- **Earlier research** – For some topics, a vast array of research studies that have already been done by others can provide you with the required information.
- **Personal records** – Some people write historical and personal records (e.g. diaries) that may provide the information you need.
- **Mass media** – Reports published in newspapers, in magazines, on the Internet, and so on, may be another good source of data.

All qualitative, quantitative and mixed methods research studies can use secondary sources as a method of data collection. In qualitative research you usually extract descriptive and narrative information (such as information from historical accounts of an event, descriptions of a situation, stories about beliefs and superstitions, or descriptions of a site). In quantitative studies the information is usually extracted in numerical or categorical form. In mixed methods approaches it depends upon the methods that are being used. In all situations where you are using secondary sources, you first need to decide what information you need, where it is available and how to extract it. It might be a good idea to develop a form to record the required information in the format that is best suited to your needs.

Problems with data from secondary sources

When using data from secondary sources you need to be careful as there may be problems with the availability, format and quality of data. The extent of these problems varies from source to source. While using such data some of the issues you should keep in mind are as follows:

- **Validity and reliability** – The validity of information may vary markedly from source to source. For example, information obtained from a census is likely to be more valid and reliable than that obtained from most personal diaries.
- **Personal bias** – Information from personal diaries, newspapers and magazines may have the problem of personal bias as these writers are likely to exhibit less rigour and objectivity than one would expect in research reports.
- **Availability of data** – It is common for beginning researchers to assume that the required data will be available, but you cannot and should not make this assumption. Therefore, it is important to make sure that the required data is available before you proceed further with your study.
- **Format** – Before deciding to use data from secondary sources it is equally important to ascertain that the data is available in the required format. For example, you might need to analyse age in the categories 23–33, 34–48, and so on, but, in your source, age may be categorised as 21–24, 25–29, and so on.

Summary

In this chapter you have learnt about the various methods of data collection. Information collected about a situation, phenomenon, issue or group of people can come from either primary sources or secondary sources.

Primary sources are those where you or others collect information from respondents for the specific purpose for which a study is undertaken. These include interviewing, observation and the use of questionnaires. All other sources, where the information required is already available, such as government publications, reports and previous research, are called secondary sources.

There is a considerable overlap in the methods of data collection between quantitative and qualitative research studies. The difference lies in the way the information is generated, recorded and analysed. In quantitative research the information, in most cases, is generated through a set of predetermined questions and either the responses are recorded in categorical format or the categories are developed out of the descriptive responses at the time of analysis through the process called content analysis. The information obtained then goes through data processing and is subjected to a number of statistical procedures. In qualitative research the required information is generated through a series of questions which are not predetermined and pre-worded. In addition, the recording of information is in descriptive format and the main mode of analysis is content analysis to identify the main themes. Structured interviews, use of questionnaires and structured observations are the most common methods of data collection in quantitative research, whereas in qualitative research unstructured interviews (oral histories, in-depth interviews and narratives) and participant observation are the main methods of data collection from primary sources.

The choice of a particular method of collecting data depends upon the purpose of collecting information, the type of information being collected, the resources available, your skills in the use of a particular method of data collection and the socioeconomic-demographic characteristics of your study population. Each method has its own advantages and disadvantages and each is appropriate for certain situations. The choice of a particular method for collecting data is important in itself for ensuring the quality of the information, but no method of data collection will guarantee 100 per cent accurate information. The quality of your information is dependent upon several methodological, situational and respondent-related factors and your ability as a researcher lies in either controlling or minimising the effect of these factors in the process of data collection.

The use of open-ended and closed questions is appropriate for different situations. Both have strengths and weaknesses and you should be aware of these so that you can use them appropriately.

The construction of a research instrument is the most important aspect of any research endeavour as it determines the nature and quality of the information you gather. This is the input of your study and the output, the relevance and accuracy of your conclusions, is entirely dependent upon it. A research instrument in quantitative research must be developed in light of the objectives of your study. The method suggested in this chapter ensures that questions in an instrument have a direct link to your objectives. The wording of questions can pose several problems and you should keep them in mind while formulating your questions.

In qualitative research you do not develop a research instrument as such, but it is advisable that you develop a conceptual framework of the likely areas you plan to cover, providing sufficient allowance for new ones to emerge when collecting data from your respondents.

FOR YOU TO THINK ABOUT

- Refamiliarise yourself with the keywords listed at the beginning of this chapter, and if you are uncertain about the meaning or application of any of them revisit them in the chapter before moving on.
- Identify two or three examples from your own academic field where it may be better to use a questionnaire rather than interviewing, and vice versa.
- Identify three situations where it would be better to use open-ended questions and three where closed questions might be more useful.
- There is a considerable overlap in the methods of data collection between quantitative and qualitative research. In spite of this they are different. List a few of the factors that differentiate them.

Now, as you have gone through the chapter, try answering the following questions:

- List the different methods of data collection in quantitative research.
- Describe the problems that can affect the quality of data when collecting through observation.
- Compare the advantages and disadvantages of using questionnaire versus interviewing for data collection.
- What are the different forms of questions and what are their respective advantages and disadvantages?
- What considerations would you keep in mind when constructing a questionnaire?
- Detail the various methods commonly used in qualitative research to collect information from respondents.
- Discuss the quantitative and qualitative methods of data collection that you can use in a mixed methods approach.

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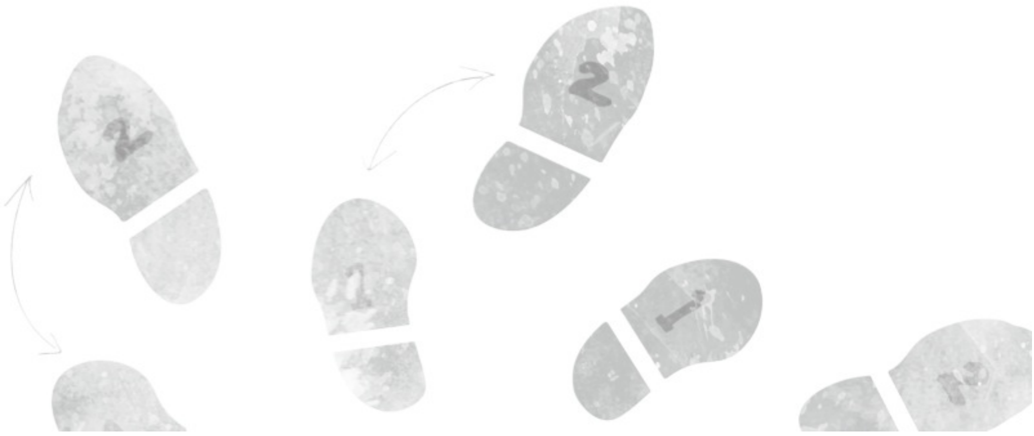
10

COLLECTING DATA USING ATTITUDINAL SCALES

In this chapter you will learn about

- What attitudinal scales are and how to use them
- The functions of attitudinal scales in quantitative research
- Difficulties in developing an attitudinal scale and how to overcome them
- Different types of attitudinal scales and when to use them
- The relationship between attitudinal and measurement scales
- Methods for exploring attitudes in qualitative research



Keywords

attitudinal scales, attitudinal score, attitudinal value, attitudinal weight, cumulative scale, equal-appearing interval scale, Guttman scale, interval scale, Likert scale, negative statements, neutral items, non-discriminative items, numerical scale, ordinal scale, positive statements, ratio scale, summated rating scale, Thurstone scale.

At the end of this chapter, you should have an understanding of

- Types of attitudinal scales in social research and how to construct them
- Strengths and weaknesses of each scale
- Attitudinal scales and their relationship with measurement scales
- Measuring attitudes through qualitative methods

Measurement of attitudes in quantitative and qualitative research

A common practice in social research is to explore the attitudes of people towards various conditions, issues, situations, policies, problems or anything that is of interest and/or concern to us in our daily lives. The importance of attitudinal scales lies in their ability to help us to find out how people feel towards these situations and issues. Knowledge about how people feel towards them plays an important role in formulating new policies and programmes to achieve improvement and betterment. For example: How do people feel towards recreational facilities in their community? What are the needs of the members of the community and how important are these needs to them? What is the attitude of people towards an urban development plan for their area? How do students feel about their lecturer's teaching? What are the attitudes of people towards a programme? How satisfied are they with the services provided by an institution? What are the problems encountered by tourists vising this town? What do consumers think of this product? These are some of the situations that are better explored by finding out attitudes towards them. The exploration of attitudes can be done in a descriptive form where you ask people to describe, discuss and explore with them their attitudes towards an issue. This description becomes the basis for ascertaining their attitudes or you can explore them through the use of the attitudinal scales.

There are a number of differences in the way attitudes are measured in quantitative and qualitative research. In quantitative research you are able to explore, measure, determine the intensity and combine attitudes to different aspects of an issue to arrive at a single indicator that is reflective of the overall attitude. In qualitative research, you can only explore the spread of attitudes and establish the types of attitudes prevalent. In quantitative research you can ascertain the types of attitudes people have in a community, how many people have a particular attitude and the intensity of those attitudes. A number of techniques have been developed to measure attitudes and their intensity in quantitative research, but such techniques are lacking in qualitative research. This is mainly because in qualitative research you do not make an attempt to measure or quantify. The concept of attitudinal scales, therefore, is more prevalent in quantitative than in qualitative research.

Attitudinal scales in quantitative research

In quantitative research there are three scales which have been developed to 'measure' attitudes. Each of these scales is based upon different assumptions and follows different procedures in its construction. As a beginner in research methods it is important for you to understand these procedures and the assumptions behind them so that you can make an appropriate and accurate interpretation of the findings. As you will see, it is not very easy to construct an attitudinal scale. Of the three scales, the Likert scale is the easiest to construct and therefore the most frequently used. The Thurstone scale is more difficult to construct than the Likert scale. The Guttman scale is much more complex than the Thurstone scale and therefore far less used in social research, hence, its relevance for beginners is marginal and it is not included in this book.

Functions of attitudinal scales

If you want to find out the attitude of respondents towards an issue, you can ask either a closed or an open-ended question. For example, suppose that you want to ascertain the attitude of students in a class towards their lecturer and that you have asked them to respond to the following question: 'What is your attitude towards your lecturer?' If your question is open-ended, it invites each respondent to describe the attitude that s/he holds towards the lecturer. If you have framed a closed question, with categories such as 'extremely positive', 'positive', 'uncertain', 'negative' and 'extremely negative', this guides the respondents to select a category that best describes their attitude. This type of questioning, whether framed descriptively or in a categorical form, elicits an overall attitude towards the lecturer. While ascertaining the overall attitude may be sufficient in some situations, in many others, where the purpose of attitudinal questioning is to develop strategies for improving a service or intervention, or to formulate policy, eliciting attitudes on various aspects of the issue under study is required.

But as you know, every issue, including that of the attitude of students towards their lecturers, has many aspects. For example, the attitude of the members of a community towards the provision of a particular service comprises their attitude towards the need for the service, its manner of delivery, its location, the physical facilities provided to users, the behaviour of the staff, the competence of the staff, the effectiveness and efficiency of the service, and so on. Other examples – such as the attitude of employees towards the management of their organisation, the attitude of employees towards occupational redeployment and redundancy, the attitude of nurses towards death and dying, the attitude of consumers towards a particular product, the attitude of students towards a lecturer, or the attitude of staff towards the strategic plan for their organisation – can be broken down in the same manner.

Respondents usually have different attitudes towards different aspects. Only when you ascertain the attitude of respondents to an issue by formulating a question for each aspect, using either open-ended or closed questions, do you find out their attitude towards each aspect. The main limitation of this method is that it is difficult to draw any conclusion about the overall attitude of a respondent from these responses. Take the earlier example, where you want to find out the attitude of students towards a lecturer. There are different aspects of teaching: the content of lectures; the organisation of material; the lecturer's ability to communicate material; the presentation and style; knowledge of the subject; responsiveness; punctuality; and so on. Students may rate the lecturer differently on different aspects. That is, the lecturer might be considered extremely competent and knowledgeable in his/her subject but may not be considered a good communicator by a majority of students. Further, students may differ markedly in their opinion regarding any one aspect of a lecturer's teaching. Some might consider the lecturer to be a good communicator and others might not. The main problem is: how do we find out the 'overall' attitude of the students towards the lecturer? In other words, how do we combine the responses to different aspects of any issue to come up with one indicator that is reflective of an overall attitude? Attitudinal scales play an important role in overcoming this problem.

Attitudinal scales serve two main functions: they measure the intensity of respondents' attitudes towards the various aspects of a situation or issue; and they provide techniques to combine the attitudes towards different aspects into one overall indicator. This reduces the risk of an expression of opinion by respondents being influenced by their opinion on only one or two aspects of that situation or issue.

Difficulties in developing an attitudinal scale

In the development of an attitudinal scale you are likely to face three problems:

1. **Which aspects of a situation or issue should be included when seeking to measure an attitude towards an issue or problem? For instance, in the example cited above, what aspects of teaching should be included in a scale to find out the attitude of students towards their lecturer?**
2. **What procedure should be adopted for combining the different aspects to obtain an overall picture?**
3. **How can one ensure that a scale really is measuring what it is supposed to measure?**

The first problem is extremely important as it largely determines the third problem: the extent to which the statements on different aspects are reflective of the main issue largely determines the validity of the scale. You can solve the third problem by ensuring that your statements on the various aspects have a logical link with the main issue under study – the greater the link, the higher the validity. The different types of attitudinal scale (Likert, Thurstone or Guttman) provide an answer to the second problem. They guide you as to the procedure for combining the attitudes towards various aspects of an issue, though the degree of difficulty in following the procedure for these scales varies from scale to scale.

Types of attitudinal scale

There are three major types of attitudinal scale:

1. the summated rating scale, also known as the Likert scale;
2. the equal-appearing interval scale or differential scale, also known as the Thurstone scale;
3. the cumulative scale, also known as the Guttman scale.

The summated rating or Likert scale

SURVEY MONKEY: LIKERT SCALE

The **summated rating scale**, more commonly known as the **Likert scale**, is based upon the assumption that each statement/item on the scale has equal **attitudinal value**, importance or weight in terms of reflecting an attitude towards the issue in question. This assumption is also the main limitation of this scale, as statements on a scale seldom have equal attitudinal value. For instance, in the examples in Figures 10.1 and 10.2, 'knowledge of subject' is not as important in terms of the degree to which it reflects the attitude of the students towards the lecturer as 'has published a great deal' or 'some students like, some do not', but, on the Likert scale, each is treated as having the same attitudinal weight. A student may not bother much about whether a lecturer has published a great deal, but may be more concerned about 'knowledge of the subject',' communicates well' and 'knows how to teach'.

It is important to remember that the Likert scale does not measure attitude per se. It does help to place different respondents in relation to each other in terms of the intensity of their attitude towards an issue: it shows the strength of one respondent's view in relation to that of another and not the absolute attitude.

Considerations in constructing a Likert scale

In developing a Likert scale, there are a number of things to consider. Firstly, decide whether the attitude to be measured is to be classified into one-, two- or three-directional categories

The lecturer:	*Strongly agree*	*Agree*	*Uncertain*	*Disagree*	*Strongly Disagree*
1 Knows the subject well	☐	☐	☐	☐	☐
2 Is unenthusiastic about teaching	☐	☐	☐	☐	☐
3 Shows concern for students	☐	☐	☐	☐	☐
4 Makes unreasonable demands	☐	☐	☐	☐	☐
5 Has poor communication skills	☐	☐	☐	☐	☐
6 Knows how to teach	☐	☐	☐	☐	☐
7 Can explain difficult concepts in simple terms	☐	☐	☐	☐	☐
8 Is hard to approach	☐	☐	☐	☐	☐
9 Is liked by some students and not by others	☐	☐	☐	☐	☐
10 Is difficult to get along with	☐	☐	☐	☐	☐

Figure 10.1 An example of a categorical scale

The lecturer:

1	Knows the subject well	7	6	5	4	3	2	1
2	Is enthusiastic about teaching	7	6	5	4	3	2	1
3	Shows no concern for students	7	6	5	4	3	2	1
4	Demands too much	7	6	5	4	3	2	1
5	Communicates well	7	6	5	4	3	2	1
6	Knows how to teach	7	6	5	4	3	2	1
7	Can explain difficult concepts in simple terms	7	6	5	4	3	2	1
8	Is seldom available to the students	7	6	5	4	3	2	1
9	Is liked by some students and not by others	7	6	5	4	3	2	1
10	Has published a great deal	7	6	5	4	3	2	1

Figure 10.2 An example of a seven-point numerical scale

1: The lecturer

(a) knows the subject *extremely well*
(b) knows the subject *well*
(c) has an *average* knowledge of the subject
(d) *does not know* the subject
(e) has an *extremely poor knowledge* of the subject

Figure 10.3 An example of a scale with statements reflecting varying degrees of an attitude

(i.e. whether you want to determine positive, negative and neutral positions in the study population) with respect to their attitude towards the issue under study. Next, consider whether you want to use categories or a numerical scale. This should depend upon whether you think that your study population can express itself better on a numerical scale or in categories. The decision about the number of points or the number of categories on a categorical scale depends upon how finely you want to measure the intensity of the attitude in question and on the capacity of the population to make fine distinctions. Figure 10.1 shows a five-point categorical scale that is three-directional and Figure 10.2 illustrates a seven-point numerical scale that is one-directional. Sometimes you can also develop statements reflecting opinion about an issue in varying degrees (Figure 10.3). In this instance the respondent is asked to select the statement which best describes his/her opinion.

Figure 10.4 shows the procedure used in constructing a Likert scale.

Calculating attitudinal scores

Suppose you have developed a questionnaire/interview schedule to measure the attitudes of a class of students towards their lecturer using a scale with five categories.

Procedure

Step 1 *Assemble or construct statements that are reflective of the attitudes towards the main issue in question. Statements should be worded to reflect both positive and negative attitudes towards the issue; that is, they should be for, as well as against, the issue. (If your scale is one-directional, you need only positive statements.) Make sure that all the statements have a logical link with the main issue. You also need to decide whether you want respondents to answer in categories or on a numerical scale.*

Step 2 *Administer the statements to a small group of people to test them for clarity.*

Step 3 *Analyse the responses by assigning a weighting – a numerical value – to the responses. Numerical values are assigned differently to positive and negative statements. For a positive statement the response indicating the most favourable attitude is to be given the highest score. For example, on a five-category or five-point scale, 5 is assigned to the response that indicates the most favourable attitude and 1 to the response which indicates the least favourable attitude. By contrast, a person who agrees strongly with a negative statement indicates that s/he does not have a favourable attitude; hence, the scoring is reversed, i.e. 1 is assigned to the response where a respondent strongly agrees with a negative statement and 5 to the response where s/he strongly disagrees with it.*

Step 4 *Calculate each respondent's attitudinal score by adding the numerical values assigned in Step 3 to the responses s/he gave to each statement.*

Step 5 *Compare all respondents' scores for each item to identify non-discriminative items. A non-discriminative item is where respondents with high attitudinal score have responded in a similar manner to respondents with low attitudinal scale, that is, both groups have responded to the statement in the same manner. Non-discriminative statements do not help you to distinguish respondents with respect to attitude as almost everyone responds to them in the same way.*

Step 6 *Eliminate non-discriminative items.*

Step 7 *Construct a questionnaire/interview schedule comprising the selected statements/items.*

Figure 10.4 The procedure for constructing a Likert scale

In Figure 10.5, statement 1 is a positive statement; hence, if a respondent ticks 'strongly agree', s/he is assumed to have a more positive attitude on this item than a person who ticks 'agree'. The person who ticks 'agree' has a more positive attitude than a person who ticks 'uncertain', and so on. Therefore, a person who ticks 'strongly agree' is given the highest score, 5, as there are five response categories. If there were four categories you would assign a score of 4. As a matter of fact, any score can be assigned as long as the intensity of the response pattern is reflected in the score and the highest score is assigned to the response with the highest positive intensity.

Statement 2 is a negative statement. In this case a person who ticks 'strongly disagree' has comparatively the most positive attitude on the aspect that is reflected by this item; hence, the highest score is assigned, 5. On the other hand, a respondent who ticks 'strongly agree' has the least positive attitude on the item and therefore is assigned the lowest score, 1. The same scoring system is followed for the other statements.

Note statement 9. There will always be some people who like a lecturer and some who do not; hence, this type of statement is neutral. There is no point in including such items in the scale; we have done so here purely for illustrative purposes.

The lecturer:	SA	A	U	D	SD
1 Knows the subject well (+)	5	4	3	2	1
2 Is unenthusiastic about teaching (–)	1	2	3	4	5
3 Shows concern for students (+)	5	4	3	2	1
4 Makes unreasonable demands (–)	1	2	3	4	5
5 Has poor communication skills (–)					
6 Knows how to teach (+)					
7 Can explain difficult concepts in simple terms (+)					
8 Is hard to approach (–)					
9 Is liked by some students and not by others (+/–)					
10 Is difficult to get along with (–)					

SA = strongly agree, A = agree, U = uncertain, D = disagree, SD = strongly disagree

Figure 10.5 Scoring positive and negative statements

The lecturer:	SA	A	U	D	SD
1 Knows the subject well (+)	@				#
2 Is unenthusiastic about teaching (–)		#			@
3 Shows concern for students (+)			@		#
4 Makes unreasonable demands (–)		#			@
5 Communicates poorly (–)		#			@
6 Knows how to teach (+)		@		#	
7 Can explain difficult concepts in simple terms (+)	@	#			
8 Is hard to approach (–)			@#		
9 Is liked by some students and not by others (+/–)				@#	
10 Is difficult to get along with (–)			#		@

SA = strongly agree, A = agree, U = uncertain, D = disagree, SD = strongly disagree

Figure 10.6 Calculating an attitudinal score

To illustrate how to calculate an individual's **attitudinal score**, let us take the example of two respondents who have ticked the different statements marked in our example by # and @ (see Figure 10.6). Let us work out their attitudinal scores:

Statement no.	1	2	3	4	5	6	7	8	9	10
Respondent @ =	5 +	5 +	3 +	5 +	5 +	4 +	5 +	3 +	2 +	5 = 42
Respondent # =	1 +	2 +	1 +	2 +	2 +	2 +	4 +	3 +	2 +	3 = 22

The analysis shows that, overall, respondent @ has a 'more' positive attitude towards the lecturer than respondent #. You cannot say that the attitude of respondent @ is twice (42/22 = 1.91) as positive as that of respondent #. The attitudinal score only places respondents in a position relative to one another. Remember that the Likert scale does not measure the attitude per se, but helps you to rate a group of individuals in descending or ascending order with respect to their attitudes towards the issues in question.

The equal-appearing interval or Thurstone scale

THURSTONE SCALE

Unlike the Likert scale, the **Thurstone scale** calculates a weight or attitudinal value for each statement. The weight (equivalent to the median value) for each statement is calculated on the basis of ratings assigned to a statement by a group of judges. Each statement with which respondents express agreement (or to which they respond in the affirmative) is given an attitudinal score equivalent to the attitudinal value of the statement. The procedure for constructing the Thurstone scale is as given in Figure 10.7.

The main advantage of this scale is that, as the importance of each statement is determined by judges, it reflects the absolute rather than relative attitudes of respondents. The scale is thus able to indicate the intensity of people's attitudes and any change in this intensity should the study be replicated. On the other hand, the scale is difficult to construct, and a major criticism is that judges and respondents may assess the importance of a particular statement differently and, therefore, the respondents' attitudes might not be reflected.

Step 1 *Assemble or construct statements reflective of attitudes towards the issue in question.*

Step 2 *Select a panel of judges who are experts in the field of the attitudes being explored.*

Step 3 *Send the statements to these judges with a request to rate each statement's importance in reflecting an attitude towards the issue being studied. Ask them to rate each statement on an 11-point scale.*

Step 4 *Calculate the median value of these judges' ratings for each item.*

Step 5 *If the judges' ratings of any item are scattered over the scale, this indicates that, even among the experts, there is no agreement as to the degree to which that statement reflects an attitude towards the issue in question. Discard such statements.*

Step 6 *From the remaining statements select items that best reflect attitudes towards various aspects of the issue.*

Step 7 *Construct a questionnaire/interview schedule comprising the selected items.*

Figure 10.7 The procedure for constructing the Thurstone scale

The cumulative or Guttman scale

GUTTMAN SCALE

The **Guttman scale** is one of the most difficult scales to construct and therefore is rarely used. This scale does not have much relevance for beginners in research and so is not discussed in this book.

Attitudinal scales and measurement scales

Different **attitudinal scales** use different measurement scales. It is important to know which attitudinal scale belongs to which measurement scale as this will help you in the interpretation of respondents' scores. Table 10.1 shows attitudinal scales in relation to measurement scales.

Table 10.1 The relationship between attitudinal and measurement scales

Attitudinal scales	Measurement scales
Likert scale	Ordinal scale
Thurstone scale	Interval scale
Guttman scale	Ratio scale

Attitudes and qualitative research

As mentioned at the beginning of this chapter, in qualitative research you can only explore the spread of the attitudes. Whatever methods of data collection you use – in-depth interviewing, focus group, observation – you can explore the diversity in the attitudes but cannot find other aspects such as how many people have a particular attitude, the intensity of a particular attitude, or overall what the attitude of a person is. Qualitative methods are therefore best suited to explore the diversity of attitudes rather than their intensity.

Summary

One of the significant differences between quantitative and qualitative research is in the availability of methods and procedures to measure attitudes. In quantitative research there are a number of methods that can be used to measure attitudes, but qualitative research lacks methodology in this aspect primarily because its aim is to explain rather than to measure and quantify. Through qualitative research methodology you can find the diversity or spread of attitudes towards an issue but not their intensity and a combined overall indicator.

Attitudinal scales are used in quantitative research to measure attitudes towards an issue. Their strength lies in their ability to combine attitudes towards different aspects of an issue and to provide an indicator that is reflective of an overall attitude. However, there are problems in developing an attitudinal scale. You must decide which aspects should be included when measuring attitudes towards an issue, how the responses given by a respondent should be combined to ascertain the overall attitude, and how you can ensure that the scale developed really measures attitude towards the issue in question.

There are three types of scale that measure attitude: the Likert, Thurstone and Guttman scales. The Likert scale is most commonly used because it is easy to construct. The main assumption of the scale is that each statement is equally important. The importance of each item for the Thurstone scale is determined by a panel of judges.

FOR YOU TO THINK ABOUT

- Refamiliarise yourself with the keywords listed at the beginning of this chapter, and if you are uncertain about the meaning or application of any of them revisit them in the chapter before moving on.
- Identify examples of how the Likert and Thurstone scales can be applied to research in your own academic field.
- Consider how you would go about developing a five-point Likert scale to measure the self-esteem of a group of university students, and the difficulties you might face in trying to do so.

Now, as you have gone through the chapter, try answering the following questions:

- What are the main advantages of attitudinal sales in social research?
- Name the different types of attitudinal scales and the assumptions made in their construction.
- Identify different situations which are appropriate for measuring attitudes by Likert and Thurstone scales in the social sciences.
- What aspects of self-esteem would you include in a five-point Likert scale to measure the self-esteem of group of unemployed youth?

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