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Research Methods in Psychology

Edited by

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Part 1

Introduction

1

Research Questions and Planning Research

Glynis M. Breakwell, Daniel B. Wright and Jonathan A. Smith

CONTENTS

KEY TERMS

mapping the research question
operational definition
ethical guidelines
informed consent

1.1 WHAT IS THIS BOOK FOR?

This book is designed to be a fairly comprehensive introduction to the research methods used in psychology. It is aimed at students who may be learning about these methods for the first time – either as undergraduates or postgraduates. However, it can also act as a source for experienced researchers who simply want to refresh and update their appreciation of particular methods.

This is the fourth edition of the book and it is very different from the earlier ones. Unlike earlier editions, it integrates explanations and illustrations of the statistics that can be used in research designs. It is more focused on presenting a step-by-step description of the methods and assumes no prior exposure to the methods. It is consequently much more usable by first and second year undergraduates. It is written by an international team of contributors who are attuned to the demands of a variety of different educational courses – in both North America and in Europe.

1.2 HOW IS THE BOOK ORGANISED?

The book covers the most common approaches in both quantitative and qualitative methods. It is broken into two main sections. The first deals with quantitative methods, including the most popular statistical techniques that are used. The second deals with qualitative methods. Each section has its own introduction explaining the distinctive natures of the two approaches to doing research. Therefore, this chapter is brief and deals with the more general issues that need to be considered when conducting research.

1.3 AIMS OF THE CHAPTER

This chapter covers the general issues that you should consider when:

- choosing a research question;
- choosing a research method;

- planning the research;
- executing the research.

Exercises are provided that allow you to test your understanding of these issues.

1.4 CHOOSING A RESEARCH QUESTION

Irrespective of the research method used, research is essentially the process of collecting information and then interpreting it. In addition, researchers increasingly regard communicating their findings as part of the research task. The nature of the information collected will be determined by the research question that you ask. What is a 'research question'? Well, first, it needs to be distinguished from a research topic.

People choose their research topics for all sorts of reasons – such as personal interest or curiosity, professional necessity associated with doing a particular job or solving a specific practical problem or a desire to explore a theory. However, selecting and pursuing a research topic is not always a simple matter. What initially seems like an interesting and important issue may be difficult to address for a variety of reasons. These difficulties normally boil down to two groups:

- the conceptual obstacles – for example, the topic is so multi-faceted and complex that it is difficult to know where to start collecting your information;
- the practical obstacles – for example, you do not have the resources (i.e. the time, money or expertise) to collect the information you need, or you cannot get access to the information you need (i.e. permissions are not forthcoming or the technology that would allow the information to be collected is not available for one reason or another).

These two types of obstacle mean that researchers have to refine their research topic and be very selective in the issues that they will choose to address. Refinement and selection typically involve stripping away some layers of the research topic and concentrating on a particular element of it. This process of stripping away should result in a very precise 'research question' that can be addressed in practice.

Box 1.1 describes a classic example of the way a research question can be addressed in a manageable way in practice. The 'Bobo doll' experiment illustrated that children would copy behaviour that they observed if the person exhibiting the behaviour was rewarded for it. It also showed that the effect occurred even when the person was observed on video. This was subsequently tied to arguments about the impact of violence portrayed on TV or in films upon the development of

Box 1.1 Stripping the research question down to basics

'Why are people aggressive?' This is a question that has been asked through the ages of human civilization. Recently, aggression has been seen as just a specific form of social behaviour which is acquired and maintained in the same way as any other social behaviour. This would suggest that we 'learn' aggression. We 'learn' when our aggression is rewarded or punished and, according to learning theory, this will shape whether and when we will act aggressively. Also, we observe others and learn when, where and with whom we should be aggressive by watching what others do and how they are treated.

The important research question is: Do we learn our aggressive behaviour from other people? This is a very big question. Too big to address unless it can be refined – stripped down to a core that allows us to test a specific assertion. Bandura, Ross and Ross (1961, 1963) did just that in a series of experiments that are regarded as classics (the 'Bobo doll' studies). In the experiments, some children observed an adult playing with some toys: he stormed into the room and hit a doll (the Bobo doll) with a large rubber hammer, and then kicked and shouted at it. Other children saw the adult playing quietly with the toys. In another phase of the experiment, the man was either seen to be rewarded by the experimenter or not. The children then had a chance to play with the same toys. They were more likely to imitate the man's behaviour when he had been rewarded for it. This occurred whether they had seen the man on a video or in the flesh. Further, the effect was found irrespective of whether the person watched was real or a comic character.

These experiments stripped the big research question down to a manageable and specific question: Do children emulate the aggression exhibited by a model that they have observed if the model has been rewarded for being aggressive and they are subsequently placed in the same context as that model? The answer to this question becomes part of the answer to the bigger question.

aggressive behaviour in children. It is however important to remember that the original 'Bobo doll' experiments were not designed to address the research question, 'Does watching violence on TV lead to the audience acting in a more violent way in their everyday lives?' The experiments were never designed to test the effect of anything that closely resembled the sort of violence seen on TV and they did not assess any effects of behaviour in natural settings. Extrapolation from the experiments to the impact of TV violence would be unjustified. Bandura and his colleagues in generating their 'stripped down research question' could provide one example, from a closely controlled situation, of the way social modelling of behaviour occurs. In doing so, they provided a platform for other researchers to start to examine further how social modelling affects aggression, but it is important not to lose track of the limitations of what can actually be asserted on the basis of a single experiment.

One way to develop a manageable research question is to list all of the aspects of the research topic that interest you and then to focus in on the aspect that you regard as most crucial. This can be thought about as a process of **mapping** the relationships between different aspects of the topic and then serially focusing down upon the details of one aspect. It is then possible to map the elements within that one aspect. The greatest problem with most initial research proposals we read is that they try to tackle too much. Rome was not built in a day, and to address all aspects of most interesting research questions requires multiple teams of researchers using a variety of methods. What is important is that your research is done well enough to be part of this multi-pronged attack! Box 1.2 gives an outline of mapping a research topic.

Mapping of this sort is useful because you have to sort out what you think are the key elements in the topic that you want to explore. Exercise 1, at the end of this chapter, presents you with a mapping task. You might want to try it now.

The mapping exercise will also provide you with basis for conducting a systematic literature search of the research that has been done on the research question in the past. If you start with too broad a research topic, conducting a literature search can be a nightmare – the volume of material is too great and a lot of it will in reality

Box 1.2 Mapping a research topic

Let us start with the broad research topic:

> Does the way you speak affect the way other people treat you?

Mapping would ensure that the research examines each element of the question to define its meaning. So, what is meant by 'the way you speak'? Is it the content of what you say? Is it the emotional tone? Is it your accent? Is it your dialect? Is it non-verbal accompaniments of speech (like gestures)? Or is it the vocal but not verbal elements of your speech (such as speed of delivery)? Similarly, what is meant by 'affect'? Is it direct or indirect influence? Is it immediate or slow to emerge? Is it short or long term? Is it consistent or occasional? Is it accidental or deliberate? And so on. Who are the 'other people'? Is it a specific group or type of person? What is their relationship with you? Finally, what is meant by 'treat you'? Is it the way these people react to you personally and directly at the time of the interaction or is it the way they deal with you subsequently? Is it what they say and do or is it what they think? The mapping would also query whether the context of the interaction was important to the effect of your speech upon the other person. It would look to outline likely contextual effects.

So the initial broad research topic might be specifically mapped as:

> If you speak in a way that is stereotypically regarded as characteristic of people from a disadvantaged background during an interview you will be less likely to get a job offer than if you displayed standard speech patterns.

Box 1.2 (Continued)

Equally, it could be specifically mapped as:

> If you speak with your own local accent in a family social gathering you will be regarded by family members as more trustworthy.

There are many other specific mappings that could be produced. You might like to see how many you can generate. The important thing to remember when you do the mapping is that you want to arrive at a question that is specific enough for you to be able to collect information that will allow you to answer the question. After you have the specific question, you will still need to generate an operational definition of each of the elements of the question. This is a different sort of mapping. An **operational definition** of an element is a statement of how that element will be assessed (or measured) within the research. So, for instance, in respect of the second research question above, how would you assess whether family members regarded the speaker as more trustworthy? It could be operationalised in terms of the willingness of family members to follow instructions or advice you give. It could be measured using simple ratings by family members. The important thing here is that you should be clear about the operational definitions of each element in the research question. There are usually several ways to operationalise a concept. You should try to be clear on why you choose the one that you do. Most significant psychological constructs (like intelligence or personality) can be operationalised in many ways, and often the one you choose will be driven by the theory that you find most useful.

be irrelevant to your prime concerns and interests. It is useful to do the mapping exercise even if you are already aware of literature in an area because the specific refined research question may alert you to new literatures.

The literature search is usually a very important element in conducting research. Once you have your first version of a precise research question, it makes sense to conduct the literature search. The literature search should tell you whether the work you are thinking of doing has already been done. It should tell you what methods other people have used to address the question or similar questions. It should tell you what other people have found. It should tell you how they have interpreted their findings. It should tell you whether there is consensus or disagreement in findings and in their interpretation. It should tell you the key researchers in the area in which you are interested. It will tell you where this type of research is usually published, so you know where you might expect to publish your work when the time comes. It will show you the expectations that other researchers have about the details that need to be provided about the information collection and analysis in studies on this research area. Some sort of literature search is almost always an integral part of doing excellent research. Different researchers have different views

on how comprehensive the search should be – for some it should be as complete as possible, for others it is more like a sampling exercise – helping the researcher to see the type of work that has been done. Once you have done the search, you should be able to further refine your research question. You will be able to elaborate it or simplify it as a result of knowing what other researchers have discovered and concluded. There is now no excuse for failure to conduct a literature search with the availability of electronic databases internationally.

This chapter does not examine how theory can often be the source used for developing a clear research question. In previous editions of this book (Breakwell & Rose, 2006) the role of theory was described in the introductory chapters. In this edition, the editors have decided that the role of theory construction and testing should be considered in the individual chapters where methods are described so that the diversity of approaches to the role of theory can be better understood (see also Jaccard & Jacoby, 2010).

1.5 CHOOSING A RESEARCH METHOD

Most research topics can be addressed by most research methods – at some level and to some degree. The research methods that you choose to use for any specific research question will depend to some extent upon your own theoretical and methodological preferences. However, often the nature of the research question implicates a particular research method as the most suitable one for that study. In choosing a method you might consider a series of questions:

- Is the method compatible with the theoretical assumptions built into your research question?
- Will the method allow you to collect the key information you need to address the research question?
- Will the method allow you to draw inferences from the information collected that are justifiable in the face of critical review?
- Do you have the time, resources and expertise to apply the method properly?
- If you use it, will the other researchers that work in the area listen to your conclusions?

1.6 PLANNING THE RESEARCH

Having chosen your research question and having chosen your method, you still have to plan the research. This entails working through in detail the sequence

of activities that go to make up the research study. Usually the activities fall into clusters:

- Designing the study – specifying what information you need and how you will collect it, from whom, and when and where.
- Preparing materials (including for instance, questionnaires, laboratory space, interview schedules).
- Identifying participants for the study and then contacting and gaining their agreement to be involved (including timetabling information collection from them).
- Ensuring that what you intend to do is ethical (see more on this below).
- Collection of information.
- Collation and recording of information.
- Analysis of information – always decide on your analytical approach before you collect the information. The analytical approach will affect the number of participants you need and the structure of the information that you have to collect.
- Reporting of analysis and dissemination of conclusions (including feedback to participants if relevant).

You should identify what you need to achieve in each of these areas of activity and gain a realistic idea of how long it will take and what resources (e.g. help from other people or financial support) it will need.

An important part of preparing the main information collection is the piloting of the research. Piloting is necessary irrespective of the method you use. Basically, piloting entails checking out whether the techniques that you are using to collect information are actually doing what you think they are doing. It involves running the information collection process with a small number of participants to see if there are unanticipated difficulties. In such pilots, the participants are often asked to give their feedback on how they reacted to what happened to them and this is used to improve the study. Sometimes, pilot studies can prevent a lot of wasted time and effort. The information collected from the pilot study should not be included in the data collected from the main study. The pilot is really a trial of the way the study is designed and is being executed, so material from it should not be indiscriminately mixed with information collected subsequently in the full study.

Following the pilot work, it may be necessary to refine the means of collecting information or change the definition of the participant group (or even tweak your research question). For instance, you may pilot an interview schedule with a group

of children and find that it works well with 11-year-olds but not with any less than 8 years of age. You then have to decide whether to change the interview schedule or stick with only having participants over the age of 8. If you change the interview schedule, you may consider it necessary to do another pilot study to check that the new schedule actually did work with the younger age groups.

Once the piloting has been completed, the overall plan for the conduct of the research can be outlined. Having the plan, and sticking to it as far as possible, is a useful discipline. Of course, plans often change as you get into a study and things do not quite pan out as you expected. Consciously adjusting the plan as things change is important. Revisit the plan and update it. Do not allow circumstances to make you lose track of what you should be doing.

1.7 EXECUTING THE RESEARCH

Putting the research design into practice should simply require diligence if the earlier planning has been comprehensive. However, there are some generic pointers to take into account when executing a research plan:

- Do not bite off more than you can chew – be realistic about what you are able to do. If in doubt, get a more experienced researcher to check your plan to see whether it is practicable.
- Before embarking on the information collection, ask yourself, 'Have I ignored something important?' This is the time to be self-critical. Everyone makes errors, so it pays to check what you are missing. If you have the slightest doubt about the viability of what you are going to do, stop and think it through again.
- Check what you are going to do against what other people have done before – if you are doing it differently, do you know why and what it will mean for the information you collect?
- Know exactly what you have done and make sure you are able to describe it in detail so that another researcher could do the same things subsequently. Good record keeping is essential. Having the habit of recording what you do and think in the course of research is tremendously useful, especially if you want to go back to a study some time later to develop it further or simply to re-do it.

When designing or executing a piece of research it is imperative that you comply with ethical standards that have been developed in psychology. Internationally, professional associations of psychologists have evolved regulations that indicate where the boundaries of ethical research practice lie. The specifics are changing over time

and any researcher should consult the code of ethics that applies in their own area of practice. For example, the reference list gives the American Psychological Association and the British Psychological Society websites that contain their codes of ethics. The essential ingredients of these ethical codes can be summarised as:

- Never put participants at risk either physically or mentally – avoid any harm.
- Wherever possible, participants should be fully informed of the purpose and content of the research so that they can give their informed consent to their participation.
- Intentional deception of participants should be avoided if at all possible and particularly where participants are likely to object once they are told they have been deceived. Where possible, alternatives to deception should be adopted.
- Participants should be fully aware that they can withdraw from the study at any point in it and can refuse to have information that they have given used subsequently. It should be stressed that they can do this without penalty.
- Naturalistic observation of participants in everyday settings creates specific ethical issues. Gaining informed consent may not be possible. Participants are not aware they are in the study so they cannot withdraw from it. This means that the researcher must be scrupulous in protecting the privacy and the well-being of those who are observed.
- Information collected should be kept confidential unless prior authorisation is given by the participant. The anonymity of participants should be assured unless otherwise agreed with them.
- Participants should be 'debriefed' at the end of a study (i.e. they should be told what the researcher was trying to discover and why any manipulation of the participants was done).
- The ethics of a study also extend to the way information is used once it is analysed. The researcher must be alert to the potential ancillary uses to which information or results may be put. If you think in advance that there is a strong possibility that a third party might use the information you have collected to harm a person, then it is likely to be unethical to proceed.

Most researchers will find that their research designs if they involve human participants will have to be vetted and accepted by an ethical committee (either in

Box 1.3 A check list of questions to ask yourself before starting your research project

1. Do you have a coherent research question?
2. Will the design and methodology chosen enable you to address that research question?
3. Have you had training in the analytic technique you intend to use?
4. Is the study feasible in the time you have available?
5. Have you constructed a set of deadlines for each stage of the project?
6. Has your supervisor approved the project design?
7. Have you read some of the literature relevant to your study area?
8. Is your planned sample size sufficient for the type of analysis you intend to perform?
9. Do you have access to enough participants to reach your required sample size, having factored in non-uptake?
10. Do you have access to any equipment you may need?
11. Have you made arrangements for where the study will take place?
12. Have you completed any necessary ethics approval procedures?
13. Have you arranged for participants to give informed consent?
14. Have you conducted a pilot study?

the organisation to which they are attached or in the organisation responsible for the participants). Ethical vetting can be time-consuming and should not be treated lightly. In executing a research plan, gaining ethical approval can be a significant hurdle.

Box 1.3 provides a checklist of things to consider when designing research. This chapter has not considered one key element in executing research – the report of your work and its findings. The process of reporting is covered in the final chapter of this book.

1.8 CONCLUSION

Conducting research effectively is all about knowing very specifically what you want to ask and collecting the appropriate information to provide an answer. Much of the rest of this book focuses upon the methods that allow you to collect appropriate information. In learning about those methods, it is valuable to bear in mind that, no matter how proficient you become in applying a method, if you cannot articulate your research question clearly, you will be wasting a lot of effort.

1.9 EXERCISES

1 If the big research topic is: 'How do leaders gain power?', how would you analyse each part of the question to come up with a research question that was specific enough to allow you to answer it? Describe each of the elements in the question that you consider. Once you have finished, ask another student whether you have missed any important issue.

2 Pair up with another student. Each of you has to design a study for a research question that your partner sets. Once you both have your designs, spend some time mutually critiquing them. Find two strengths and two weaknesses in each design. Try to rectify the weaknesses.

3 Choose any empirical article published in a psychology journal. Identify what its prime research question was. Consider what other design could be used to examine the same question, or think about how changing the design or approach would affect the ability to answer the research question. Discuss with other students on your course whether your design is effective.