4 Developing indicators for concepts

To be useful, concepts must have empirical indicators: if we cannot say what behaviours, attitudes or characteristics reflect conservatism, authoritarianism or social status, for example, then for the purposes of research the concept is useless. The difficulty is in developing good indicators for concepts. This chapter examines how to translate concepts into indicators by looking at three steps:

1 clarifying the concepts;
2 developing initial indicators;
3 evaluating the indicators.

Before looking at these steps it is helpful to look at an example which illustrates the process of developing indicators and highlights the difficulties. Suppose we are interested in the theory which argues that religiousness is a response to deprivation: that religious faith serves to compensate people for their frustrations and disappointments. We might propose that the more deprived people are, the more religious they will be. To test this we must work out who is deprived and who is not, who is religious and who is not. We might use income to distinguish between the deprived and non-deprived: those earning $10 000 or less a year being classified as deprived and those earning $20 000 a year as being non-deprived. We could use church attendance to indicate religiousness: monthly and more regular attenders could be defined as religious with less regular attenders being classified as non-religious. Suppose, contrary to expectations, we find only 15 per cent of those with low incomes attend church regularly, while 50 per cent of those with higher incomes do so. Can we then reject the theory that deprivation leads to religiousness? There would be two fundamental problems with this 'research'.

1 We have not clarified the meaning of 'deprivation' and 'religiousness'. Unless we are clear about the meaning of the concepts we cannot develop measures of them.

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2   We do not know whether the indicators we have used are adequate. Does church attendance adequately measure religiousness? Does income indicate deprivation? Before answering these questions we need to know what the concepts mean.

Clarifying concepts

Concepts are simply tools which fulfil a useful shorthand function: they are abstract summaries of a whole set of behaviours, attitudes and characteristics which we see as having something in common. Concepts do not have some sort of independent existence 'out there': they do not have any fixed meaning. Concepts are terms which people create for the purpose of communication and efficiency. When developing indicators for concepts, the task is not to find indicators which match some concept which has a set definition. It is up to us to first define what we mean by the concept and then develop indicators for the concept *as it has been defined*. By their very nature definitions are neither true nor false: they are only more useful or less useful.

There is a problem here. If concepts have no set meaning then anyone can define a concept any way they wish. The result would be that the concept would become useless; unless people mean the same thing by a word, communication is impossible. In sociology lack of agreement about how words are defined leads to confusion and pointless debates. For example, debates about the extent to which a country is secularised, equal or democratic depend substantially on definitions of religion, equality and democracy respectively.

The view that concepts do not have real or set meanings can lead to conceptual anarchy, a problem with no entirely satisfactory solution. The most practical action is to make it very clear how we have defined a concept and to keep this definition clearly in mind when drawing conclusions and comparing the findings with those of other researchers. Although we can define a word any way we wish, there seems to be little value in developing entirely idiosyncratic definitions. Since concepts are used to communicate, it makes most sense to use the word in its most commonly understood sense. If the definition of the concept is idiosyncratic this should be made very clear. Where a concept takes on a number of widely held but different meanings, we will need either to decide on (and justify) one, or to design the research so that we have indicators of each of the different meanings.

How to clarify concepts

Since concepts have no set meanings yet it is crucial that the concepts used in research be defined, how do we go about clarifying them? In practice people use different approaches. I will describe three steps which help in the process.

1   *Obtain a range of definitions of the concept:* Before adopting one definition of a concept look for the ways in which sociologists use the concept then look at lay definitions. People do not always provide formal definitions so we may need to work out what they mean by the way they have used the term (i.e. their definition may be implicit rather than explicit).

Once we have an idea of the range of ways in which the term is used, we may find that we can classify definitions into a number of categories. Developing a definition of religion can serve as an example. There are many sociological and lay definitions but they can be grouped into two main categories:

a   Inclusive or functional definitions: this approach, which derives from Durkheimian and functionalist theorising, defines beliefs and behaviour as religious, not by their content, but by their function for either individuals or society. Thus any set of beliefs which provides people with meaning in life may be defined as religious. There are a large number of diverse definitions which fit into this category.

b   Exclusive or substantive definitions: these definitions are based on the content of belief and typically specify that the beliefs must include some notion of a supernatural being.

An alternative approach is to look at common elements of definitions and develop a definition based on these. Hillery (1955) listed 94 definitions of 'community' and Bell and Newby (1971) note that the majority of definitions include three elements: area, common ties and social interaction. This approach could then form the basis of a definition which incorporates the generally understood meaning of the concept.

2   *Decide on a definition:* Having listed types of definitions or delineated the most common elements of definitions, we need to decide on which definition to use. We might opt for an existing one, create a new one, choose a classic definition or use a more contemporary one. Regardless of which we do, we need to justify the decision.

In practice, the process of conceptual clarification continues as data are analysed. Clarification is not a once-and-for-all process which precedes research. It is an ongoing process: there is an

interaction between analysing data and clarifying concepts. As a result of analysing data we are often in a better position to say what we mean by a concept than before we began. Nevertheless, this process must begin before data collection.

To assign a definition to a concept is to give it a nominal definition: it is a working definition which is used in the research. It provides a focus for research and guidance about the type of information to collect, but does not tell us precisely which information to collect. For example, we might define religious beliefs as those with a supernatural element. This helps focus on the range of beliefs to examine but does not specify which beliefs to examine. This is the task of an operational definition which will be dealt with shortly.

3   *Delineate the dimensions of the concept:* Many concepts have a number of different aspects or dimensions. When clarifying concepts it is often helpful to distinguish between those dimensions. This may result in using only one of the dimensions in the study or it may lead to a more systematic development of indicators for each dimension. Distinguishing between dimensions can lead to more sophisticated theorising and more useful analysis.

Deprivation is an example of a multidimensional concept: social, economic, political, psychic or physical deprivation can be delineated. Distinguishing between these dimensions can force us to clarify what our theory is about and in so doing ensure that we develop measures relevant to that theory. Earlier we noted the model which says deprivation causes religiousness. By delineating dimensions we are forced to ask, do we mean any sort of deprivation will lead to any sort of religiousness? Perhaps we might become more specific and state that social deprivation leads to religious beliefs (one of the dimensions of religiousness). If we decided this was the theory we were testing, we would need to include questions relating only to one type of deprivation and one aspect of religiousness.

We might want to develop measures of each type of deprivation and each aspect of religiousness. If so, delineating the separate dimensions helps in choosing indicators systematically.

Developing indicators

The process of moving from abstract concepts to the point where we can develop questionnaire items to tap the concept is called 'descending the ladder of abstraction'. It involves moving from the broad to the specific, from the abstract to the concrete. In clarifying concepts we begin to descend this ladder. A further step is taken when dimensions are specified. Sometimes these dimensions themselves can be further subdivided into some more specific categories. For example, there may be different types or aspects of social deprivation: it may involve social isolation or it may mean the absence of socially valued roles or social skills. These dimensions of social deprivation are more specific and give more clues about which questions to ask in a questionnaire (Figure 4.1).

When delineating dimensions and dimensions of dimensions it is helpful to define the terms on the way. If one aspect of social deprivation is social isolation, what do we mean by this? Does it mean lack of friends, not seeing your family, not belonging to organisations and so on? Before concepts can be measured we must descend from the lofty and often vague heights of some theories and deal with these more mundane issues. The process of descending the ladder of abstraction is summarised in Figure 4.1.

When we get to the point where we can develop indicators there are three broad problems to deal with:

1   how many indicators to use;
2   how to develop the indicators;
3   how to form items into a questionnaire (this will be dealt with in Chapter 6).

How many indicators to use

There is no simple answer to this problem but the following guidelines are useful.

1   When there is no agreed way of measuring a concept it may be helpful to develop indicators for a range of definitions and see what difference this makes to the results and interpretations.
2   If the concept is multidimensional, consider whether you are really interested in all dimensions. Are they all relevant to the theory?
3   Ensure that the key concepts are thoroughly measured. The behaviour and attitudes that we are trying to explain and the theorised causes must be carefully measured using several indicators.
4   Typically attitudes and opinions are complex and are best measured with a number of questions to capture the scope of the concept (see Chapter 15).
5   Pilot testing indicators is a way of eliminating unnecessary

Figure 4.1 Clarifying concepts: descending the ladder of abstraction
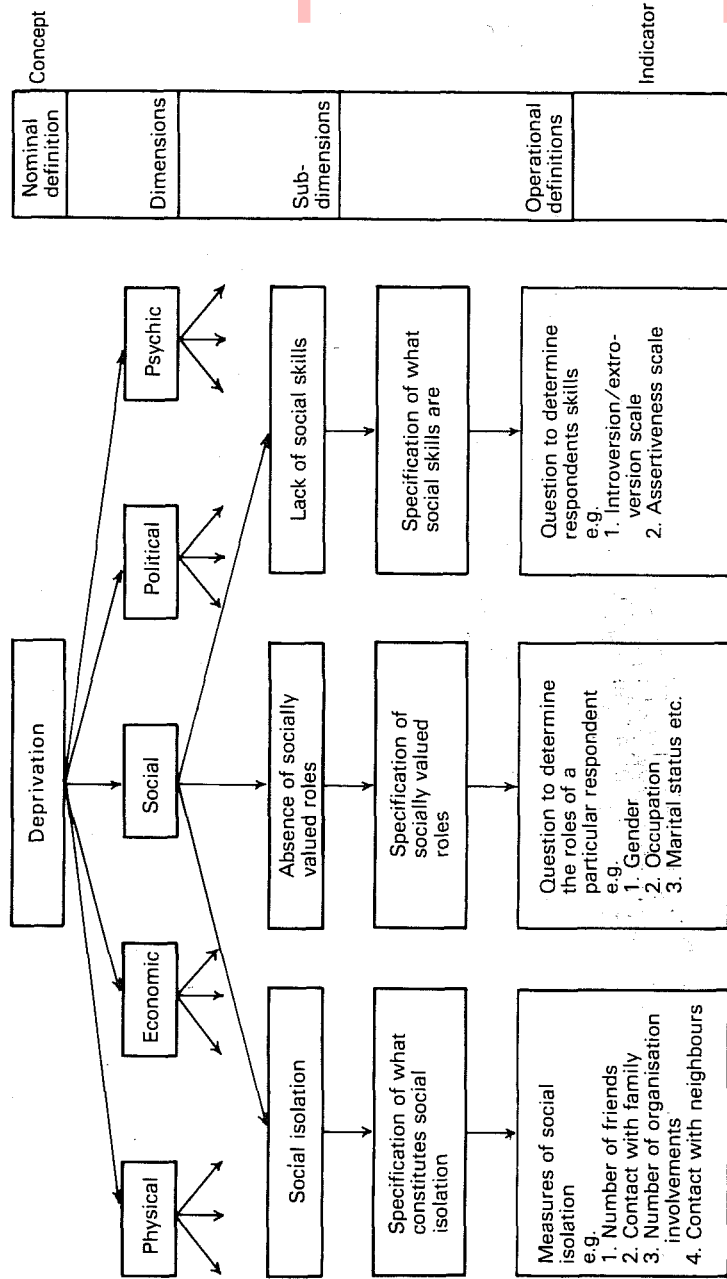
questions. Initially we might have 50 questions to measure authoritarianism but find that we need only 10 of these items: the additional 40 items might not add anything to our index (see Chapter 15).

6 The number of items is affected by practical considerations such as overall length of the questionnaire and method of administration (see Chapter 7).

How to develop indicators

For many concepts, developing an indicator is simple and the indicators are well established (e.g. marital status, education level), but for others, particularly the more abstract concepts, it is more difficult. There seem to be three main approaches to developing initial indicators in questionnaire research. In each case these initial indicators will be refined during the evaluation stage.

First, measures developed in previous research can be used. There are many well-established and tested scales which we ignore at our peril. Ideally we should try to evaluate these measures: they may need updating or rewording to fit a particular context or a particular sample. Using well-established indicators has the enormous advantage of enabling comparison of results with those of other researchers. This can be helpful in building up a cumulative body of knowledge rather than each person carrying out their own idiosyncratic research with idiosyncratic measures (see references at the end of this chapter).

Secondly, for some research topics, especially those where we are surveying a special group (e.g. migrants, Aborigines, young people, childless couples) it is very helpful to use a less structured approach to data collection first (e.g. observation, unstructured interview). This can help us understand things through the eyes of these people, learn of their concerns and ways of thinking, and this can be extremely helpful in developing relevant and appropriately worded questions for that group.

A third alternative is to use 'informants' from the group to be surveyed. Such people can provide useful clues about meaningful questions. For example, if surveying a union it would be helpful to talk to key types of people in the union to get their ideas and comments on questions.

In the end we have to decide which indicators to use and how to word them. In doing so we need to be as informed as possible about the study population, to be clear about what we want to measure, to look at other people's efforts and to evaluate our own indicators.