Fourth edition

Introduction to

Research Methods in Psychology

Dennis Howitt & Duncan Cramer

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Introduction to **Research Methods in Psychology**

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Brief contents

Contents

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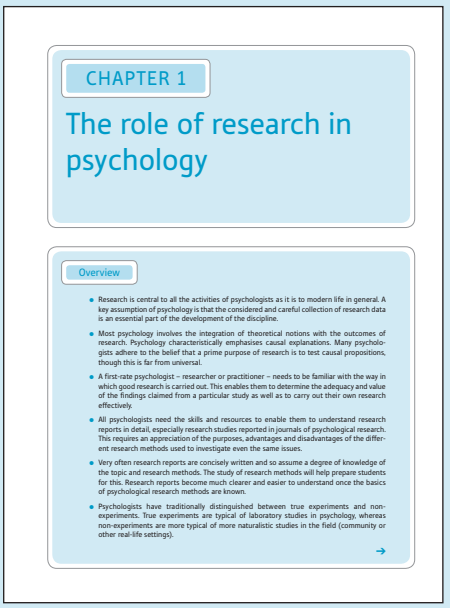
Guided tour



CHAPTER 1

The role of research in psychology

Overview

- Research is central to all the activities of psychologists as it is to modern life in general. A key assumption of psychology is that the considered and careful collection of research data is an essential part of the development of the discipline.
- Most psychology involves the integration of theoretical notions with the outcomes of research. Psychology characteristically emphasises causal explanations. Many psychologists adhere to the belief that a prime purpose of research is to test causal propositions, though this is far from universal.
- A first-rate psychologist – researcher or practitioner – needs to be familiar with the way in which good research is carried out. This enables them to determine the adequacy and value of the findings claimed from a particular study as well as to carry out their own research effectively.
- All psychologists need the skills and resources to enable them to understand research reports in detail, especially research studies reported in journals of psychological research. This requires an appreciation of the purposes, advantages and disadvantages of the different research methods used to investigate even the same issues.
- Very often research reports are concisely written and so assume a degree of knowledge of the topic and research methods. The study of research methods will help prepare students for this. Research reports become much clearer and easier to understand once the basics of psychological research methods are known.
- Psychologists have traditionally distinguished between true experiments and non-experiments. True experiments are typical of laboratory studies in psychology, whereas non-experiments are more typical of more naturalistic studies in the field (community or other real-life settings).

➔

Clear Overview

Introduces the chapter to give students a feel for the topics covered

mind then its title and author will quickly help you discover where it is located in the library. However, if you are simply searching with a general keyword such as 'memory' or 'intelligence' then you are likely to find more entries or hits – perhaps too many. Sometimes it may be quicker to go to the section of the library where items with particular keywords are likely to be held, though this is less systematic and others on the course or module may have beaten you there. The general principles of the library classification systems need to be understood in general if one is to use this sort of method.

Box 7.1 discusses an advanced form of literature review known as the systematic review.

Box 7.1 Key Ideas

The systematic review

It will probably be obvious, when you attempt to review the literature for your first research study or perhaps essay, that you have received very little help in doing so. Even having read this chapter, you may feel somewhat lacking in guidance about just how to go about the literature review. You may have the basics about how to search a database, but there is clearly more to it than that. You might consider the conventional literature review to be somewhat haphazard, as conducting one is far from being a predetermined, systematic process. If that is your view, then there is a great deal in modern practice which supports your viewpoint in medical and social scientific notions about the literature review. Increasingly, this point of view is showing up in psychology in the guise of the *systematic review*. The origins of the systematic review go back 40 or more years and there is actually an extensive literature on how to conduct systematic reviews.

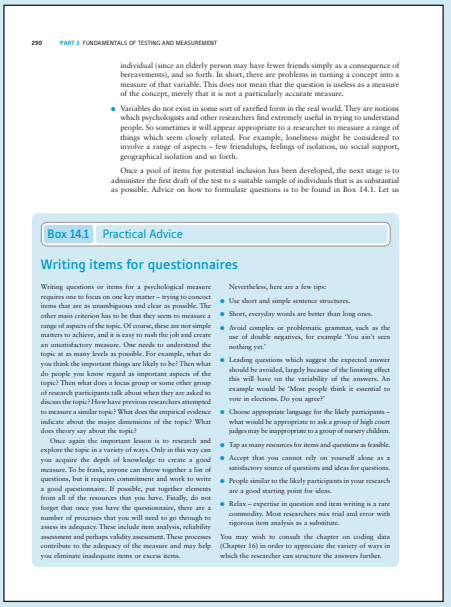
Just what is a systematic review? Basically, it is a highly structured and exacting set of procedures aimed at addressing questions of practical importance concerning just what may be concluded from the research literature on the subject in question. The systematic review is strongly associated with the needs of policy makers in government and elsewhere, where the need is for a thorough and convincing statement of just what research has to say to inform an area of practical action such as that involved in policy making. It allows policy makers to be fully aware of the conclusions to be drawn from research to inform research – in a phrase, the issue of research-based practice. As a student you will probably never be asked to write a systematic review, but as a professional researcher you may be required to carry out such a review in order to obtain funding for your research activities. Areas where psychologists are likely to be involved in such reviews include clinical psychology (such as when asked to review the research evidence on the effectiveness of cognitive behavioural therapy) and forensic psychology (such as when asked to review the evidence of the effects of Internet pornography on the criminal sexual behaviours of teenagers). Usually the requirements for a student literature review are more modest than this – for example, students may be required to compare two different theories in a particular area. This probably would not benefit from a systematic review, since it is far more likely to be for pedagogic purposes rather than designed to influence policy in a particular field.

Three different types of literature review may be distinguished at the broad level:

- *Narrative review* This is the traditional type of literature review which a researcher includes in their reports. It is governed by few if any rules and it is entirely up to the researcher just what literature is reviewed and how it is reviewed. Although the name 'narrative review' is a misnomer, because all reviews include a narrative, it is the term used. Such reviews are subject to the vagaries of the researchers writing. Narrative reviews are the usual reviews carried out by students.
- *Meta-analytic review or synthesis* These are statistical approaches to combining research findings from a variety of studies. They can provide a statistical summary of the overall trends over all of the studies as well as, for example, demonstrate that certain sorts of study (e.g. laboratory experiments) show stronger relationships than other sorts of study. Howitt and Cramer (2014a) contains an easy introduction to meta-analysis. Meta-analytic reviews are constrained by more requirements than the narrative review and are similar to systematic reviews in terms of the exacting nature of the literature search and so forth.

Key Ideas

Outlines the important concepts in more depth to give you a fuller understanding



individual (since an elderly person may have fewer friends simply as a consequence of bereavements), and so forth. In short, there are problems in turning a concept into a measure of that variable. This does not mean that the question is useless as a measure of the concept, merely that it is not a particularly accurate measure.

- Variables do not exist in some sort of rarefied form in the real world. They are notions which psychologists and other researchers find extremely useful in trying to understand people. So sometimes it will appear appropriate to a researcher to measure a range of things which seem closely related. For example, loneliness might be considered to involve a range of aspects – few friendships, feelings of isolation, no social support, geographical isolation and so forth.

Once a pool of items for potential inclusion has been developed, the next stage is to administer the first draft of the test to a suitable sample of individuals that is as substantial as possible. Advice on how to formulate questions is to be found in Box 14.1. Let us

Box 14.1 Practical Advice

Writing items for questionnaires

Writing questions or items for a psychological measure requires one to focus on one key matter – trying to concoct items that are as unambiguous and clear as possible. The other main criterion has to be that they seem to measure a range of aspects of the topic. Of course, these are not simple matters to achieve, and it is easy to rush the job and create an unsatisfactory measure. One needs to understand the topic at as many levels as possible. For example, what do you think the important things are likely to be? Then what do people you know regard as important aspects of the topic? Then what does a focus group or some other group of research participants talk about when they are asked to discuss the topic? How have previous researchers attempted to measure a similar topic? What does the empirical evidence indicate about the major dimensions of the topic? What does theory say about the topic?

Once again the important lesson is to research and explore the topic in a variety of ways. Only in this way can you acquire the depth of knowledge to create a good measure. To be frank, anyone can throw together a list of questions, but it requires commitment and work to write a good questionnaire. If possible, put together elements from all of the resources that you have. Finally, do not forget that once you have the questionnaire, there are a number of processes that you will need to go through to assess its adequacy. These include item analysis, reliability assessment and perhaps validity assessment. These processes contribute to the adequacy of the measure and may help you eliminate inadequate items or excess items.

Nevertheless, here are a few tips:

- Use short and simple sentence structures.
- Short, everyday words are better than long ones.
- Avoid complex or problematic grammar, such as the use of double negatives, for example 'You ain't seen nothing yet.'
- Leading questions which suggest the expected answer should be avoided, largely because of the limiting effect this will have on the variability of the answers. An example would be 'Most people think it essential to vote in elections. Do you agree?'
- Choose appropriate language for the likely participants – what would be appropriate to ask a group of high court judges may be inappropriate to a group of nursery children.
- Tap as many resources for items and questions as feasible.
- Accept that you cannot rely on yourself alone as a satisfactory source of questions and ideas for questions.
- People similar to the likely participants in your research are a good starting point for ideas.
- Relax – expertise in question and item writing is a rare commodity. Most researchers mix trial and error with rigorous item analysis as a substitute.

You may wish to consult the chapter on coding data (Chapter 16) in order to appreciate the variety of ways in which the researcher can structure the answers further.

Practical Advice

Gives you handy hints and tips on how to carry out research in practice

378 PART 4 QUALITATIVE RESEARCH METHODS

Box 20.1 Research Example

Thematic analysis

Sheldon, K., & Howitt, D. (2007). *Sex offenders and the Internet*. Chichester, UK: Wiley.

Sheldon and Howitt (2007) compared offenders convicted of using the Internet for sexual offending purposes (for example, downloading child pornography) with child molesters (the traditional paedophile). They were interested in (a) the 'functions(s)' of Internet child pornography for Internet sex offenders, and (b) the concept of desistance from child molestation. Internet offenders have a strong sexual proclivity towards children (for example, they are sexually aroused by children) but mainly do not go on to sexually molest children. Despite their close similarities to traditional paedophiles, Internet offenders were desisting from offending against children. How do Internet offenders explain why they do not express their paedophilic orientation towards children by directly assaulting children sexually? The researchers carried out a thematic analysis of what the offenders told them about the functions of Internet child pornography in their lives and their desistance from offending directly against children. The offenders provided detailed data on a topic which has not been extensively researched.

So, during the course of lengthy interviews, Internet offenders were asked why they did not contact-offend (i.e. physically offend) against children, and contact paedophiles were asked why they used child pornography on the Internet as a substitute for contact-offending. All of the fieldwork for this study was conducted by one researcher who therefore had (a) interviewed all of the participants in the study herself and (b) transcribed in full all of the interviews using direct literal (secretarial) methods. The transcriptions were not 'Jeffersoned' (see Chapter 19), since the researchers simply wanted to study broadly how offenders accounted for these aspects of their offending.

Of course, the interviews and transcripts contained much data irrelevant to the question of desistance (for example, matters such as childhood experiences, details of the offending behaviour and their cognitive distortions). Hence, the researchers needed to identify relevant material for this aspect of the study which was confined to answers to specific questions (for example, their reasons for not engaging in a particular sort of offending behaviour). This was done by copying and pasting the material from the computer files of the transcripts into a new file, but it could have been done by highlighting the relevant text with a highlighter pen or highlighting the material on the computer with a different font or font colour. Because of the sheer volume of data in this study, coming from over 50 offenders, it was best to put the pertinent material into a relatively compact computer file. In this way, the material can easily be perused for the coding process.

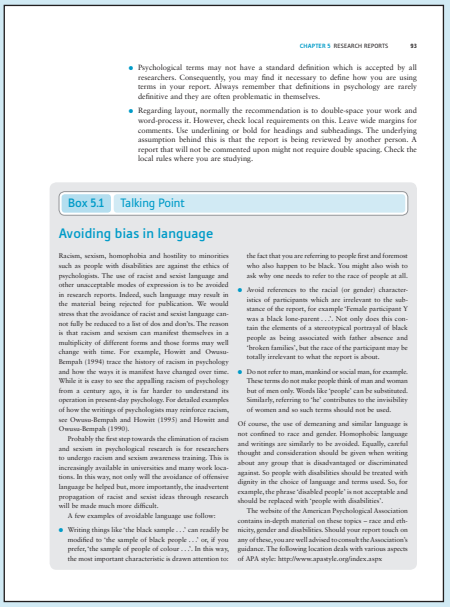
The phases of thematic analysis are very similar to those of other forms of qualitative analysis. The process began with a descriptive level of coding with minimal interpretation. The researchers applied codes to 'chunks' of data, that is, a word, a phrase, a sentence or even a paragraph. For example, one of the functions of child pornography according to offenders was to avoid negative feelings/moods encountered in their everyday lives and so was coded as 'negavoidance' each time this occurred in the transcripts. Coding was not a static process, so initial codes were revised as the researcher proceeded through the transcript. Some codes became subdivided or revised if the initial codes were not adequate; some codes were combined as there was too much overlap in meaning. Jotting down of ideas and codes was an integral part of this early stage. As the researcher had conducted the interviews, she was also very familiar with the material.

The next formal level of coding involved a greater degree of interpretation. More superordinate constructs were identified which captured the overall meaning of some of the initial descriptive codes used at the earlier stage. Throughout the entire process of analysis, the researcher moved constantly backwards and forwards between the interview extracts and the codes. This stage also involved an early search for themes. This process of moving towards identifying themes involved writing the codings onto different postcards (together with a brief description of them) and organising them into 'theme piles'. This allowed the researcher to check whether the themes worked in relation to the coded extracts.

In the final stage of this particular thematic analysis, psychological theories were drawn upon to aid interpretation of the codings and to identify the overarching themes. At the same time, it was essential that the analysis remained grounded in the actual data. Engaging with previous research and theory was very important in this particular study, as it helped in understanding the meaning and implications of the patterns in the codings or the themes identified. At the same time, the researcher was engaged in the process of generating clear definitions and names for each theme. Overall,

Research Example

Explores a real example of research being carried out, giving you an insight into the process



CHAPTER 5 RESEARCH REPORTS 93

- Psychological terms may not have a standard definition which is accepted by all researchers. Consequently, you may find it necessary to define how you are using terms in your report. Always remember that definitions in psychology are rarely definitive and they are often problematic in themselves.
- Regarding layout, normally the recommendation is to double-space your work and word-process it. However, check local requirements on this. Leave wide margins for comments. Use underlining or bold for headings and subheadings. The underlying assumption behind this is that the report is being reviewed by another person. A report that will not be commented upon might not require double spacing. Check the local rules where you are studying.

Box 5.1 Talking Point

Avoiding bias in language

Racism, sexism, homophobia and hostility to minorities such as people with disabilities are against the ethics of psychologists. The use of racist and sexist language and other unacceptable modes of expression is to be avoided in research reports. Indeed, such language may result in the material being rejected for publication. We would stress that the avoidance of racist and sexist language cannot fully be reduced to a list of dos and don'ts. The reason is that racism and sexism can manifest themselves in a multiplicity of different forms and those forms may well change with time. For example, Howitt and Owusu-Bempah (1994) trace the history of racism in psychology and how the ways it is manifest have changed over time. While it is easy to see the appalling racism of psychology from a century ago, it is far harder to understand its operation in present-day psychology. For detailed examples of how the writings of psychologists may reinforce racism, see Owusu-Bempah and Howitt (1993) and Howitt and Owusu-Bempah (1990).

Probably the first step towards the elimination of racism and sexism in psychological research is for researchers to undergo racism and sexism awareness training. This is increasingly available in universities and many work locations. In this way, not only will the avoidance of offensive language be helped but, more importantly, the inadvertent propagation of racist and sexist ideas through research will be made much more difficult.

A few examples of avoidable language use follow:

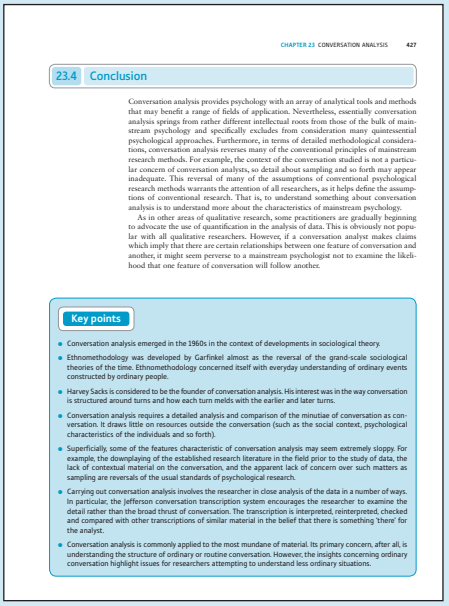
- Writing things like 'the black sample . . .' can readily be modified to 'the sample of black people . . .' or, if you prefer, 'the sample of people of colour . . .'. In this way, the most important characteristic is drawn attention to: the fact that you are referring to people first and foremost who also happen to be black. You might also wish to ask why one needs to refer to the race of people at all.
- Avoid references to the racial (or gender) characteristics of participants which are irrelevant to the substance of the report, for example 'Female participant Y was a black lone-parent . . .'. Not only does this contain the elements of a stereotypical portrayal of black people as being associated with father absence and 'broken families', but the race of the participant may be totally irrelevant to what the report is about.
- Do not refer to man, mankind or social man, for example. These terms do not make people think of man and woman but of men only. Words like 'people' can be substituted. Similarly, referring to 'he' contributes to the invisibility of women and so such terms should not be used.

Of course, the use of demeaning and similar language is not confined to race and gender. Homophobic language and writings are similarly to be avoided. Equally, careful thought and consideration should be given when writing about any group that is disadvantaged or discriminated against. So people with disabilities should be treated with dignity in the choice of language and terms used. So, for example, the phrase 'disabled people' is not acceptable and should be replaced with 'people with disabilities'.

The website of the American Psychological Association contains in-depth material on these topics – race and ethnicity, gender and disabilities. Should your report touch on any of these, you are well advised to consult the Association's guidance. The following location deals with various aspects of APA style: http://www.apastyle.org/index.aspx

Talking Point

Investigates an important debate or issue in research



CHAPTER 23 CONVERSATION ANALYSIS 427

23.4 Conclusion

Conversation analysis provides psychology with an array of analytical tools and methods that may benefit a range of fields of application. Nevertheless, essentially conversation analysis springs from rather different intellectual roots from those of the bulk of mainstream psychology and specifically excludes from consideration many quintessential psychological approaches. Furthermore, in terms of detailed methodological considerations, conversation analysis reverses many of the conventional principles of mainstream research methods. For example, the context of the conversation studied is not a particular concern of conversation analysts, so detail about sampling and so forth may appear inadequate. This reversal of many of the assumptions of conventional psychological research methods warrants the attention of all researchers, as it helps define the assumptions of conventional research. That is, to understand something about conversation analysis is to understand more about the characteristics of mainstream psychology.

As in other areas of qualitative research, some practitioners are gradually beginning to advocate the use of quantification in the analysis of data. This is obviously not popular with all qualitative researchers. However, if a conversation analyst makes claims which imply that there are certain relationships between one feature of conversation and another, it might seem perverse to a mainstream psychologist not to examine the likelihood that one feature of conversation will follow another.

Key points

- Conversation analysis emerged in the 1960s in the context of developments in sociological theory.
- Ethnomethodology was developed by Garfinkel almost as the reversal of the grand-scale sociological theories of the time. Ethnomethodology concerned itself with everyday understanding of ordinary events constructed by ordinary people.
- Harvey Sacks is considered to be the founder of conversation analysis. His interest was in the way conversation is structured around turns and how each turn melds with the earlier and later turns.
- Conversation analysis requires a detailed analysis and comparison of the minutiae of conversation as conversation. It draws little on resources outside the conversation (such as the social context, psychological characteristics of the individuals and so forth).
- Superficially, some of the features characteristic of conversation analysis may seem extremely sloppy. For example, the downplaying of the established research literature in the field prior to the study of data, the lack of contextual material on the conversation, and the apparent lack of concern over such matters as sampling are reversals of the usual standards of psychological research.
- Carrying out conversation analysis involves the researcher in close analysis of the data in a number of ways. In particular, the Jefferson conversation transcription system encourages the researcher to examine the detail rather than the broad thrust of conversation. The transcription is interpreted, reinterpreted, checked and compared with other transcriptions of similar material in the belief that there is something 'there' for the analyst.
- Conversation analysis is commonly applied to the most mundane of material. Its primary concern, after all, is understanding the structure of ordinary or routine conversation. However, the insights concerning ordinary conversation highlight issues for researchers attempting to understand less ordinary situations.

Conclusion/Key points

Each chapter has a conclusion and set of key points to help summarise chapter coverage when you're revising a topic

CHAPTER 8 ETHICS AND DATA MANAGEMENT IN RESEARCH 183

ACTIVITIES

Are any principles of ethical conduct violated in the following examples? What valid arguments could be made to justify what occurs? These are matters that could be debated. Alternatively, you could list the ethical pros and cons of each before reaching a conclusion.

1. Ken is researching memory and Dawn volunteers to be a participant in the research. Ken is very attracted to Dawn and asks for her address and mobile phone number, explaining that she may need to be contacted for a follow-up interview. This is a lie, as no such interviews are planned. He later phones her up for a date.
2. A research team is planning to study Internet sex offenders. They set up a bogus Internet pornography site – 'All tastes sex'. The site contains a range of links to specialised pages devoted to a specific sexual interest – bondage, mature sex, Asian women and the like. Visitors to the site who press these links see mild pornographic pictures in line with the theme of the link. The main focus of the researchers is on child pornography users on the Internet. To this end they have a series of links labelled '12-year-olds and under', 'young boys need men friends', 'schoolgirls for real', 'sexy toddlers' and so forth. These links lead nowhere but the researchers have the site programmed such that visitors to the different pages can be counted. Furthermore, they have a 'data miner' which implants itself onto the visitor's computer and can extract information from that computer and report back to the researchers. They use this information in order to send out an e-mail questionnaire concerning the lifestyle of the visitor to the porn site – details such as their age, interests, address and so forth as well as psychological tests. To encourage completion, the researchers claim that in return for completing the questionnaire, they have a chance of being selected for a prize of a Caribbean holiday. The research team is approached by the police, who believe that the data being gathered may be useful in tracking down paedophiles.
3. A student researcher is studying illicit drug use on a university campus. She is given permission to distribute questionnaires during an introductory psychology lecture. Participants are assured anonymity and confidentiality, although the researcher has deliberately included questions about demographic information such as the participants' exact date of birth, their home town, the modules they are taking and so forth. However, the student researcher is really interested in personality factors and drug taking. She gets another student to distribute personality questionnaires to the same class a few weeks later. The same information about exact date of birth, home town, place of birth and so forth is collected. This is used to match each drug questionnaire with that same person's personality questionnaire. However, the questionnaires are anonymous, since no name is requested.
4. Professor Green is interested in fascist and other far-right political organisations. Since he believes that these organisations would not permit a researcher to observe them, he poses as a market trader and applies for and is given membership of several of these organisations. He attends the meetings and other events with other members. He is carrying out participant observation and is compiling extensive notes of what he witnesses for eventual publication.
5. A researcher studying sleep feels that a young man taking part in the research is physically attracted to him. She tries to kiss him.
6. Some researchers believe that watching filmed violence leads to violence in real life. Professor Jenkins carries out a study in which scenes of extreme violence taken from the film *Reservoir Dogs* are shown to a focus group. A week later, one of the participants in the focus group is arrested for the murder of his partner on the day after seeing the film.
7. A discourse analyst examines President Bill Clinton's television claim that he did not have sexual intercourse with Monica Lewinsky, in order to assess discursive strategies that he employed and to seek any evidence of lying. The results of this analysis are published in a psychology journal.

→

Activities

Each chapter concludes with activities to help you test your knowledge and explore the issues further

Introduction

Modern psychological research is a complex activity. The fourth edition of *Introduction to Research Methods in Psychology* is one of a set of three books covering the major approaches to psychological research and analysis as currently practised. A single volume combining statistics and research methods to meet the needs of students and researchers is impractical, given the scope of modern psychology. Nowadays the discipline is extremely varied in the styles of research it employs, and the methodological and statistical sophistication that it currently enjoys would have been undreamt of even just a few years ago. Good research requires thought, understanding and experience – it is not a simple rule-following exercise and to pretend that it is does students a disservice. To our minds, the incredible progress of modern psychology means that teaching resources must struggle to keep up-to-date and to cope with the variety of different educational experiences provided by different universities. At heart, each volume in our trilogy is modularly constructed. That is, we do not expect that all their contents will be covered by lecturers and other instructors. Instead, there is a menu of largely self-contained chapters from which appropriate selections can be made.

This is illustrated by the coverage of *Introduction to Research Methods in Psychology*. This is unusual in that both quantitative and qualitative research are covered in depth. These are commonly but, in our opinion, wrongly seen as alternative and incompatible approaches to psychological research. For some researchers, there may be an intellectual incompatibility between the two. From our perspective, it is vitally important that students understand the intellectual roots of the two traditions, how research is carried out in these traditions, and what each tradition is capable of achieving. We believe that the student who is so informed will be better placed to make intelligent and appropriate choices about the style of research appropriate for the research questions they wish to address. On its own, the qualitative material in this fourth edition effectively supports much of the qualitative research likely to be carried out today. There is as much detailed practical advice and theory as is available in most books on qualitative research methods. (If more is required, the book by Dennis Howitt (2013), *Introduction to Qualitative Methods in Psychology*, Harlow: Pearson Education will probably meet your requirements.) But this is in addition to the quantitative coverage, which easily outstrips any competition in terms of variety, depth and authority. We have tried to provide students with resources to help them in ways largely ignored by most other texts. For example, the chapter on literature searches is extremely comprehensive and practical. Similarly, the chapter on ethics meets the most recent standards and deals with them in depth. The chapter on writing research reports places report writing at the centre of the research process rather than as an add-on at the end. We would argue that a student requires an understanding of the nature of research in psychology to be able to write a satisfactory research report. However, we have included a chapter which illustrates many of the problems that are found in research reports in response to requests for such material. You will also find some discussion of statistics in this book. For the most part, this is when dealing with topics which are missing from the popular SPSS-based statistics textbooks, simply because SPSS does not cover everything useful in psychological research.

As far as is possible, we have tried to provide students with practical skills as well as the necessary conceptual overview of research methods in modern psychology. Nevertheless, there is a limit to this. The bottom line is that anyone wishing to understand research needs to read research, not merely plan, execute, analyse and write-up research. Hence, almost from the start we emphasise that reading is not merely unavoidable but crucial. Without such additional reading, the point of this book is missed. It is not intended as a jumble of technical stuff too boring to be part of any module other than one on research methods. The material in the book is intended to expand students' understanding of psychology by explaining just how researchers go about creating psychology. At times this can be quite exciting as well as frustrating and demanding.

This is the fifth book the authors have written together. It is also the one that came close to spoiling a long friendship. What became very clear while writing this book is how emotive the topic of research methods can be. We found out, perhaps for the first time, how different two people's thinking can be, even when dealing with seemingly dry topics. As a consequence, rather than smooth over the cracks, making joins when this was not possible, you will find that we have incorporated the differences of opinion. This is no different from the disparity of positions to be found within the discipline itself – probably less so.

The main features of this book are:

- In-depth coverage of both quantitative and qualitative methods
- A range of pedagogic features including summaries, exercises, boxes and step-by-step instructions where appropriate
- Analysis strategies provided for the research designs discussed
- Detailed information about the structure, purpose and contents of research reports
- The use of databases and other resources
- Suggestions about how to develop research ideas for projects and similar studies
- Ethics as an integral feature of the work of all psychologists.

Introduction to Research Methods in Psychology is part of the trilogy of books which includes *Introduction to Statistics in Psychology* and *Introduction to SPSS Statistics in Psychology*. In *Introduction to Research Methods in Psychology* we have tried to make the presentation both clear in terms of the text but with additional visual learning aids throughout the book. We have added SPSS and other computer program instructions to the statistics book, though we have kept these instructions as short and to the point as possible. Students are well used to computers and so we have provided the major steps together with some screenshots just as a means of checking progress in the analysis. Anyone needing a quick and foolproof introduction to the use of SPSS will find this in the *Introduction to SPSS Statistics in Psychology*. We are determined to provide resources for students which are both user-friendly and professionally orientated. Increasingly, research is part of many of the different sorts of careers that psychology students enter – we simply hope that our books speed the user towards a considered, mature approach to research.

Education is a cooperative effort. So should you find errors then please let us know. These can be difficult to spot but easy to correct – some corrections can be made when a book is reprinted. Ideas and comments of any sort would be most welcome.

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Figures

Figure 7.16 from The 'drinking-buddy' scale as a measure of para-social behavior, *Psychological Reports*, 110 ed. issue 3, pp. 1029–1037 (Powell, L., Richmond, V.P. & Cantrell-Williams, G. 2012), Ammons Scientific; Figure 8.2 BPS information from Code of Ethics and Conduct Guidance published by the Ethics Committee of the British Psychological Society, http://www.bps.org.uk/system/files/documents/code_of_ethics_and_conduct.pdf, British Psychological Society; Figure 20.3 adapted from Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2) ed., 77–101 (Braun, V. & Clarke, V. 2006), Taylor and Francis; Figure 23.3 from *Doing Conversation Analysis* 2nd ed., SAGE Publications Ltd (ten Have, P. 2007) Sage Publications Ltd.

Screenshots

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PART 1

The basics of research

CHAPTER 1

The role of research in psychology

Overview

- Research is central to all the activities of psychologists as it is to modern life in general. A key assumption of psychology is that the considered and careful collection of research data is an essential part of the development of the discipline.
- Most psychology involves the integration of theoretical notions with the outcomes of research. Psychology characteristically emphasises causal explanations. Many psychologists adhere to the belief that a prime purpose of research is to test causal propositions, though this is far from universal.
- A first-rate psychologist – researcher or practitioner – needs to be familiar with the way in which good research is carried out. This enables them to determine the adequacy and value of the findings claimed from a particular study as well as to carry out their own research effectively.
- All psychologists need the skills and resources to enable them to understand research reports in detail, especially research studies reported in journals of psychological research. This requires an appreciation of the purposes, advantages and disadvantages of the different research methods used to investigate even the same issues.
- Very often research reports are concisely written and so assume a degree of knowledge of the topic and research methods. The study of research methods will help prepare students for this. Research reports become much clearer and easier to understand once the basics of psychological research methods are known.
- Psychologists have traditionally distinguished between true experiments and non-experiments. True experiments are typical of laboratory studies in psychology, whereas non-experiments are more typical of more naturalistic studies in the field (community or other real-life settings).

→

- Many psychologists believe that true experiments (laboratory studies) in general provide a more convincing test of causal propositions. Others would dispute this, primarily on the grounds that such true experiments often achieve precision at the expense of realism.
- Conducting one's own research is a fast route to understanding research methods. Increasingly, research is seen as an integral part of the training and work of all psychologists irrespective of whether they are practitioners or academics.

1.1 Introduction

Research is exciting – the lifeblood of psychology. To be sure, the subject matter of psychology is fascinating, but this is not enough. Modern psychology cannot be fully appreciated in the absence of some understanding of the research methods that make psychology what it is. Although initially psychology provides many intriguing ideas about the nature of people and society, as one matures intellectually the challenges and complexities of the research process that helped generate these ideas are increasingly part of one's understanding of psychology. Psychological issues are engaging: for example, why do some relationships last? Is there a purpose behind dreaming? What causes depression and what can we do to alleviate it? Can we improve our memory to make us study more efficiently and, if so, how? Why are we aggressive and can we do anything to make us less so? What are the rules which govern everyday conversation? Diversity characterises psychology's subject matter and ensures that our individual interests are well catered for. It also means that research methods must be equally diverse in order to address such a wide range of issues. Psychology comes in many forms and so does good psychological research.

Students often see research methods as a dull, dry and difficult topic which is tolerated rather than enjoyed. They much prefer their other lecture courses on exciting topics such as child development, mental illness, forensic investigation, brain structure and thought. What they overlook is that these exciting ideas are created by active and committed researchers. For these psychologists, psychology and research methods are intertwined – psychology and the means of developing psychological ideas through research cannot be differentiated. For instance, it is stimulating to learn that we are attracted to people who have the same or similar attitudes to us. It is also of some interest to be given examples of the kinds of research which support this idea. But is this all that there is to it? Are there not many more questions that spring to mind? For example, why should we be attracted to people who have similar attitudes to our own? Do opposites never attract? When does similarity lead to attraction and when does dissimilarity lead to attraction? The answer may have already been found to such questions. If not, the need for research is obvious. Research makes us think hard – which is the purpose of any academic discipline. The more thinking that we do about research, the better we become at it.

Box 1.1 contains definitions of various concepts such as 'variable' and 'correlation' to which you may need to refer if you are unfamiliar with these terms.

Box 1.1 Key Ideas

Some essential concepts in research

Cause Something which results in an effect, action or condition.

Data The information from which inferences are drawn and conclusions reached. A lot of data are collected in numerical form but it is equally viable to use data in the form of text for an analysis.

Randomised experiment This refers to a type of research in which participants in research are allocated at random (by chance) to an experimental or control condition. Simple methods of random assignment include flipping a coin and drawing slips of paper from a hat. The basic idea is that each participant has an equal chance of being allocated to the experimental or control conditions. The experimental and control conditions involve differences in procedure related to the hypothesis under examination. So by randomisation, the researcher tries to avoid any systematic differences between the experimental and control conditions prior to the experimental manipulation. Random selection is covered in detail later (Chapter 13). In the modern research literature, the randomised experiment is often referred to as the randomised trial in some research contexts.

Reference In psychology, this refers to the details of the book or article that is the source of the ideas or data being discussed. The reference includes such information as the author, the title and the publisher of the book or the journal in which the article appears.

Variable A variable is any concept that varies and can be measured or assessed in some way. Intelligence, height, gender and social status are simple examples.

1.2 Reading

The best way of understanding psychological research methods is to read in detail about the studies which have been done and build on this. Few psychological textbooks give research in sufficient detail to substitute effectively for this. So developing a better understanding of how research is carried out in a particular area is greatly facilitated by reading at least some of the research work that lecturers and textbook writers refer to in its original form. Admittedly, some psychologists use too much jargon in their writing, but ignore these in favour of the many others who communicate well wherever you can. University students spend only a small part of a working week being taught – they are expected to spend much of their time on independent study, which includes reading a great deal as well as independently working on assignments. Glance through any textbook or lecture course reading list and you will see the work of researchers cited. For example, the lecturer or author may cite the work of Byrne (1961) on attraction and similarity of attitude. Normally a list of the 'references' cited is provided. The citation provides information on the kind of work it is (for example, what the study is about) and where it has been presented or published. The details are shown in the following way:

> Byrne, D. (1961). Interpersonal attraction and attitude similarity. *Journal of Abnormal and Social Psychology*, 62, 713–715.

The format is standard for a particular type of publication. Details differ according to what sort of publication it is – a book may be referenced differently from a journal article and an Internet source is referenced differently still. For a journal article, the last

name of the author is given first, followed by the year in which the reference was published. After this comes the title of the work. Like most research in psychology, Byrne's study was published in a journal. The title of the journal is given next, together with the number of the volume in which the article appeared and the numbers of the first and last pages of the article. These references are generally listed alphabetically according to the last name of the first author in a reference list at the end of the journal article or book. Where there is more than one reference by the same author or authors, they will be listed according to the year the work was presented. This is known as the Harvard system or author–date system. It is described in much more detail later in this part of the book in the chapters about writing a research report (Chapters 5 and 6). We will cite references in this way in this book. However, we will cite very few references compared with psychology texts on other subjects, as many of the ideas we are presenting have been previously summarised by other authors (although usually not in the same way) and have been generally accepted for many years.

Many of the references cited in lectures or textbooks are to reports of research that has been carried out to examine a particular question or small set of questions. Research studies have to be selective and restricted in their scope – it is impossible to design a study to study everything. As already indicated, the prime location for the publication of research is journals. Journals consist of volumes which are usually published every year. Each volume typically comprises a number of issues or parts that come out say every three months, but this is variable. The papers or articles that make up an issue are probably no more than 4000 or 5000 words in length, though it is not uncommon to find some of them 10 000 words long. Their shortness necessitates their being written concisely. As a consequence, they are not always easy to read and often require careful study in order to master them. An important aim of this book is to provide you with the basic knowledge which is required to read these papers – and even to write them. Often there appear to be obstacles in the way of doing the necessary reading. For example, there are many different psychology journals – too many for individual libraries to stock – so they subscribe to a limited number of them. If the reference that you are interested in is important and is not available locally, then you may be able to obtain it from another library, or it may be worth trying to obtain a copy (usually called offprints) from the author. Almost invariably, nowadays, university libraries subscribe to digital versions of journals, so many papers are readily available in electronic files (usually in Portable Digital Format, pdf) which can be easily accessed via your university library over the Internet and then even circulated to others as an e-mail attachment. The chapter on searching the literature (Chapter 7) suggests how you can access publications which are not held in your own library. The point of this means that often you can download to your computer articles which otherwise would not be available at your university. This is remarkably convenient and there are no overdue fines.

One of the positive things about psychology is that you may have questions about a topic that have not been addressed in lectures or textbooks. For example, you may wonder whether attraction to someone depends on the nature of the particular attitudes that are shared. Are some attitudes more important than others and, if so, what are these? If you begin to ask questions like these while you are reading something then this is excellent. It is the sort of intellectual curiosity required to become a good researcher. Furthermore, as you develop through your studies, you probably will want to know what the latest thinking and research are on the topic. If you are interested in a topic, then wanting to know what other people are thinking about it is only natural. Your lecturers will certainly be pleased if you do. There is a great deal to be learnt about how one goes about finding out what is happening in any academic discipline. Being able to discover what is currently happening and what has happened in a field of research is a vitally important skill. The chapter on searching the literature (Chapter 7) discusses how we go about searching for the current publications on a topic.

1.3 Evaluating the evidence

So psychology is not simply about learning what conclusions have been reached on a particular topic. It is perhaps more important to find out and carefully evaluate the evidence which has led to these conclusions. Why? Well, what if you have always subscribed to the old adage 'opposites attract'? Would you suddenly change your mind simply because you read in a textbook that people with similar attitudes are attracted to each other? Most likely you would want to know a lot more about the evidence. For example, what if you checked and found that the research in support of this idea was obtained simply by asking a sample of 100 people whether they believed that opposites attract? In this case, all the researchers had really established was that people generally thought it was true that people are attracted to other people with similar attitudes. After all, merely because people once believed the world was flat did not make the world flat. It may be interesting to know what people believe, but wouldn't one want different evidence in order to be convinced that attraction actually is a consequence of similarity of attitudes? You might also wonder whether it is really true that people once believed the world to be flat. Frequently, in the newspapers and on television, one comes across startling findings from psychological research. Is it wise simply to accept what the newspaper or television report claims, or would it be better to check the original research in order to evaluate what the research actually meant?

We probably would be more convinced of the importance of attitude similarity in attraction if a researcher measured how attracted couples were to each other and then showed that those with the most similar attitudes tended to be the most attracted to one another. Even then we might still harbour some doubts. For example, just what do we mean by attraction? If we mean wanting to have a drink with the other person at a pub then we might prefer the person with whom we might have a lively discussion, that is, someone who does not share our views. On the other hand, if willingness to share a flat with a person were the measure of attraction then perhaps a housemate with a similar outlook to our own would be preferred. So we are beginning to see that the way in which we choose to measure a concept (or variable) such as attraction may be vital in terms of the answers we get to our research questions. Notice that the stance of a researcher is somewhat sceptical – that is, they need to be convinced that something is the case.

It is possibly even more difficult to get a satisfactory measure of attitudes than it is to measure attraction. This is partly because there are many different topics that we can express attitudes about. So, for example, would we expect attraction to be affected in the same way if two people share the view that there is life on Mars than if two people share the same religious views? Would it matter as much if two people had different tastes in music than if they had different views about openness in relationships? That is, maybe some attitudes are more important than others in determining attraction – perhaps similarity on some attitudes is irrelevant to the attraction two people have for each other. One could study this by asking people about their attitudes to a variety of different topics and then how important each of these attitudes is to them. (Sometimes this is called salience.) Alternatively, if we thought that some attitudes were likely to be more important than others, we could focus on those particular attitudes in some depth. So it should be clear from all of this that the process of evaluating the research in a particular field is not a narrow, nit-picking exercise. Instead it is a process by which new ideas are generated as well as stimulating research to test these new propositions.

These various propositions that we have discussed about the relationship between attraction and similarity are all examples of *hypotheses*. A hypothesis is merely a supposition or proposition which serves as the basis of further investigation, either through the collection of research data or through reasoning. The word hypothesis comes from the Greek

word for foundation – perhaps confirming that hypotheses are the foundation on which psychology develops. Precision is an important characteristic of good hypotheses. So, our hypothesis that similarity of attitudes is related to attraction might benefit from refinement. It looks as if we might have to say something more about the attitudes that people have (and what we mean by attraction for that matter) if we are going to pursue our questions any further. If we think that the attitudes have to be important, then the hypothesis should be reformulated to read that *people are more attracted to those with similar attitudes on personally important topics*. If we thought attraction was based on having a similar attitude towards spending money, we should restate the hypothesis to say that *people are more attracted to those with similar attitudes towards spending money*.

The evaluation of research evidence involves examining the general assertion that the researcher is making about an issue and the information or data that are relevant to this assertion. We need to check whether the evidence or data support the assertion or whether the assertion goes beyond what could be confidently concluded. Sometimes, in extreme cases, researchers draw conclusions which seem not to be justified by their data. Any statement that goes beyond the data is speculation or conjecture and needs to be recognised as such. There is nothing wrong with speculation as such since hypotheses, for example, are themselves often speculative in nature. Speculation is necessary in order to go beyond what we already know. However, it needs to be distinguished from what can legitimately be inferred from the data.

1.4 Inferring causality

The concept of *causality* has been important throughout most of the history of psychology. Other disciplines might consider it almost an obsession of psychology. The meaning of the term is embodied in the phrase 'cause and effect'. The idea is that things that happen in the world may have an effect on other things. So when we speak of a causal relationship between attitude similarity and attraction, we mean that attitude similarity is the cause of attraction to another person. Not all data allow one to infer causality with confidence. Sometimes researchers suggest that their research demonstrates a causal relationship when others would claim that it demonstrates no such thing – that there may be a relationship but that one thing did not cause the other. In strictly logical terms, some claims of a causal relationship can be regarded as an error. since they are based on research methods which by their nature are incapable of establishing causality with certainty. Frequently, research findings may be consistent with a causal relationship but they are, equally, consistent with other explanations.

A great deal of psychology focuses on causes of things even though the word 'cause' is not used directly. Questions such as why we are attracted to one person rather than another, why people become depressed and why some people commit violent crimes are typical examples of this. The sorts of explanation that are given might be, for example, that some people commit violent crimes because they were physically abused as children. In other words, physical abuse as a child is a *cause* of adult violent crime. There may be a relationship between physical abuse and violent crime, but does this establish that physical abuse is a cause? To return to our main example, suppose a study found that people who were attracted to each other had similar attitudes. Pairs of friends were compared with pairs of strangers in terms of how similar their attitudes were (see Figure 1.1). It emerged that the friends had more similar attitudes than pairs of strangers. Could we conclude from this finding that this study showed that similar attitudes cause people to be attracted towards one another? If we can conclude this, on what grounds can we do so? If not, then why not?

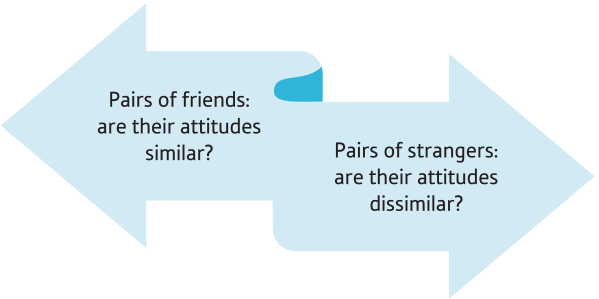

FIGURE 1.1 Looking for causal relationships

There are at least three main reasons why we cannot conclude definitively from this study that similar attitudes lead to people liking each other:

- Attraction, measured in terms of friendship, and similarity of attitudes are assessed once and at precisely the same time (see Figure 1.2). As a consequence we do not know which of these two came first. Did similarity of attitudes precede friendship as it would have to if similar attitudes led to people liking each other? Without knowing the temporal sequence, definitive statements about cause and effect are not possible (see Figure 1.3).

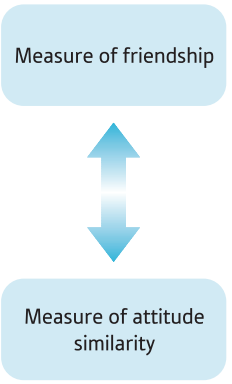

FIGURE 1.2 Cross-sectional study: measures taken at the same point in time

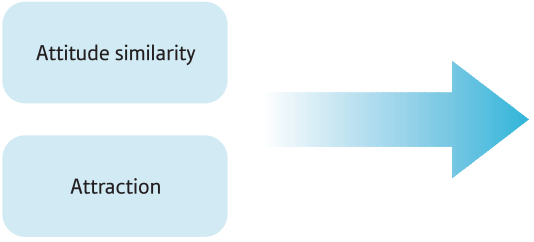

FIGURE 1.3 No time lag between the measurement of attitude similarity and attraction: no evidence of causality