

**Keywords: Indicators, Concepts, Operationalisation**

### Introduction

By their nature social science concepts such as ethnicity, social capital or health are fluid and ever changing terms which are difficult to measure in a quantitative way. A mass of UK social surveys have been developed and extensively tested by experts who decide how they are going to measure the concept in hand. Reusing these indicators as the Qb encourages leaves open the question of whether you are measuring exactly the same thing as the original indicator was designed to do.

This factsheet will provide an introduction to the development of indicators for concepts, the difficulties in the process and will provide two case studies of specific concepts, social capital and ethnicity, so that the reader can see the types of processes that are gone through in the development of measures for abstract concepts in social surveys.

### Social Science Concepts

Concepts "*are abstract categories of behaviours, attitudes or characteristics*" and more precisely "*terms which people create for the purpose of communication and efficiency*" (DeVaus 2002: 43). Social researchers often need to develop questions or measures of rather abstract concepts, the concept of social exclusion for example is an umbrella term which potentially includes other concepts such as crime levels, location, income, housing, health and so on. Measuring social exclusion then is going to require taking all of these terms into account.

Developing indicators or questions for such concepts can be daunting and requires a certain amount of 'sociological imagination' (Bulmer 1986). In other words, each researcher or research team will come at the concept from a slightly different angle depending on their research problem and one indicator of social capital may not necessarily fit. In order to develop indicators then, the researcher must develop an idea of the concept from their own perspective working with what has been done before, and through reading around theory behind the concept develop their own definitions and dimensions of that concept. There are three steps that can help the researcher to clarify the concept that they are measuring (DeVaus 2002: 45 – 46);

- 1) Researching a wide range of current and previous definitions of the concept as others have seen it will help you to focus on the aspect of the concept that you want to measure. Some concepts are listed in dictionaries and encyclopaedias, where as the newer concepts may be listed on web sites like Wikipedia.

- 2) After this research decide on your own personal definition of the concept that you will stick to throughout your research and ensure that you can fully justify why you have chosen this definition.
- 3) 'Concept mapping' like mind mapping can help you to then begin to draw out the different dimensions of the concept that you will need to think about when you begin the next stage – developing indicators to measure the concept.

Having started the process with a vague idea of the concept that you are wanting to measure, by the stage that you have researched prior work on the concept and decided upon your own definition you should be aware of the theoretical underpinning of the concept as well as the ways in which it has been measured before.

### Developing Indicators

Once the concept has been defined the next step is operationising it in order to construct an indicator or measure, *"operationalisation is thus the process of converting concepts into their empirical measurements or of quantifying variables for the purpose of measuring their occurrence, strength and frequency"* (Sarantakos 1993:46).

In the example below on ethnicity it is clear that the research team in this particular case decided that one indicator was not enough, more were needed to fully measure or quantify the concept. This is often the case in social research, where more than one indicator is used to build a data set which is used to analyse the concept. Psychologists have built entire questionnaires to measure complex concepts such as depression, with a range of questions on mood and emotion which are then scored until a persons depression level or 'score' is established.

A practical tip here is to look at what indicators have been used before in questionnaires to measure the concept you are interested in. The Qb search engine can be used to find exact phrases or keywords, or the Topics section has a range of 22 social science concepts with information on social measurement for them.

The Office for National Statistics [ONS] have developed a series of indicators called Harmonised Questions for key concepts which are used across their surveys, making data comparable. These are useful for researchers who are wanting to develop indicators for basic concepts as they have been extensively tried and tested as questions. As well as giving the indicators and the resulting classifications, the Harmonised Questions web pages give an idea of how the concept has been operationalised in order for the indicator to be developed. The questions are being used in the new [Integrated Household Survey](#) to be launched late in 2008.

### Exemplar: Social Capital

ONS have a detailed guide to the process they went through to develop their indicators for Social Capital. A clear definition was found which states that Social Capital consists of *"networks together with shared norms, values and understandings that facilitate co-operation within or among groups."* (Cote and Healy, 2001:411) which suited the concept and then the dimensions of Social Capital are clearly set out.

The following five dimensions were identified:

- Views about the local area (e.g. satisfaction with living in the area, problems in area)
- Civic participation (e.g. propensity to vote, action on local and national issues)
- Social networks and support (e.g. contact with friends and relatives)
- Social participation (e.g. involvement in groups and voluntary activities)
- Reciprocity and trust (e.g. trusting other people)

A question set was then developed to measure these five dimensions which can be seen on the ONS web site: [http://www.statistics.gov.uk/socialcapital/downloads/Draft\\_UserGuide\\_v3.pdf](http://www.statistics.gov.uk/socialcapital/downloads/Draft_UserGuide_v3.pdf)

## Exemplar: Ethnicity

The concept 'ethnicity' is used in many social surveys as a general classificatory question, usually in the form of two questions leading to two indicators of a person's ethnicity; their country of birth (sometimes the country of birth for the respondent's Father and Mother is also asked) and a self-defined ethnicity question.

The Office for National Statistics have developed a set of questions (indicators) for ethnicity which are used in all government social surveys. The questions were developed by a team who undertook a review of the knowledge about ethnicity and what measures were used at the time. By narrowing down the concept using one definition of ethnicity by a leading expert in the field, they then studied the terminology used by others to define and measure ethnicity before looking in depth at the various dimensions involved in the concept.

Ethnicity for example has multiple dimensions all of which could be used in some way as an indicator:

- Country of Birth
- Nationality
- Language spoken at home
- Parental country of birth used with respondent's country of birth
- Skin colour
- National origin
- Racial group
- Religion

Clearly ethnicity is a sensitive issue and measurement of it by any one of these 'dimensions' above may cause problems. Would judging a persons ethnicity by their religion for example be acceptable to all respondents – very doubtful?

Two questions were developed as a result of the research into the way that ethnicity is thought about in the United Kingdom, with some variations for England, Scotland, Wales and Northern Ireland. Extensive testing was carried out to find which questions were acceptable for participants and whether the terminology being used was acceptable to the different ethnic groupings.

The following page shows the question developed for the 2001 Census for England, and the Northern Ireland version of the same question.

**Census Question on ethnicity in England 2001:**

**What is your ethnic group?**

CHOOSE ONE SECTION FROM A TO E, THEN SELECT THE APPROPRIATE OPTION TO INDICATE YOUR ETHNIC GROUP

**A. White**

1. British
  2. Irish
  3. Any Other White background, *please write in*
- 

**B. Mixed**

4. White and Black Caribbean
  5. White and Black African
  6. White and Asian
  7. Any Other Mixed background, *please write in*
- 

**C. Asian or Asian British**

8. Indian
  9. Pakistani
  10. Bangladeshi
  11. Any Other Asian background, *please write in*
- 

**D. Black or British Black**

12. Caribbean
  13. African
  14. Any Other African background, *please write in*
- 

**E. Chinese or other ethnic group**

15. Chinese
  16. Any Other, please write in
- 

The question for Northern Ireland below is different to take into account regional variations on the concept. Questions for Scotland and Wales also have regional differences.

**To which of these ethnic groups do you consider you belong?**

CHOOSE ONE ONLY

1. White
  2. Chinese
  3. Irish Traveller
  4. Indian
  5. Pakistani
  6. Bangladeshi
  7. Black Caribbean
  8. Black African
  9. Black Other
  10. Mixed Ethnic Group, *please write in*
- 
11. Any Other ethnic group, *please write in*
-

## Evaluating and testing Indicators

It is not enough to simply take an indicator that has already been used and slot it into a questionnaire or interview schedule. The researcher will need to ensure that the indicators / questions are acceptable to the group of respondents that they are focussing on and that the questions are not sensitive to order or context effects. The following is not an exhaustive list of problems that may affect the measurement of a concept:

Is this concept focussed on a particular **event or time** of day / week / month or year?  
The concept may have a **seasonal element** which needs to be taken into account.

If the concept is of a **sensitive nature**, care should be taken as to where it is asked in the questionnaire and how it is asked – for example, a self completion questionnaire may be more appropriate than a face to face interview.

Even if the question is not thought to be sensitive to the respondent, they may give a '**socially desirable**' answer about their behaviour or attitudes.

There is more information on this in the Qb Factsheet 4 on Evaluating Survey Questions and 6 on Mode Effects.

## Further Reading and References

There are many other examples of how different concepts have been developed into indicators in the Topics section of the Question bank.

Martin Bulmer and Robert Burgess Do concepts, variables and indicators interrelate? is a discussion on the theoretical and practical aspects of social science concepts in Robert Burgess (Ed) (1986) '*Key Variables in Social Investigation*' London, Routledge

David DeVaus has a chapter on 'Developing Indicators for Concepts' in DeVaus (2002) '*Surveys in Social Research*' 5<sup>th</sup> Edition, London, Routledge

Alan Bryman also has an introductory discussion on concepts and indicators in Bryman, A (2004) '*Social Research Methods*' 2<sup>nd</sup> Edition, Oxford, Oxford University Press.