

A brief guide to conducting surveys (mail, telephone or face to face) by Stephanie Tierney (stephanie.tierney@manchester.ac.uk)



1. Identify the purpose and objectives of the survey

When carrying out a survey, a researcher will initially need to establish a certain understanding as to the nature and purpose of the study. Is it to be a poll of people's behaviour, attitudes or opinions? Or is it an analytical study, examining correlation (the relationship) between sets of data? What do you hope to learn from the process? What will happen to the results? Who will be asked, what will they be asked and how will they be asked? Being clear about the aims of the survey will help to establish the target population, which may comprise of individuals, specific groups or units (e.g. clinics or wards).

After an overall aim for the study has been established, it may be useful to propose more precise goals. For example, if the overall aim of a survey is to establish service users' opinions of the care they receive, more precise goals of enquiry could include particular objectives of the service, such as quality of care.

2. Identify to whom the survey is aimed

Who is the intended audience for the survey's results - national or local politicians, service providers or purchasers, or recipients of care? Being clear about the target of the results and what you hope to show with them can help in deciding how to carry out the study.

3. Identify what survey instrument is to be used

Whatever choice is made, researchers should ensure that, as far as possible, their tool for collecting data is:

Reliable – that it reproduces the same results when used on several occasions. It should not produce different answers because a different person is asking the questions, or, when questions are put to different individuals, they should be understood in the same way.

Valid – it should measure what it claims to. In research, the following types of validity have become common areas of concern:

Face validity – at a glance, does the measure actually assess what it purports to? For example, asking care managers about money spent on a service does not have face validity as a measure of client satisfaction.

Content validity – the relevancy of the measurement to the area being measured. For example, if we want to assess improvements in depression following an intervention, it is important that the tool used actually measures this factor. Every part of the measurement should relate to aspects of the area under investigation (e.g. depression). It is also important to assess whether different issues are treated fairly and equally within the survey, and whether all aspects of the issue being examined have been covered.

Construct validity – how far does the tool measure what it claims to measure? For example, does a satisfaction survey of an entire service actually measure satisfaction with all or just part of that service?

Concurrent validity – compares results from the survey under review with other independent measures of the same area. Searle (1999: 77) gives the example that you would “expect there to be agreement between a test of mathematical aptitude given just before you took a maths exam. If there was high agreement then there would be good concurrent validity.”

When deciding what survey instrument to use, researchers have three choices:

Use an existing survey instrument. It is cost and time effective to use a scale of measurement that has already been produced, preferably if information on its level of reliability and validity are available. This will give a degree of credibility to your research. Unless there is a clear description of an instrument’s reliability and validity, and how these areas were assessed, they should not be assumed. Searching through articles and books on your area of interest is one means of identifying appropriate, existing survey instruments. You could also try contacting an expert in the field (e.g. an academic) for their advice.

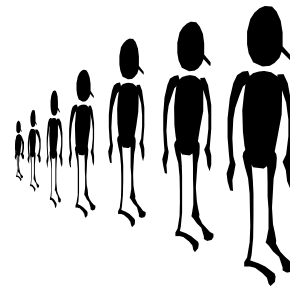
Develop a new survey instrument. If well designed, such instruments can capture information that is of particular relevance to the area under investigation, which may not be addressed by existing tools. If developing your own survey, it is important that questions are unambiguous, short and direct. Do not ask two questions in one. For example, ‘Was the training interesting and useful for your practice?’ is actually asking two things (the training may be interesting but not relevant to practice or vice versa). Questions can be open ended, giving the respondent space to write their answer in their own words, or closed, whereby respondents are invited to choose from pre-defined answers. Open questions give participants the opportunity to express themselves freely, without feeling constrained by set answers, but can be more time consuming to analyse. Conversely, closed questions allow for a relatively easy analysis, but mean that people may feel constrained by the responses they can give. Often surveys will include a mix of the two types of questions. Pilot (e.g. asking a small group

of individuals to complete) any instrument you have developed before using it in a study, to smooth out any glitches.

Adapt an existing instrument to suit the particular area under investigation. Modifying, adding or cutting out parts of an existing instrument can help to ensure that it is more tailored to the area you are particularly interested in researching. However, its reliability and validity cannot be assumed to be the same as the original instrument.

4. Identify a sampling plan

It may be decided that a census is possible, that is a survey involving every individual in the population of interest. However, this is rarely possible (due to time and financial considerations) and, therefore, a sample of the population of interest has to be targeted.¹ When using a sample it is imperative that those chosen are representative, as far as possible, of the overall population, so that information from the survey can be generalised to the population as a whole. A representative sample means that findings can be said to relate to those not included in the sample. The following steps can help to ensure that a representative sample is chosen:



Identify precisely the population of interest – e.g. all patients in a particular location, or just those using a specific service or facility. A representative sample should provide a reduced version of the larger population in terms of specific, predefined, relevant characteristics (e.g. age, gender, ethnicity).

Identify the 'sample frame' – before choosing a sample from the overall population, it is necessary to produce a sample frame, a list of all those within the population of interest from which a sample can be selected.

Identify the form of sampling to be used – a number of ways of selecting people for inclusion in a sample exist, some of which are associated with a greater chance of achieving representativeness than others. Different forms of sampling include:

Simple random sampling – whereby the names of those to be included in the sample are randomly selected from the population, so everyone has an equal chance of being included. Randomisation can be achieved via computer programmes (e.g. Microsoft Excel), tables of random numbers, drawing numbers out of a hat, or the tossing of a coin. It ensures that factors that cannot be controlled for (e.g.

¹ 'Population' used here refers to the wider set of individuals for whom you hope to draw conclusions from the results produced by the sample.

motivation or apathy towards the area under investigation) will be evenly represented (for more information on constructing a random sample, see Burns, 2000).

Stratified sampling – the population is split into ‘strata’ thought to be important variables to the results produced, e.g. age, gender. The same principles of simple random sampling are then applied to each stratum. This process is used to ensure that no sector of the population is under or over represented.

Systematic sampling – from a list of names you may decide that every *n*th person or individuals whose names begin with specified alphabetical letters will be selected for inclusion in the sample, until the sample size required has been attained. Care should be taken with this method because, due to the way the sample frame is produced, an unrepresentative sample can be chosen. A periodic cycle may exist in the list that could bias the sample. Burns (2000) gives the example of school classes that include 25 pupils, with boys listed before girls. In this case, a sampling interval of every 25th child is likely to generate a sample of the same sex. Similarly, people from a certain nationality may have surnames beginning with the same letters and, hence, be grouped together in a list from which a sample is selected.

Cluster sampling – is applied when a population naturally falls into groups. For example, in a school, classes can be used as the unit to be randomised, rather than individual schoolchildren.

Opportunity/convenience sampling – involves using those people that are to hand to form the sample, e.g. clients that you meet with on a regular basis. Such samples are rarely likely to be representative of the population of interest, making it difficult to state how far the results can be generalised to others.



Snowball sampling – occurs when the researcher initially contacts a small group of people and then uses these individuals to make contact with others from the population of interest. This may be employed if an accessible sampling frame is lacking or because the population is changeable. Again, such an approach is problematic in terms of representativeness.

Quota sampling – a common method used by market researchers. The researcher decides in advance the structure of a sample that would represent the population of interest. For example, a sample of service users at a mental health day centre may be structured so as to

reflect the make up of all users in terms of specific characteristics (e.g. age, gender, mental health problem). It is then the researcher's task to interview people until this specification has been satisfied.

Identify how large the sample needs to be – a sample only constitutes a proportion of the real population. Hence, results from the sample that are generalised to the overall population are at risk of inaccuracy; the choice of an alternative sample could give different responses, generating different results. Such inaccuracies can be reduced through the use of random sampling and careful selection of the sample size. When deciding on a sample size, researchers need to consider various aspects of their research, including:

- The research questions (e.g. the variables being measured);
- The level of diversity within the population as a whole (e.g. degree of variability in terms of qualifications, job, gender);
- The degree of precision required from the sample in relation to the overall population;
- Whether to stratify sampling to avoid over or under representation of specific groups (Sheldon and Chilvers, 2000).

As a general rule, the greater the certainty required in terms of transferability of results to the population as a whole, the larger the sample size needs to be (which will make the study more expensive). However, a large size survey does not ensure representativeness, unless careful sampling has been carried out. For example, if you wanted to gain the opinions of staff working in a health authority and managed to gain responses from 50% that could constitute a large sample, but it may not be representative if the majority of those sampled happened to be male administrative workers.

Many authors suggest that the need for precision should be weighed up against considerations of cost and time, and the kind of analysis to be carried out (e.g. the number of different variables to be considered in analysis). If many variables are to be compared and contrasted, a greater number of people will need to be sampled. For example, more people should be sampled for a study investigating opinions of mental health service users, attending a variety of day centres, with age, gender, ethnicity and mental health problem all acting as variables, compared to a study simply examining attitudes of female service users at a specific day centre. When assessing how many people to sample, the issue of non-response should also be a consideration. *Oversampling* is often carried out to compensate, in advance, for non-respondents by estimating the likely non-response rate as a percentage of the initial sample size and adding that to the final sample size. It is good practice to seek the advice of a statistician when planning a survey, to talk about sampling issues.

5. Identify how the sample is to be chosen and contacted



Once a sample frame has been established, it is important to decide how the sample will be selected (e.g. computer generated, from a book of random numbers, tossing of a coin). It is then necessary to decide how those selected will be contacted; by letter, by phone or in person. Mailed or telephone surveys tend to be less expensive because they do not require the time and cost of an experienced, qualified interviewer. However, a better response rate is likely to emerge from face to face interviews, compared to telephone and mail surveys, and from telephone surveys compared to mailed one. If it is mailed, ensure that clear instructions are provided on the survey and make sure it is well presented and uncluttered.

6. Identify a strategy to plan for an optimum response rate

It is important to gain as large a response rate as possible from the survey. The lower the response rate, the less one can generalise conclusions to the population as a whole, since those individuals failing to respond may prove to be systematically different to those who do, biasing results as a consequence.

Whether surveys are face to face, by telephone or mail, it can prove advantageous to personalise all correspondence with respondents, so that they feel part of the overall process (e.g. putting their name on contact letters rather than using a general term of greeting, such as 'Dear patient' or 'Dear participant'). A pre-notification letter to those in the sample is a good idea, stressing anonymity and confidentiality, explaining how people were selected, why the research is necessary, and how the results can benefit them. Second and third reminders are often required to increase the response rate, although financial limits may prohibit this. It may also help to grab potential participants' attention by printing the survey on coloured paper.

7. Implementing the survey

Plans need to be made for how to analyse, present and distribute results from the study in advance, with structures in place to ensure that respondents' anonymity is maintained. What type of analysis will you be conducting? Mainly descriptive statistics (means, medians), or will you be looking to see if there is any relationship between certain comments, attitudes/opinions and professional group (e.g. nurses, doctors, physiotherapists)? Getting support from a statistician at this point may be advisable. Finally, sending those who have participated in the study a copy of the results, at least in a summarised form, is good practice.

References

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