be pleasantly surprised at the results and at the usefulness of the system.

SURVEY is not commercialized shareware. It is the original internationally distributed program issued first in January 1988, and subsequently upgraded and re-issued to run under WINDOWS. There are no stern "BUY IF YOU USE! demands. However, if

you like SURVEY, in fairness to the author, a small contribution of \$15 would be a friendly acknowledgement of his efforts and would encourage him to continue the production of useful software. Your comments and suggestions are always welcome. Some of the features in the current release are the result of user suggestions and are much appreciated. Free telephone support is available.

Your registration will make it possible to advise you of future releases of SURVEY and other helpful programs.

Checks, suggestions or questions can be sent to:

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Standard Disclaimer

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THE SURVEY PROGRAM

SECTION 1 - GENERAL NOTES AND INSTALLATION

INTRODUCTION

These instructions include, in the first section, a general description of the features and capability of the SURVEY program. New users will find the operation much easier if this section is printed and read before proceeding with the step-by-step procedure described later for program operation.

GENERAL DESCRIPTION

Many organizations and individuals occasionally find it useful to carry out surveys on a variety of subjects. Once the responses have been collected, there comes the often burdensome task of analyzing the results and printing them in meaningful form. For this function, however, a computer can do much to save time, simplify the analysis, and produce reports in the desired format. The SURVEY program has been developed to serve this purpose. In addition it can create and print the survey form for distribution.

SURVEY has specific application to surveys in which responses to questions can be identified by numbers. For these cases, a mark or number can be entered in a "box" associated with each response choice. For questions not

requiring a rank order, respondents will be asked to place a mark in the box for the selected item. For this reason, each box should have an identifying number on the response form so that the

marked box number can be entered into the computer by the analyst when inputting response data.

Questions involving rank ordering responses, or those requesting specific quantities will have the numbers written into the boxes by the respondents. Write-in responses should be avoided with this system since they are difficult to handle efficiently. In an extreme case, however, they might be classified as a numerical type, based on the judgment of those analyzing the results. All this suggests that caution should be used in trying to apply this program to an existing survey designed in another format.

REQUIREMENTS

The program must be run under WINDOWS and loaded into a new Directory named WSRVY which will be created automatically during the installation procedure. It will require a minimum of 300K of random access memory in an IBM compatible computer. The program uses only the memory needed for a particular survey. It must be run on a hard drive with WINDOWS installed. Normally, you can keep the survey files you produce on the same WSRVY Directory, although you can store them on another directory if you wish.

INSTALLATION

As a first step, you should make and mark a copy of your distribution disk. Refer to your DOS instructions for this procedure. Always place a write protection sticker or set the write protection slide on any original disk before copying it. Put the original disk away for safe keeping. Installation is simplified by the use of the included INSTALL program.

The straight-forward way to proceed is to place the distribution disk in Drive A. With WINDOWS loaded, move to the Program Manager and select FILE/RUN. Type "a:install" (without quotes), and click on OK. Follow the directions on the screen to complete the installation. The SURVEY files will normally be

placed in a new directory named WSRVY. You will be given the opportunity, however, to place them in another sub-directory of your choice. NONE OF YOUR OTHER FILES WILL BE CHANGED, so, if you ever want to delete the SURVEY files, you can just delete them all from the WSRVY directory.

WHAT SURVEY DOES

The program has the ability to analyze surveys involving questions with single or multiple choice answers, and permits straight-forward keyboard entry of all data in the sequence that it appears in the questionnaire form, one response at a time. The output is a detailed report and analysis, listing scores and percent distributions in final document form ready for reproduction. As described later, it is also possible to print a cross-tabulation of scores and percentages for questionnaires involving replies from different demographic groups.

At any time, you can print the current survey results to the screen or to disk as a file in ASCII format. You could also print these intermediate analyses to the printer, but you can save time and printer paper by waiting until all pages in the screen report meet your final requirements and an appropriate number of replies has been processed.

Input can be temporarily discontinued at any time, with the response data stored on the disk until the work is resumed. For each questionnaire, up to 100 questions can be accommodated, and most may have up to 40 choices. More than 1000 responses can be included, although most surveys can obtain results providing a reasonable degree of confidence with only a few hundred. The practical limitation is the amount of random access memory. Any number of surveys can be handled, with separate profile and data files kept on a disk or directory.

In addition to being able to summarize and analyze the total of all responses, the program has the capability of summarizing results by a demographic subdivision. For example, separate

analyses can be made in terms of a single classification such as one by age group, gender, or the geographical area in which the respondent is located. The program accommodates one such subdivision. If this demographic classification is desired, all that is necessary is to indicate at the beginning of the set-up procedure that a demographic separation is required, and to provide, in the first question, the number and titles of the desired groupings or "populations." The printed analysis following data entry will then include summaries for: (1), all responses; (2), responses from each classification; and (3), responses from those who failed to make a demographic selection. Up to nine demographic groups can be accommodated in this single demographic separation.

The final printed results are produced in report form, ready for reproduction without retyping or re-formatting. The report can also be generated as a file in ASCII format suitable for editing with a word processor. At any time, a print can be made to the screen to inspect progress. The report can be produced in a continuous print without page breaks, or can be printed in "form feed," or on separate sheets with a pause between sheets for paper replacement.

In the latter two cases, a feature of the program prevents splitting a response summary for a single question between two printed pages where this is possible. Because of the program's ability to produce a comprehensive and detailed report, it is advisable to consider, at an early stage, the number of printed pages that would result, based on the number of planned questions, choices and demographic groups. This aspect is discussed later in these instructions.

An important capability of the program is the option to examine and report a possible correlation between the responses to two different questions. For example, a commercial organization might want to test the effectiveness of an advertising program on a local radio station. This might be done by noting the response to a brand recognition question by those who indicated, in responding to a separate question, that they listened to the station, and then comparing this with this recognition by those who did not. The program can include the correlation in terms of a percentage figure and can include the results in easily understandable format in the printed results. This makes it unnecessary to try to discern possible correlation by developing demographic groupings for answers to a

single question, and trying to probe the voluminous data for possible correlation.

An additional feature for surveys involving several demographic groups permits printing the results for a question as a "cross-tabulation". This displays a comparison of scores and percentages for question response choices, cross tabulated by demographic group. For example, one can read the percent of the respondents selecting a particular choice, as well as any group's contribution to the total selection of that choice, expressed as a percent.

HOW THE PROGRAM OPERATES

The SURVEY program first asks for some information on the format of the questionnaire and stores this on the disk as a profile file for later use. As covered in more detail in a later section, this information includes the type of questions, the number of demographic groupings, as well as the number of choices in the answer to each question. If correlation measurement is required, this information is requested. The report title and desired text for use in the summarized output report is also stored on the disk in this one-time operation.

With the profile completed, the program will print a sample survey form to the disk as a text file in ASCII format with the extension ".FRM". In addition, the user can print this sample questionnaire form to the printer at this point if desired. Following creation of the profile file and survey form, the user is returned to the main menu to select options for entering the response data, one response at a time.

The response data entry process permits correction of errors and re-entry of data. If necessary, the response to the previous question can be re-entered. The information is entered from the keyboard in the same sequence as it appears on the response form. The program prompts for choice selection numbers for each question. The summarizing printed report includes the score for the response choice in each question and a

percentage valuation for each of the choices. In addition, for each question, there is a count of the cases in which there was no entry by the respondent.

DEMONSTRATION SAMPLE SURVEY

To provide an opportunity to become familiar with program operation and data entry, a short sample survey file, DEMO.DTA and its profile file, DEMO.PRO, are included in the distribution disk. You can access these files and print the results of this sample survey on the screen. You can also gain experience in data entry by adding more response data of your own choosing and noting the changed results. The DEMO questions are the same as several of those included on example forms later in these instructions. It is a good idea to try this first.

FILES ON THE DISTRIBUTION DISK

The programs on the distribution disk consist of those shown below. At least all but WSURVEY.DOC, README.TXT, and INSTALL.EXE are needed in the drive/directory used to run SURVEY and use the demonstration program. INSTALL.EXE is the installation program. README.TXT is a short informational file that you can read by double-clicking the file name in the C:\WSRVY directory in File Manager.

WSURVEY.EXE, WMKSRVY.EXE, WRSURVEY.EXE,
WSRVYADD.EXE,
WSVYINFO.EXE, DEMO.PRO, DEMO.DTA, WSURVEY.DOC,
BC450RTL.DLL, README.TXT, WSURVEY.ICO,
INSTALL.EXE, and FILE_ID.DIZ

If you should want to send the SURVEY program files in compressed form to a computer bulletin board, ALL the listed files must be included. They should be compressed in ZIP format, with the compressed ZIP file given the name SURVY20.ZIP, assuming you are sending Release 2.0. If a higher release number is involved, the name should be changed to correspond.

When you create a profile for your own survey, the program will create a format file using the name you have chosen, with the extension, "PRO". Response data for this survey will be kept in a file with the same root name, but with the extension "DTA" These files will have titles assigned by the user and will be located on the drive/directory assigned in the setup procedure. An additional file, SURVEY.DEF is created and used to keep a record of any default directory for the

files.

CLASSIFICATION OF QUESTIONS

Since survey questions vary in such matters as number of choices available and may offer the possibility of rank ordering the selections, the program will need to know in advance the type of question involved. It will also need to know the number of choices available and the title or designation for each choice. This information is stored in the profile file.

Most survey questions can be classified into one of four general types which we designate as follows:

TYPE A Questions with two or more possible response choices, but with only ONE CHOICE permitted. Typical choices might be based on opinions, subject categories, votes or numerical ranges.

The choice is made by placing a mark in a "box". For this type, the respondent does not enter a number.

TYPE B Questions with two or more possible choices with NO LIMITATION on the number of choices that might be made.

Respondents mark their selected "boxes" and do not enter numbers.

TYPE C Questions in which the respondent is asked to RANK ORDER the preference for each choice. The respondents enter numbers in rank order.

TYPE D Questions in which totals are progressively accumulated for each response option as each response is processed. The final report will total the number entries for each selection title

A question making a demographic separation is, of course, a single-choice question, and the program will automatically classify it as such.

Only one demographic separation can be included, and its possible choices must be mutually exclusive. This means that a respondent can meet only one of the category classifications.

SOME ILLUSTRATIVE EXAMPLES

Before proceeding with detailed instructions on procedure, it may be helpful to see examples of the different types of questions that can be handled by SURVEY, how almost any type of multiple-choice questionnaire can be analyzed, and how the results are included in finalized report form. The tables on the following pages present examples of several types of multiple-choice questions and the typical response summaries that are derived by the SURVEY program.

If your survey requires a demographic subdivision, remember that ANY DEMOGRAPHIC SEPARATING QUESTION MUST ALWAYS BE THE FIRST. Note that, in this case when entering response data, the program will automatically prompt you for the answer to this question as Question No. 1.

Table I is a sample of a question making a demographic separation between Northern and Southern company divisions.

Remember that DEMOGRAPHIC SEPARATIONS MUST BE CHOSEN SO AS TO BE MUTUALLY EXCLUSIVE. In other words, an individual respondent can only fit into one of the categories. For example, you can NOT ask for both age group and gender in the same question, or have more than one demographic

separating question. This limitation can be largely overcome, however, by using the cross-tabulation feature or combining data files as described later.

Note that the optional responses are numbered. This is required to identify the selected choice when the data is entered during program operation.

TABLE I

SAMPLE DEMOGRAPHIC QUESTION

Q1. Please place a mark in the square corresponding to the regional division in which your company is located.

1. Northern

2. Southern

Table II illustrates a situation in which three types of questions are included. The first type requires only one answer and, for the purposes of the program, is designated Type A.

The second permits one or more choices, listed in any order, and without order of preference. This is designated Type B.

The third question on Table II, Type C, permits more than one choice, but respondents are asked for all answers in the descending order of preference, 1 being the highest in rank.

Note that the questions have a number and that each box has a number which you will use as an identifier when you enter data from the completed response sheets.

SAMPLE SURVEY
(Abbreviated)

Q2. Please mark the square corresponding to the number of employees in your company. Mark only ONE.

1. | | Less than 10
2. | | 10 to 25
3. | | 26 to 50
4. | | 51 to 100
5. | | Over 100

Q3. Please mark ANY of the following factors having an IMPORTANT positive influence on your company's profits.

1. | | Good Labor Market
2. | | Climate - Environment
3. | | Nearby major airport
4. | | Nearby rail facilities

Q4. What are the most IMPORTANT reasons for your selecting particular brands of computer software? Please rank 1,2,3, etc. for the following reasons in descending order of importance.

- | | Manufacturer's reputation
- | | Price
- | | Dealer support

| □ | Recommendation by associates

Table III illustrates the typical analysis print-out produced by SURVEY when processing survey responses of the type shown on Table II. Note that both a numerical score and a percentage valuation is printed for each response choice, and that a count is made of those who failed to make a response. In each case the results are sorted in descending rank order so as to provide easy recognition of the most important choices. "Score" is the count of the respondents who have made this particular choice.

TABLE III

SAMPLE SURVEY RESULTS SUMMARY
PRINTED BY THE SURVEY PROGRAM

There were 10 responses entered from this questionnaire.

QUESTION 2. (Single Choice)

For responding companies, the employee numbers ranges were:

CHOICE	SCORE	PERCENT
10 to 25	3	37.5
Over 100	3	37.5
Less than 10	1	12.5
26 to 50	1	12.5
51 to 100	0	0.0
Made no response	2	

QUESTION 3. (4 choices maximum, without ranking)

Respondents marked important factors influencing profits as:

CHOICE	SCORE	PERCENT
Good labor market	6	37.5
Nearby rail facilities	5	31.3
Climate-Environment	3	18.8
Nearby major airport	2	12.5
Made no response	1	

QUESTION 4. (4 choices maximum, with rank ordering)

The major reasons for selecting software were ranked:

CHOICE	SCORE	PERCENT
Manufacturer's reputation	32	32.0
Price	25	25.0
Dealer support	25	25.0
Recommended by associates	18	18.0
Made no response	0	

Table IV illustrates a questionnaire format frequently used to assess gradations in views on certain questions or statements. In this example, only ONE ANSWER is required to each question. It is therefore of the type designated "A", as previously noted. The gradations in the respondent's view in this case are "Agree Strongly", "Agree", "Undecided", "Disagree", and "Disagree Strongly", and are numbered 1 to 5.

The Table IV format can easily be handled by the SURVEY program by entering the column numbers for the individual choices. In this case, the results will be printed out in the format of Question 2 in Table III. The choice titles would then be "Agree Strongly", "Agree", "Not Decided", etc. and would be numbered 1 to 5 in this example. The scores and percentages would be indicated for each choice.

Note that there are four separate questions in Table IV. Assume, for example, that a respondent placed a mark in the "Strongly Agree" box in the first question, Q5. When you are posting this response using the SURVEY program, and you are asked for the choice number selected in Question 5, you would type a "1", since the marked box was in column 1. Only one box should have been marked. This is a single-choice question, one that we define as Type A.

The same format can be used for questions such as:

"On a scale of 1 to 10, enter your opinion on the following statements."

This would require 10 numbered columns instead of the 5 in the example in Table IV, but would be processed in the same manner.

If there are several successive questions of the same type in a survey, with the same choice titles, a feature of the program permits one to "clone" a following question format when establishing a the profile file. Then only the question and response summary text need be entered. This saves considerable time and effort.

TABLE IV

SAMPLE SURVEY
(Abbreviated)

Please mark the appropriate box for your response.

	1	2	3	4	5
	AGREE		NOT	DISAGREE	
	STRONGLY	AGREE	DECIDED	DISAGREE	STRONGLY
Q5. Do you believe that Television has had a bad influence on children's morals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q6. Do you believe that air bags should be required in all automobiles?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q7. Do you believe that the U.S. should work toward a balanced budget?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q8. Are you willing to give up your frost-free refrigerator to reduce energy consumption?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table V illustrates a simplified example of a printed analysis report of the results of a graded opinion question of the type displayed in Table IV. Since only one entry is acceptable, this is classed as a Type A question, even though the format is somewhat different from that shown in Table II as Question No.2.

TABLE V

SAMPLE SUVEY RESULTS SUMMARY
PRINTED BY THE SURVEY PROGRAM
(Abbreviated)

QUESTION 5. (Single Choice)

Belief that TV has a bad impact on childrens' morals varied:

CHOICE	SCORE	PERCENT
Agree Strongly	4	40.0
Not Decided	3	30.0
Agree	1	10.0
Disagree	1	10.0
Disagree Strongly	1	10.0
Made no response	0	

CROSS-TABULATION REPORTS

When a survey includes a question involving several demographic separations, it is sometimes helpful to present a view of the final choice scores for the individual demographic groups in a format suitable for comparison. This can be done by constructing a matrix or cross-tabulation, with choice selection results for each group listed vertically, and group preferences for each choice listed horizontally. The question being analyzed in this fashion should be either of the Types A or B described earlier.

A cross-tabulation report can be sent to the printer for questions of these types by selecting the PRINT CROSS-TAB Option in the VIEW/PRINT column of the Main Menu. This will also be sent to disk as an ASCII file for any editing with your word processor, if desired. Since a cross-tabulation may be a little confusing at first sight in the case of a typical multi-choice question involving several demographic groups and many responses, it is best to look at an over-simplified set of survey results such as produced by the short DEMO survey file. This will illustrate the general format and permit comprehending the way in which percentages are derived. The DEMO file present on the distribution disk includes only ten fictitious responses and only two demographic groups. In this very simple example, Question 2 has been selected for the print of a cross-tabulation, with the results shown in Table VI.

Referring to Table VI, you will note that demographic group results are listed in vertical columns, first for the total, and then for each demographic group. The total scores for each group are listed on the first line with the left margin heading "ALL RESPONSES". The third line shows the percent contribution of each group to the total response count, eight in this case. The 6 responses in the Northern group contributed 75% of the total of eight. Dropping down to the next line, we see an analysis for the first choice, "LESS THAN 10" employees. There was one selection for this choice, and this was made by a respondent in the Northern group. Since the total Northern group score was 6, this single score is 17 percent of the group total. This is shown on the second line of the "LESS THAN 10" choice block. Note, however, that this selection represented one of the 8 total responses. The third line titled "% of Total" shows this therefore to be 13%. Proceeding in this fashion through the remainder of the table, you can see:

The contribution of each Group Choice to Group Total

The contribution of each Group to each Choice Total

The contribution of each Group Choice to all responses

While the example in Table VI is over simplified, a cross-tabulation of this type will be found particularly useful for surveys with several demographic groups. Note that printing a cross-tabulation for a larger number of demographic separations will in some cases require the use of a wide carriage printer, or compressed print (12 or 15 cpi) on a standard narrow width printer. The program will warn the user if this is the case.

The same tabulation will automatically be sent to the disk as an ASCII text file which you can modify with your word processor if desired. This file will have the extension ".XTB"

TABLE VI

CROSS-TAB OF RESPONSE CHOICES VERSUS DEMOGRAPHIC GROUPS

For QUESTION NUMBER 2

For the responding companies, the employee numbers ranged:

CHOICE	TOTAL	NORTHERN	SOUTHERN
ALL RESPONSES	8	6	2
% of Group		100%	100%
% of Total	100%	75%	25%
LESS THAN 10			
Choice Count	1	1	0
% of Group		17%	0%
% This Choice	100%	100%	0%
% of Total	13%	13%	0%
10 to 25			
Choice Count	3	3	0
% of Group		50%	0%
% This Choice	100%	100%	0%
% of Total	38%	38%	0%
26 to 50			
Choice Count	1	1	0
% of Group		17%	0%
% This Choice	100%	100%	0%
% of Total	13%	13%	0%
51 to 100			
Choice Count	0	0	0
% of Group		0%	0%
% This Choice	0%	0%	0%
% of Total	0%	0%	0%
OVER 100			
Choice Count	3	1	2
% of Group		17%	100%
% This Choice	100%	33%	67%
% of Total	38%	13%	25%

SECTION 2 - TUTORIAL NOTES

A TUTORIAL -Viewing and Entering Data in the DEMO survey

To become familiar with the data entry procedure and the several program features that ease this somewhat boring activity, the first-time user should first access the short simplified demonstration survey files, DEMO.PRO and DEMO.DTA, included on the distribution disk. This is the survey used in the illustrative examples in the preceding tables. DEMO.PRO is the profile file and DEMO.DTA the data file for this sample survey. The data file includes only a few response entries and provides a good opportunity for a first-time user to add one or more fictitious responses to each of the questions and then print the results to the screen to see the changes.

When entering data for a typical survey with several questions and a relatively large number of responses, there is some advantage in having the operation performed by two people. One can read the response sheet, announcing the question number and the numbers the respondent has entered into the individual "boxes", while the other keyboards this data into the computer. In the case of the short DEMO sample survey this method is probably unnecessary. The procedure is as follows:

Viewing an Existing Survey Report

Before entering any new data it will be interesting to see a screen print of DEMO as it currently stands. When you start working with your own surveys you will find these screen displays very useful in checking your report format and evaluating progress as data entry proceeds.

The first step is to start the program and identify the profile and data files desired and the directory in which they can be found. If you have moved the SURVEY.ICO icon file into the Program Manager, you can launch SURVEY by double-clicking this icon. If the icon does not appear in the Program Manager, move to the File Manager, click the C: Directory and move to the WSRVY sub-directory. Double-click the file WSURVEY.EXE. If you want to move the icon into Program Manager, hold down the ALT key and double-click on a blank space in a Program Manager Group. Follow the Windows

instructions to add the program name and the c:\wsrvy directory. Select Change Icon and Browse to the icon file in the C:\WSRVY Directory. The icon file is WSURVEY,ICO.

The demonstration file, DEMO already exists. You can see the resulting report to become familiar with the format. Click on VIEW/PRINT to see the viewing and printing options. Select VIEW A REPORT.

You will next be asked to identify the directory holding the files you wish to access. Since DEMO is in the same directory as the program files, Just press ENTER.

With the directory chosen, you will see a directory screen listing the available data files in this directory. If you are just starting you will see only one, "demo.dta.". Type "demo" here. Follow with ENTER. (The extension, ".dta" need not be typed).

You will then be asked whether the question choices should be displayed as sorted in descending order of response scores, or listed as they appeared on the questionnaire form. If you would like to see them sorted, press "1." You will next see the first page of the report. This indicates that there are two demographic groups in this survey, "Northern Companies" and "Southern Companies." Moving to the next screen by pressing a key, you will see a report of the scores and percent distribution of the entries made thus far for this demographic question Number 1. Press a key to move to similar analyses for the remaining questions. The report at this point is summarizing the combined scores of both demographic groups. You can then continue to view the results for each of the demographic groups separately and ultimately return to the Main Menu.

Adding a Response to an Existing Survey

Now see what happens when you add a response of your own to this demonstration survey. You can do no harm to the program. The file is there for you to play with. Since you are adding data to an existing survey. Select the INPUT DATA column and click on MORE DATA ADDED.

You will again be asked to identify the file name to access. Select DEMO again. The questions you will be responding to are the same ones included in Tables I, II and IV. You can go ahead and enter some fictitious data.

To simplify your entry, if you wish, you can take a pencil and mark the "boxes" in Tables in these instructions to correspond to your arbitrary new choices. Just follow the directions on the screen as you proceed. Note that you will only see the question numbers on the screen and not the questions themselves. The Response Number of the current response appears in the upper right of the screen.

The first question establishes the demographic group to which the respondent belongs. Type either "1" or "2" since there are only two such groups. Follow with ENTER. Since there is only one choice, you will immediately be moved to the data entry screen for the second question which is also a single choice, or Type A question. It asks for the range into which the employee numbers of the respondent's company falls. Type any number between 1 and 5, inclusive. Pressing ENTER following this number will move you to the next screen.

Question 3 is a multi-choice question and, as indicated in the directions on the screen, you can select any or all of the available choices. This makes it a Type B question according to our classification. This question corresponds to Question 3 in Table II. Select any or all of the maximum of four choice numbers, following each with ENTER. If you select less than four, press X after the last selection to let the computer know you are through with this question. If you select all four choices or press X you will see the screen for the next Question, Number 4.

Goof Protection

If you are in the process of entering data for a multi-choice question such as No 3 and make a mistake, you can re-enter all the data for the SAME question by pressing ESC. The entries that you already made for that question will be disregarded and you can start the question response again.

Question 4 is a rank order question, or Type C. It requires entering a rank order number in each of four boxes, with the highest ranking 1, progressing in descending order to the item judged to be least attractive, number 4. Type any sequence, 1,4,3,2, for example. Follow each with ENTER.

Super Goof Protection

After you have successfully completed answering Question 4 and are viewing the data input screen for Question 5, you are now in a good position to try out another one of the very useful features of SURVEY. This is the ability to go back and repeat the entry of data for the PREVIOUS question. All you have to do is press Page-Up and you will see the data entry screen for the previous question. Then every entry you have made beyond the beginning of that question will have been deleted. Therefore you can re-enter the data correctly if you think you may have made an error. You will see the question number flashing, indicating that you are re-entering a question response. You will not be able to go back, of course, when you are seeing the entry screen for Question 1.

Ultra Goof Protection

If, at any time during data entry, you wish to stop the entry process for a particular response sheet and cancel all entries thus far for THIS response sheet only, you can press "Q" (for quit) and will be returned to the menu. Data entered previously for other respondents will not be affected.

Question 5 in the DEMO file is a single-choice graded opinion question corresponding to Question 5 in Table IV. It asks if the respondent believes that TV has had a bad influence on childrens' morals. Enter any number 1 to 5 corresponding to the column numbers headed "Agree Strongly", "Agree", etc. Your entry will be recorded and you will see the Question 6 display.

Question 6 in the DEMO sample questionnaire is the type that accumulates response numbers entered in each choice "box" as the responses are processed. This is a Type D question as previously described. It can be used for accumulating such items as votes for different candidates or inventory of supplies etc. Just enter any number (0 or multi digit=ok) for each of the three boxes, following with ENTER, or press ENTER alone if you want to skip a box and consider it to hold a zero.

Question 6 is the last question. When you complete it, you will be asked if you want to enter data for another response sheet or return to the Menu. For the purposes of our trial run, type "N" and return to the Main Menu. By typing "X" instead you could have repeated the entire input of all questions for the last response if you felt that an error still existed. Pressing ESC here would save all the entries made thus far, and then exit the program.

Now, with the Main Menu in view, you should select the VIEW/PRINT column and choose VIEW A REPORT to see a report of the DEMO survey results which now include the data entries you have made. The number of responses will have increased by one and the scores and percentages will have changed based on your entries. If you continue the display to include the two demographic groups, you will see that the changes have taken place only in the group you selected in the demographic Question Number 1.

PRINTING A REPORT TO THE PRINTER

If you wish to print the report to the printer, you would select VIEW/PRINT - PRINT A REPORT in the main menu and proceed to select the appropriate data file. Turn on the printer and follow the directions on the screen. Use an equi-space font such as Courier, 10 characters to the inch, (10 cpi). You can modify this later with a word processor if you send the report to the disk.

PRINTING A REPORT TO THE DISK

The report can be sent to the disk as a text file in ASCII format suitable for editing with a word processor if desired. This is done by selecting VIEW/PRINT - SEND REPORT TO DISK in the main menu. Select the appropriate data file when prompted. The text file will have the root name with the extension ".RPT."

PRINTING A QUESTIONNAIRE FORM

You can print out a copy of the questionnaire form for the DEMO survey example. To do this, move to the VIEW/PRINT column in the Main menu and select MAKE SURVEY FORM. Select "demo.pro" from the directory list and have your printer

turned on. (with the normal output to LPT1:).

Follow directions to print the questionnaire. The program will have previously created this as a text file on the disk with the extension ".FRM."

DESIGNING A SURVEY

Designing a useful survey is not an easy undertaking. Much thought must be put into selecting the appropriate questions and response choices, and limiting their number to reasonable values. No attempt will be made in these instructions to provide a comprehensive discussion of survey design. Several reference texts are listed at the end of these instructions in the event that users want to dig deeper into the subject. To make the SURVEY program fully effective, however, the following guidelines should be observed:

1. Make sure your survey consists of sequentially numbered questions and that each optional response is also designated by a number. These numbers are for your use in entering response data and have no significance as far as the respondents are concerned. When responses are received and before entering data, you may find it convenient to number the sheets sequentially. This is to help you avoid entering a response more than once and to correlate with the response numbers referred to in the SURVEY program.

2. If you try to adapt this program to the responses from an existing questionnaire produced without reference to this program, and in which the demographic information is not obtained in the FIRST QUESTION, your data input will be seriously affected. Design your surveys with the program in mind and produce the profile file in the normal manner.

3. If, after hearing the warnings to place the demographic question as the first question, you still believe it important to have the demographic question last in your survey, (a question on gender, possibly) you MUST still enter it first in SURVEY when processing the responses. In this exceptional case you MUST number the questions in the questionnaire sheets starting with Number 2 to correspond to the question numbers identified on the screen as the responses are processed. This complicates data entry and is a possible source of error. Avoid this procedure if possible. All DEMOGRAPHIC SUBDIVISIONS MUST BE

MUTUALLY EXCLUSIVE, with only a single choice possible.

4. Avoid write-in response options if at all possible. They are difficult to classify. if necessary, collect these separately.

5. Keep in mind, that for the purpose of printing the final report, you will be asked to provide a "Response Summary Statement" for each question. Example: "For the responding companies, the employee numbers ranged as follows:". This statement should not exceed one line in length. (You could substitute a one-line question text here if you prefer).

6. Make sure you can classify each question into one of the following types:

A. Only ONE selection can be made by marking a box

B. Any or all response options can be selected by marking boxes

C. Selection of options in descending rank order by entering numbers

D. Numbers entered in any option box are cumulated in final report.

7. The number of printed pages produced in the final report should be carefully considered in the design process. You should assume that no more than an average of about four questions can be analyzed per printed page. If you have demographic subdivisions this will multiply the number of pages by one more than the number of demographic separations. In the interest of maximizing the survey returns and making a useful report you will want to limit the number of questions and question choices to those providing the most meaningful and useful information. As an example, an average 40-question report with six demographic subdivisions might require about 70 pages. As mentioned earlier, you should use the screen print option for most of your intermediate viewing of the report results.

8. Before distributing the questionnaire you may find it helpful to run the SURVEY program, make your profile file, move to the INPUT DATA column in the Main Menu, select ADD DATA 1ST TIME, choose your data file name, and then enter two or three fictitious responses. You should then use VIEW/PRINT - VIEW A REPORT Option to view the preliminary results on the screen. At this time, do not send any output to the printer. Check the screen display to see that the desired format is achieved.

When you are ready to start entering actual responses, be sure to first select the INPUT DATA - ADD DATA 1ST TIME Option. It will delete any of the preliminary trial data in your data file. If you later temporarily discontinue genuine data entry, remember to use the MORE DATA ADDED Option when you start adding data to this file in another session. Don't use the ADD DATA 1ST TIME Option again unless you want to start over from the beginning!

SECTION 3 - GETTING STARTED

RUNNING SURVEY - MAKING THE PROFILE FILE

Before running SURVEY for the purpose of establishing a profile file, you should have before you a sample response form for the questionnaire you are proposing to distribute. This will help in answering the questions which will be asked in the process. This can be in draft form because the program will offer you the opportunity to print out the questionnaire form when you complete the entries for the profile file. It will also automatically print this form to the disk for possible editing with a word processor.

Launch WSURVEY from WINDOWS, either by double-clicking on WSURVEY.EXE in the WSRVY sub directory in File Manager, or by double-clicking on the "Survey for Windows" Icon, if it is present.

If you are a first-time user, you should select the LEARN/HELP column of the Main Menu. Selections in the pop-up window will provide information on the use of the program and offer several examples. You will ultimately be returned to the Main Menu.

You should read the Tutorial included earlier in these instructions. At this point, you may also want to move to the VIEW/PRINT column and select VIEW A REPORT to obtain a screen view of the short demonstration survey, DEMO. You will see a list of the available data files in the directory and can select DEMO.DTA for viewing. When satisfied, you can return to the Main Menu.

You will next need to establish the profile file for your survey. To do this, select the FILE column. Select MAKE NEW SURVEY in the pop-up window. Since this is a new survey, you will be asked to select a directory to hold the profile and data files. Press Enter to retain the WSRVY directory. You will also need to create a file root name for the profile file and for storing the survey data. This must be no longer than eight characters, without any extension. This file name will be used for the profile file with the extension ".PRO". The file to hold the data will have the same name with the extension ".DTA".

You will be asked for the number and names of any demographic groups, the text of questions, and the number and names of each question choice. One demographic question is permitted and up to nine demographic separations can be made within this question. Remember, however that the length of the report is multiplied by one more than the number of demographic groups. A statement will also be needed for each question to be used as a question heading in the report. Establishing the profile file is a one-time operation for each survey. It can be used for future surveys with the same characteristics. You have the option of analyzing the correlation, if any, between the answers to two different questions. If you wish to include such a correlation analysis, you will be asked for the question numbers and choices involved. Be careful in making the profile file. Watch for typos.

CLONING SIMILAR QUESTIONS

If your survey includes successive questions such as shown in TABLE IV, in which the choice titles are repeated (Agree Strongly, Agree ..., etc., for example), you can save time and effort by using the "clone" option in creating the profile file. When asked if you have another question to add, you can type "C" instead of "Y", and the next question will be cloned. The question type, number of choices and

choice names will remain unchanged. You will then only be asked for the new question and response summary text for the added question.

PRINTING THE QUESTIONNAIRE FORM

When all the set-up questions have been answered, the program will automatically create the questionnaire form as a text file in the current directory. You will then be asked if you wish to print a Questionnaire Form to the printer based on the information you have entered in the profile file. This is a useful form to have, at least for record purposes. If you want to create a fancier form later with your favorite word processor, you can use this as a model. If you want to print this form later, you can still do this by moving to the VIEW/PRINT column and choosing MAKE SURVEY FORM.

ENTERING RESPONSE DATA

On completion you will be returned to the Main Menu. If you are ready to enter data from some or all of the responses to your questionnaire, or experiment with some test entries, you can select the INPUT DATA column in the Main Menu and choose ADD DATA 1ST TIME. Follow the instructions for adding the data.

In the ADD DATA 1ST TIME Option, you have the choice of entering some fictitious test response data as previously described in Section 8 of "DESIGNING A SURVEY", or you could proceed with entering data from a genuine response. You will see a list of the data files in your directory. Type the file name for storing the survey data and follow with ENTER. Be sure to enter the SAME NAME as the one you used in setting up the survey profile. You will remember that the profile file had the suffix ".PRO". The data file will have the same name, but with the extension "DTA". (If the new data file is not listed, type it anyway in case it was deleted by accident).

With the file identified, you will be asked to enter the responses for each question, taking one response sheet at a time. If you are entering test data, remember to re-select ADD DATA 1ST TIME before entering data from genuine responses in order to erase the test data by over-writing it.

When prompted on the screen for data entry from a question response, you will only see the Question Number and Choice Number, not the question text. If you are entering

data from a multi-choice question, you must follow any number you type with ENTER.

In the case of Type B questions which permit any number of choices without ranking, enter only those numbers selected. When all the selected Type B choices have been entered, type the terminating "X". (For consistency press ENTER before typing "X", but if you type "X" immediately after the last entry, that entry will still be recorded).

Type C and D questions require you to make an entry for EACH possible choice, whether or not the choice has been selected. Follow each choice number with ENTER, or type ENTER alone if a choice is vacant. Fear not; the appropriate directions are included on the screen as you process each question.

The directions should be easy to follow. If you make an error in entering data in a multiple choice question, all is not lost. You can re-start the entries for this question in this response by pressing ESC. In addition, if you think you have made an error in entering data in a particular response but have gone by the question involved, you still have the opportunity of re-entering data for the previous question by pressing Page-Up. You can also repeat entry for all the questions in the most recent response when you come to the end of the last question on the response sheet. At that point, you will also be asked if you wish to continue entering data for the time being. By typing "N" you will return to the Main Menu, and the response data to date will be stored on your disk. Here you can choose VIEW A REPORT in the VIEW/PRINT column to print the report to the screen as it currently stands. If you want to take a break, you can leave the program by selecting FILE / EXIT in the Main

Menu. Your data will be stored, ready for your next session. DO NOT TURN OFF YOUR COMPUTER UNTIL YOU HAVE EXITED THE PROGRAM and WINDOWS, OR SOME DATA MAY BE LOST.

You will be warned if you try to use ADD DATA 1ST TIME for an established survey, since this creates a new data file. If you use a file name with this option for a valuable file that already exists, this might wipe out your data. The procedure for adding responses to an existing data file requires the selection of the ADD MORE DATA choice. Do not use ADD DATA 1ST TIME here. The procedure is otherwise the same as in the case previously described for starting data entry for a new survey.

CHANGING AN EXISTING SURVEY

In some instances, after a profile has already been created, you might need to make editing changes in the text of the Report Title, a Response Summary Statement, or to modify a Choice Title in a question in an EXISTING survey. Alternatively, you might want to add or delete a question in an existing questionnaire and start over with a new survey. You can even add or delete a question choice. Instead of repeating the detailed effort of creating a completely new profile file to accommodate the change, you could use one of the eight choices in the drop-down window of the EDIT column.

These editing options include:

- _ Options to edit either the Report Title, a Question Text, Response Summary Statement, or Choice Title of a question in the existing survey profile file.
- _ An option to add one or more questions to an existing survey (Resulting in a new survey profile for a new survey).
- _ An option to delete a question from an existing survey. (Resulting in a new survey profile file for a new survey).
- _ Options to add or delete one of the response choices for a particular question. (New survey profile file)

The first option group could be used, for example, if you decided that the text in one or more of the question texts, response summary statements, or the choice title could be improved or corrected. No change in the survey questionnaire would be required since the changes only affect the display of the survey results.

The remaining options make significant changes to questions in a survey. Under these conditions new survey profile and data files will be created. They will have a new root name unless you choose otherwise. Because of these major changes, any data file produced in the original survey can not be used with the new profile or data file. In other words, you would have to start entering data with a

new or revised questionnaire.

These last options have application where you want to start a new survey very similar to one used previously, and you want to avoid the trouble of creating a completely new profile file. By using a new name, you would not change the original profile and data file. If you selected the same name as a previously created survey analysis, the former profile and data file would be written over and would be no longer available.

SECTION 4 - SUPPLEMENTAL INFORMATION

UNUSUAL APPLICATIONS

MERGING TWO DATA FILES

On occasion, there may be the need to merge two data files created by SURVEY, using the same profile file and questionnaire format. For example, a need to reduce data entry time for a survey with many responses may suggest simultaneous use of more than one operator entering data in separate computers. This would create two or more data files which would ultimately require combining in order to analyze the total of all responses.

DUPLICATING PROFILE AND DATA FILES

Since, in this situation, you will be merging data files associated with the same profile file, it will be necessary to create duplicate profile and data files with root names changed from the originals so that they can appear in the same directory for merging. This is accomplished by selecting the SURVEY DUPLICATE option in the FILE column of the main menu. If you have not already selected the directory holding your files, you will be asked to do so. You will then see a list of the existing profile existing profile files in the directory and should select the one you wish to duplicate. You will be asked for the new root name for the duplicated profile and empty data file. With this accomplished, the program will create the newly named duplicate profile file and a corresponding empty data file. This will return you to the main menu.

If the questionnaire duplication is being made to permit entry of response data simultaneously in separate computers to speed up processing, one set of matching profile and data files will have to be transferred to the additional computer. When the time comes to merge the data files they should be transferred back to the original computer and directory.

The data files can then be merged by running SURVEY and selecting FILES COMBINED in the FILE column of the Main Menu. Follow the directions on the screen. When asked, enter one of the names of the identical profile files. When prompted, follow by entering, in turn, the names of the two

data files to be combined. After you have verified the

files to be combined, the program will create a file named COMBINED.DTA and a duplicate of your profile file, named COMBINED.PRO. The new profile file is needed to permit you to view or print the new combined report.

MAKING AN ADDITIONAL QUASI-DEMOGRAPHIC SEPARATION

The file merging capability of the program has another application in the case where it is desired to make an analysis by demographic separation, (employees grouped by years of company employment, for example), plus an additional division into separate groups, (the respondent's gender, for example). Since SURVEY accommodates only one demographic question, the following procedure will go a long way toward producing an analysis of another demographic grouping. It permits the use of a second quasi-demographic question which must also be in the single choice, Type A category. It can be placed at any point in the questionnaire, although it may be helpful to place it last to simplify a manual sort operation.

When the responses are received in this application, they should be manually divided into separate groups, based on the reply to the selected quasi-demographic Type A question, gender for example. In this case, there are only two such groups. Before proceeding further, the SURVEY program should be run and the profile file for the questionnaire created as described earlier. Then a duplicate profile and empty data file should be created with a different root name by selecting the FILE - SURVEY DUPLICATE option as described in the previous section.

With two differently named but otherwise duplicate sets of profile and data files created, the responses from each of the previously separated groups should be entered, each using a different set of the duplicate profile and data files. A separate report can then be viewed and printed for each group. Both data files should be copied to a different directory or disk for backup. As a second step, the two data files should be merged as described in the previous section. A combined data file will be created, named COMBINED.DTA. It will then be possible to print a report representing the replies of all groups, including a report for each of the main demographic groups.

The result of the complete procedure is to produce the following analysis:

- _ By gender (in this example), total and by demographic subdivision
- _ By total of each demographic group
- _ By total of all responses

While the example discussed involved only two quasi-demographic groups (gender in this case), more than one can be accommodated in the same manner. This procedure will be simplified if the question with the minimum number of choices (gender for example) is used for the quasi-demographic separation, and the question with the larger number of possible choices (age group for example) is used for the real demographic separation as Question Number 1.

DELETING A RESPONSE - In the event of Duplicate entry

It may never happen to you, but a few users have been dismayed to find they have entered the contents of a response sheet twice. For such a situation, the program provides the capability of removing all the entries in a particular response. This option is accessed in the INPUT DATA column and selecting DELETE A RESPONSE. You will be asked to enter the response data in the SAME manner as if you were adding a new response. Note however, that "Deleting a Response" will be flashing in the upper right of the screen. Continue making the entries EXACTLY as they were originally entered. At the conclusion of this action, the program will remove the duplication.

INTERPRETING THE CORRELATION REPORT NUMBERS

If your report includes a summary examining the correlation of question choices in two different questions, you will obtain a print of number scores and percentages for two conditions; (1), the cases in which both the Influenced and Influencing choices were selected and, (2) the cases in which the Influenced choice was selected, but not the potentially Influencing choice. The scores report the total for each occurrence. The percent number is related to the total of scores (1) and (2).

CHOOSING A SAMPLE SIZE

The total number of individuals in the population being considered for an opinion survey usually determines whether an attempt should be made to contact almost all members of this population, or whether taking a sample is a more practical procedure. Sampling, however, reduces both accuracy (reliability) and confidence (raises risk). For a total population of under one or two hundred, an attempt should be made to obtain responses from most of the members in order to obtain trustworthy results. The primary difficulty in getting good results is obtaining a reasonably random and unbiased sample.

Typical objectives for a sampling survey are to obtain an accuracy of plus or minus 5 percent with 95 percent confidence. This means that if a truly random survey was made of the same population 100 times (heaven forbid!), 95 percent of these surveys would produce results which would not be different from a survey of the entire population by more than 5 percent. The press call this the "margin of error", which, of course is not really the case.

Some of the references in the following section provide more detail on the statistics of sampling. As a practical matter, however, for populations less than one or two hundred, try to contact as many as possible. For populations in the order of 500 and a truly random sample, you should contact at least about 230 to reach the above objectives. For populations of about 1000, try for about 280. A population of about 10,000 would require about 370 in a TRULY RANDOM sample for the same objectives.

REFERENCES

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