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A Short Guide to Effective Survey Questionnaires

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Introduction

A survey is a means of collecting information from a sample of people about their knowledge, experiences, attitudes or behaviours. While surveys refer to any collection of information, survey questionnaires are the mechanism frequently used to collect data and the data collected is usually, though not always, quantifiable. Surveys can be conducted by interviewers, by post, by telephone or more commonly in recent years via the Web.

This Short Guide focuses specifically on designing effective survey questionnaires, drawing on the research literature and available practical guides about what works best and what have been identified as common pitfalls. It is not a blueprint for effective survey questionnaires but offers a series of brief tips on key elements of questionnaire design and a list of useful references and links. The guide does not deal with wider survey issues such as sampling, modes of data collection or data analysis.

Designing an effective questionnaire really benefits from adequate time to plan, prepare and pilot. It's important to remember that once a survey issues, there's little or no chance of recovery if you realise too late that some of your survey questions are unclear - or you can see that the data being returned is not really what you were looking for.

When you can explain the purpose and aims of a survey in a few clear and concise sentences, the design of the questionnaire will follow more easily. This is not just about naming the topic (e.g. I want to do a survey on training needs) – it's about being clear why a survey would be useful, what you want to find out (your research question) and how the data you collect will be used to address an information gap or other problem. After it's drafted, testing your questionnaire in a pilot will help you identify and iron out any problems and finalise it for circulation.

Cutting corners in the preparation and testing phase so you can issue a survey sooner rather than later, is likely to be costly in the long run. Time invested in preparation and piloting is invaluable.

This Guidance note begins with the importance of thinking about questionnaires from the perspective of the respondents (not the researcher) and the implications this has for questionnaire design. It then offers 12 tips to help you:

1. Clearly define the purpose of your survey
2. Ensure you have informed consent from potential respondents and comply with GDPR
3. Keep the questionnaire as short and simple as possible
4. Ask for all the information you need
5. Ensure the questionnaire has a logical flow and structure
6. Use closed questions – but open ones where appropriate
7. Ask only one question at a time
8. Avoid leading questions and in-built assumptions
9. Ensure response options are mutually exclusive and exhaustive
10. Ask questions in the positive where possible
11. Try to avoid using agree/disagree statements
12. Review the draft questionnaire against the written objectives - always pre-test or pilot

Thinking about the Respondent Perspective

The literature on survey research highlights how respondents have to undertake four separate 'cognitive' steps when completing a survey questionnaire. These involve the respondent having to:

- ✓ Understand the question
- ✓ Recall relevant information
- ✓ Make a judgement about it; and
- ✓ Provide a response.

Thinking about these steps from the respondent's perspective is helpful to planning a questionnaire because they clearly have implications for questionnaire design.

The literature tends to characterise questionnaire respondents' behaviour in terms of a continuum, with 'optimising' at one end and 'satisficing' at the other. This tells us something about how respondents are likely to approach the four steps involved in completing a questionnaire. 'Optimising' occurs where respondents are motivated to provide good quality data, interested in the topic and diligent about the steps involved. 'Satisficing' on the other hand, occurs where respondents are less motivated or interested, and may be responding to a survey simply because they are required or expected to participate– so they may just settle for easy or quick answers (see Krosnick and Presser 2010). The likelihood of 'satisficing' is said to be determined by three main factors: task difficulty, respondent ability and respondent motivation – with the latter linked to respondent beliefs about the usefulness of a survey or respondent fatigue.

To address the likelihood of 'satisficing', questionnaire design therefore needs to minimise the difficulty of the task and maximise the motivation of the respondent. Some people may move from being at the 'optimiser' end of the continuum to the 'satisficer' end, if they get tired or impatient with a poorly structured, ambiguously worded or overly long or burdensome questionnaire. While others might even become 'optimisers' if they are engaged and enthused by a well organised and interesting questionnaire that they understand is useful. This puts the responsibility squarely on the researcher to motivate respondents with a clear, well-crafted survey.

The generation of good quality data that adequately answers your research questions and gives you what you need, is driven significantly by the time and effort you invest in questionnaire design and preparation. It is likely that poor quality data says more about the survey questionnaire itself than it does about respondents.

With this in mind the twelve survey tips below highlight what you should try to do when planning and drafting a questionnaire to ensure that it is as effective as possible - and what it's best to try to avoid.

Twelve Tips for an Effective Survey

1. Clearly define the purpose of your survey

The very first step is to think about what data you want, why you want it and how you intend to use it. It is also really helpful to write this down in plain English. The note of your survey purpose and aims should be easily understood by someone outside of your project and it should be clear to them what you are doing, why you are doing it and how it might be useful. This is akin to a good test of concept.

When the focus and purpose is clear, it is always useful to check if the data you need is already available from elsewhere - perhaps the data has been collected recently by somebody else in your organisation or by another organisation. Or perhaps it already exists in available administrative data[1] or data collected by the Central Statistics Office.

If the data is not already available, then it is also useful to check whether a similar survey has been conducted before that you can learn from or build on. It may be possible to replicate previous survey questions that fit your purpose (which has the advantage of offering the potential to draw comparisons) or you may learn important lessons from assessing similar initiatives that help inform your own project. It can also be useful to reach out to those who have conducted similar surveys to ask them what they learned from the experience.

2. Ensure you have informed consent from potential respondents and comply with GDPR where relevant

It is important to tell survey respondents what you are doing and why, how you will manage and use their data, and whether the survey is *anonymous* (i.e. no personal

[1] Administrative data is data that organisations collect about their operations.

information is collected) or *confidential* (i.e. personal information is collected but will be treated confidentially), before you ask them to **consent to participate**. There are two reasons why this is important.

Firstly, you need to ensure from a research ethics perspective that you achieve 'informed consent' from respondents to participate in the survey. This is the case whether the survey involves the collection of personal data or not. For example, you should tell respondents briefly and clearly what your survey is about, how the data will be managed and used, how it will be reported, that participation is voluntary and they can withdraw at any time and how long the survey will take them to complete – so that when asked to consent to participate, participants can make a fully informed decision.

Secondly, if you are collecting personal data, you also need to ensure that the survey complies with important legal obligations under relevant data protection legislation (Data Protection Acts 1988-2018) and the General Data Protection Regulation (GDPR). Sometimes a survey can be conducted anonymously, without collecting any personal data from respondents - while in some particular situations, personal data may be required on a confidential basis. However, given the GDPR principle of 'data minimisation'[2] it is important to think carefully about what personal data you really need, **if any**. It is also important to be aware of how 'personal data' is defined by the GDPR.[3] Where you collect personal information that identifies or could identify individuals (even *indirectly*) you will need to consider the obligations that arise under GDPR and data protection legislation.

Bear in mind that collecting personal data brings with it obligations around lawfulness of processing, retention, destruction, the reporting of breaches, and data subject rights (including right of access). You should carefully consider this well in advance, and specifically in the context of what you are trying to achieve by undertaking a

[2] GDPR Article 5(1)(c) says, personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed (data minimisation)"

[3] For information about what constitutes personal data under GDPR See https://www.dataprotection.ie/en/dpc-guidance/what-is-personal-data; or https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/what-is-personal-data/what-is-personal-data/

survey. A review of how these matters are addressed in previous high quality surveys, similar to what you plan, may be useful. If you really need to collect personal data that is relevant and necessary to the purpose of the survey, it is also important to think about the survey tool you plan to use, to ensure that any personal data collected is stored in the EU.

Finally, in the context of data protection it is important to be aware of the additional GDPR obligations that exist for the processing of 'special categories of (personal) data' such as data about ethnic origin or health or sexual orientation, in line with Article 9 of the GDPR.[4] You should also check if you are asking for personal data in relation to health , whether your survey could be considered 'health research' as defined in the Health Research Regulations,[5] as further obligations also apply in this case.

Some research projects will require ethical approval from a Research Ethics Committee (REC). A REC will consider the ethical dimensions of a project and how the project will be conducted. If you are surveying children (under 18 years old) please also consult the Department's publications, *Guidance for Developing Ethical Research Projects involving Children* (2012)[6] and the *Ethics Journey in Children's Research: Checklist*.[7] If you are developing a survey in the Department of Children, Equality, Disability, Integration and Youth, you can seek advice on research ethics and informed consent from the Research and Evaluation Unit – the Unit will be able to guide you if further action is needed on data protection or ethics.

3. Keep the questionnaire short and simple (but comprehensive)

The longer your survey, the more difficult it is for respondents to complete, so a survey should only be as long as is absolutely necessary. The length of the survey and the time needed to complete it will impact on response rates – and for this reason it

[4] https://www.dataprotection.ie/en/organisations/know-your-obligations/lawful-processing/special-category-data

[5] Data Protection Act 2018 (Section 36(2)) (Health Research) Regulations 2018. See HRB Guidance for researchers at https://www.hrb.ie/funding/gdpr-guidance-for-researchers/health-research-regulations-2018/

[6] https://www.drugsandalcohol.ie/17405/1/DOC_Ethics_Guidance.pdf

[7] https://www.drugsandalcohol.ie/17405/2/The_Ethics_Journey_in_Childrens_Research_Checklist.pdf

is important to tell respondents at the outset how long completing the questionnaire is likely to take them.

Simplicity and clarity are also critical. It is best to aim for simple, specific questions, to avoid the use of jargon, complex or technical terms, and to ensure consistency in the use of language or terminology throughout.

It is also important not to use vague terms, e.g. 'occasionally' or 'often', that could be interpreted subjectively and differently by respondents, where more concrete and less ambiguous terms would work better, e.g. 'once a day', 'once a week'.

Respondents may not understand jargon or acronyms that feel like second nature to you – so it's a good idea to double check the questionnaire for acronyms or 'insider' language. Likewise double check for inconsistent use of language (e.g. using different terms in the survey to refer to the same construct) which are likely to confuse and or impact on your data.

Finally, remember that some questions might not apply to all respondents and having to answer irrelevant questions is likely to put respondents off. You can use filter questions to determine the relevance of questions to particular respondents and route them as appropriate through the questionnaire – allowing some respondents to skip questions that are not relevant to them.

4. Be sure to ask for all the information you need

While keeping a survey short and simple is important, be sure to ask for all the information you need.

The survey questions should generate the empirical data you need, so it's not a good idea to assume you already know things about respondents and leave out questions on this basis. If for instance you are conducting an evaluation survey of a list of people who took part in a suite of training courses, you will need to ask them in the

survey to confirm for instance which course(s) they attended, when or where they attended, and if they completed the entire course in each instance.

It is also important to think carefully about what background information you need to collect about respondents in order to make sense of and understand the findings more fully in relation to how things might differ for different groups - for example, gender, age group, parental or employment status, urban or rural location, occupation, length of service in an organisation and so on.

5. Ensure the questionnaire has a logical flow and structure

A questionnaire should have a coherent structure, questions should be grouped by topic and proceed in a logical order. The most common advice is to begin the survey with simple questions that respondents will find interesting to help establish rapport and encourage them to continue. Throughout the survey, it is important to maintain this effort to keep the survey interesting and not to overburden respondents with a sequence of difficult questions for instance.

Most advice suggests moving from broad to more specific questions, and placing sensitive questions (e.g. sensitive demographic questions) later in the questionnaire when respondents may feel more comfortable or confident in the process. Demographic questions such as income, educational attainment or age are generally not asked near the beginning of a survey unless they are needed to determine eligibility for the survey or for routing respondents through particular sections of the questionnaire.

A logical flow supports the respondent to complete the survey. From a questionnaire design perspective it also helps you to take stock when drafting and check that you have covered what you need to in the questionnaire.

6. Use closed questions – but open ones where appropriate

A closed question is one to which the respondent answers yes or no, or selects from a number of given answers, known as ‘fixed responses’. These are quick and easy for

respondents to answer and they provide quantifiable data which can be readily analysed by the researcher. Closed questions include for example:

- dichotomous questions, where there are just two fixed responses, such as yes or no, true or false;
- questions which use a rating scale, such as *'How satisfied are you with the childcare service your child is receiving?'* with a scale for a respondent to tick from very unsatisfied, quite unsatisfied, neither satisfied nor unsatisfied, to satisfied or very satisfied (noting that in order to be reliable respondents must have a clear understanding of each point on the scale); and
- multiple choice questions where respondents are asked to tick any of the fixed responses that apply (e.g. *'which of the following health services have you used in the last three months?'*)

Open ended questions invite respondents to provide a bespoke response, to reflect and respond in their own words on an issue, for example, *'What do you think are the key features of a quality childcare service?'* The drawback of these types of open ended questions is that the data they generate takes more time to code and analyse. But the advantage is that the inclusion of this type of open question can provide rich supplementary insights that add value to the mainly quantitative data collected in a questionnaire.

Sometimes web questionnaires impose a character limit on open-ended questions to ensure the volume of data is manageable. But care needs to be taken that the limit provides sufficient space for the respondent to make a meaningful reply. Asking an open ended question without providing reasonable space for a respondent to give a brief but meaningful answer, may frustrate respondents or result in limited data.

7. Ask one question at a time

It is important to ask just one question at a time. A 'double barrelled question' is a question that requires one answer, but refers to more than one topic or issue. For instance, think about the questions *'Do you eat fruit and vegetables every day?'* or *'Did you find the service courteous and efficient?'*

If a person does not eat fruit and vegetables every day, the answer to the question is no. But if the respondent eats fruit but not vegetables every day (or vegetables but not fruit every day) the literal answer to the question is also 'no'. The same 'no' answer has more than one meaning. How does the researcher make sense of this? If the researcher had been interested in eating either fruit or vegetables as a proxy for healthy eating, the meaning of the data generated by this question is unclear.

Likewise, if a person found the service neither efficient nor courteous, the literal answer is no. But the answer is also no if the person found the service efficient but not very courteous, or courteous but not very efficient. There is no way the researcher can determine from this 'no' answer which of these experiences the respondent had.

These questions are difficult for the respondent to answer – and they generate answers that may be difficult for a researcher to interpret. So it is very important that each question in a survey should focus on one single subject.

8. Avoid leading questions and in-built assumptions

A leading question is one that is framed in such a way that it intentionally or unintentionally steers or encourages a respondent to give a particular answer or confirm a particular view. These types of questions will bias the data and can also alienate respondents and reduce participation.

For example, take the question *'how easy was it to complete our recently improved application form'*. In this case, the question suggests to the respondent that the form has been improved. A more neutral formulation of the question would be to ask instead *'how easy was it to complete the new application form'* - with a scale of options that balances positive and negative responses e.g. from 'very easy' to 'not at all easy'.

It is also important not to build assumptions about the respondent's knowledge or experience into survey questions. For example, it wouldn't make sense to ask a respondent the above question about completing the application form, if they hadn't

completed it. This question should only be asked of those who completed the application form, either through a dedicated survey of those who actually applied, or through asking a filter question (*'did you complete the new application form?'*) that allows a respondent to skip the question if it is not relevant to them.

9. Ensure response options are mutually exclusive and exhaustive

It is important that question response categories do not overlap and are mutually exclusive. This is particularly important for questions that deal with age or income bands or frequency. For example, if you have age bands which overlap such as: 18-24, 24-30, 30-35 etc., it will not be possible to make sense of the data. In this example, 24 or 30 year olds could put themselves in either of two categories.

When identifying response options for questions, it is important to give an exhaustive list of potential replies. But it may not always be possible to think of all the potential responses. In these instances it might be useful to include an 'other' response category and ask the respondent to specify what the 'other' is.

This option of an 'other' category in a list of response options should ideally be used in the pilot phase to determine what additional response categories could be included in the final version of the survey. Alternatively, sometimes researchers just use an open ended question in the pilot phase to help determine the range of relevant response options to be included in the survey.

There has been some debate about whether or not to include 'don't know' response options in questionnaires and there are a number of issues to consider for your survey. For example some experts argue that the inclusion of 'don't know' response options may encourage 'satisficing' - and that leaving them out may motivate respondents to do a bit more thinking and provide a specific response. On the other hand, if a respondent really doesn't know, then 'don't know' gives the respondent the appropriate and valid response option. There are sometimes factual questions which respondents will not be able to answer, and in these situations the inclusion of a 'don't know' option could provide important data. For example if you were surveying

parents about how much time their children spend online, a 'don't know' option provides information about the proportion of parents who do not know how much time their children spend online, which is important in itself.

Finally, it is important to think about whether you want respondents to select just a single response option, or whether they can chose more than one response in a multiple choice question (as mentioned above at 6). If the respondent can chose more than one response, then this should be clear in the question.

10. Ask questions in the positive where possible

Negatively phrased questions can be confusing or be difficult for respondents. In terms of the four cognitive steps that respondents have to take or the work they have to do to answer a survey question (see above) having to decipher a negatively phrased question can add an extra step.

For example, rather than *'in an average week how many times are you unable to start class on time?'* ask *'in an average week how many times do you start class on time?'* (See Artino et al 2011).

11. Try to avoid using agree/disagree statements

One of the most common formats used in survey questions is the 'agree-disagree' question format. In this type of question, respondents are asked whether they agree or disagree with a particular statement, usually across a scale of responses from 'strongly agree' to 'strongly disagree'.

Agree/disagree statements are easy to write and the same scale can be used for a series of different statements – and this is possibly why they are so common. But research has highlighted how these types of questions can be problematic (see Saris et al 2010 or Artino et al 2011). Four main problems have been identified with the use of agree/disagree questions in the research methods literature:

- Acquiescence bias i.e. the tendency for some respondents to appear agreeable and avoid disagreement, particularly if the survey is being conducted by somebody in authority.
- 'Straightlining' i.e. the risk that a respondent will, without much thought, quickly repeat the same answers / tick the same box through a series of such statements.
- Difficulty with interpreting the specific meaning of the agree/disagree answer. For instance, if a respondent disagrees with the statement 'my health is excellent' this could be because the respondent feels their health is good rather than excellent - but it also could be because the respondent feels their health is poor. So the same 'disagree' answers could potentially have different meanings. Instead of agree/disagree statements, health surveys tend to simply ask *'how would you rate your health?'* with response options from excellent to poor, to ensure they generate clear and specific answers.
- They add to the 'cognitive' process for respondents. As noted above, responding to a survey is said to involve four separate cognitive steps. In the case of agree/disagree statements respondents also have to think about the statement and then translate their judgement about what they think is being measured in the statement, into a response on the agree/disagree scale.

It is possible in many cases to avoid the problems with this question format by asking direct questions instead - and providing item-specific response scales that emphasise the construct being measured (see Artino et al 2011).

For example, instead of asking if the respondent agrees/disagrees with the statement, 'I found the service efficient' (with a scale from strongly agree to strongly disagree) it might be more fruitful to ask *'How efficient did you find the service?'* (with a scale of item specific responses from 'very efficient' to 'not at all efficient'). The item-specific response scale can provide more accurate data than the agree/disagree scale. For most surveys, using at least 5 and not more than 7 scale response items is generally recommended.

12. Review the draft questionnaire against the written objectives - always pre-test or pilot

When the first draft of your survey is complete, it is a really good idea to check the draft against the initial note you made of the survey purpose and aims (see 1 above)

to see if it is fit for purpose. Testing your draft survey questionnaire is also really important. The main aims of a pilot test are to identify questions that aren't working or are burdensome or misunderstood by respondents - and to check that the survey generates the kind of data you need. The pilot is also a good test of the time it takes to complete the survey and of whether the technical questionnaire process and formatting is working.

Ideally, it is best to pilot the survey questionnaire on people who fit the profile of prospective respondents. As well as asking them to complete the survey, it can be useful to ask them for feedback on questions. For instance, some pilot phases of a survey will ask respondents to highlight any words or phrases that they did not fully understand.

In conclusion

This guidance note is part of a series of guidance notes that aim to support the use of research to inform policy development in the Department of Children, Equality, Disability, Integration and Youth. This note focuses specifically on questionnaire design and summarises key lessons from the survey methods literature. Further reading and practical guides on the issues covered in the Guidance Note are listed in the References and Resources below.

Other Guidance Notes in this series are available here.

References and Resources

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