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# Presentation of Results

## Introduction

There are many different ways of presenting your results. If your study is of a quantitative nature, it is conventional to use actual totals of responses, but more commonly data are presented in various statistical ways as percentages, figures, tables, graphs, often using computer software packages.

If you have used a qualitative approach, it is less likely that you will use graphs and tables, but this is still possible. However, it is more likely that you will use actual direct quotations from your respondents as well as summaries of responses. Direct quotations are often referred to as 'verbatim'. A verbatim statement (a 'verbatim' for short, although grammatically incorrect!) contains the precise words of one of your respondents. What distinguishes the qualitative presentation of results from the quantitative is that it is largely in the form of words. However, some summary tables and figures may be used. There are also computer tools that have been specifically designed to analyse responses which are in the form of words.

Whether your results are of the quantitative or qualitative type, there are no set rules on how you present your results. However, what should guide you are as follows:

- Trying to be as clear as possible
- Making sure that your results can be understood
- Ensuring that the table/graph/figure you use to show your result is at least as good as if not better than using words. By the way, there is no point in creating a table or graph to show the results and then writing in words precisely what the graph/table shows. It is better to use one or the other. If you have used a diagram, you can then write for example, 'As Figure 1 shows...'. Your commentary on Figure 1 would then be a brief summary indicating the more/less significant aspects.
- Try to ensure your presentation is attractive. This is the least important of these points, as having attractively presented results that could

have been expressed in words, or in other ways than you have used, will not gain you any extra marks. However, poorly presented results will certainly not gain you marks either and will give the impression to your examiner that you care little about your work.

## Presenting quantitative results

Assuming you have used a questionnaire, before conducting the analysis of this, you will need to prepare and present your results. Although you could include all your completed questionnaires and ask readers to look at them, this is not an appropriate approach. The main reason being that you will not have done anything to help the reader understand the results if they are presented in this way. You have merely compiled them. The results need to be prepared before being presented. The most likely way that you will do this is to summarise them. You can do this by using simple statistical techniques, but also by summarising comments respondents have made to any open-ended questions, or if they have been asked to explain answers in their own word.

There are a number of relatively simple and straightforward ways to present results which are in numeric form. It is often worthwhile presenting the actual figures, as in, for example, the total number of respondents in your sample, or the number of respondents in a particular category. However, it is frequently preferable and desirable to convert actual totals to percentages. The major advantage of converting actual figures to percentages, is that it is possible to compare results from different size response groups or samples. For example, you may have conducted a survey, and obtained a usable sample, of 45 respondents at one location and 57 at another location. If you had 30 respondents giving responses in a specific category at the first location and 38 in this same category in the second location, how can you directly compare the results? The numbers giving the same response in different locations appear different, until they are converted to percentages. Hence  $30/45$  in your first sample is 66% and  $38/57$  in your second sample is also 66%. So, despite different sample sizes, the percentage in each sample is the same and this may be a particularly important result for you to comment on and discuss in your analysis.

Converting responses to percentages is a relatively straightforward task and can be done manually, particularly if your sample size is relatively small. It is useful with closed-ended questions when there are, for example, only two response categories, such as 'Yes' and 'No'. However, it is also

possible to use with several closed-ended response categories. For example, you may have a number of age categories:

- 21-30
- 31-40
- 41-50
- 51-60
- 61+

Percentages can be provided for the total in each of these age categories. Other demographic factors such as ethnicity, education level and income level are commonly shown in surveys as percentages. Converting your responses of this type to percentages also gives you information on whether your sample is representative, reliable and valid, particularly if you are able to compare the sample you have obtained with any published work you have used in the preparation of your survey.

Percentages can also be used in relation to questions about the substantive topic you are researching. If you have made use of published work in preparing your survey, it may be possible to compare your results directly with the published work. Figure 7.1 below shows a question I used in relation to research at Wellington Zoo, New Zealand. This question has been presented earlier in the book, but here the percentage responses to the question have been added in.

**Figure 7.1:** An example of a checklist question: Motivations for visiting Wellington Zoo, results with percentages shown

Family outing	44%
To see the animals	28%
A day out	10%
School/other group	16%
Visit with a friend	1%
Other	1%

Note that the total (adding together all the percentages in the right-hand column) is 100%. Also note that the 'Other' category has only 1% in it, strongly suggesting that the categories I have chosen are valid. It would be a relatively easy task to convert this table of percentages to a pie chart or a bar chart (see below for a discussion of creating pie charts).

Figure 7.2 shows another question I used in relation to research at Wellington Zoo, New Zealand. This question has also been presented earlier in the book, but the percentage responses to the question have been added in here. Note that, in this case, each row has percentage totals adding

up to 100%. These results clearly show important differences, as indicated by respondents to the role of the zoo, with a very large proportion of those responding indicating that they agree with the importance of the education role of the zoo, and a small majority disagreeing with the statement relating to the tourism role of the zoo.

**Figure 7.2:** An example of Likert scale statements used for research at Wellington Zoo, New Zealand

'It is an organisation ...	Agree	Disagree	'Neither Agree or Disagree'
that mainly breeds rare animals	63	15	22
set up mainly to educate people	94	3	3
set up mainly as a tourist attraction	32	53	15
set up mainly to conserve animals	54	24	22

The question in Figure 7.2 uses statements and a Likert scale and indicates that it is also possible to give percentage responses in each category which in this case are 'Agree', 'Disagree' and 'Neither Agree, nor Disagree'. This question actually shows 'aggregated responses' for the 'Agree' and 'Disagree' categories. They have been achieved by combining 'Strongly Agree' and 'Agree' to create a category 'Agree' and combining 'Strongly Disagree' and 'Disagree' into 'Disagree'.

To illustrate how we create percentages, if we take an example with 200 completed responses using a Likert scale with five categories ranging from 'Strongly Disagree' to 'Strongly Agree' and the total number in each is as follows:

Strongly Disagree=16, Disagree=24, Neither=10, Agree=128, Strongly Agree= 22

then this can be converted to percentages in each category. The results of this conversion to percentages is as follows:

Strongly Disagree=8%, Disagree=12%, Neither=5%, Agree=64%, Strongly Agree=11%.

(Note that the percentages add up to 100).

It is conventional to convert the results in a Likert scale to obtain a mean score. The main reason for this is that the mean scores from several Likert scale statement questions can easily be compared. The conventional way to create mean score for a Likert scale is shown in Figure 7.3 below.