

# Applied Psychology

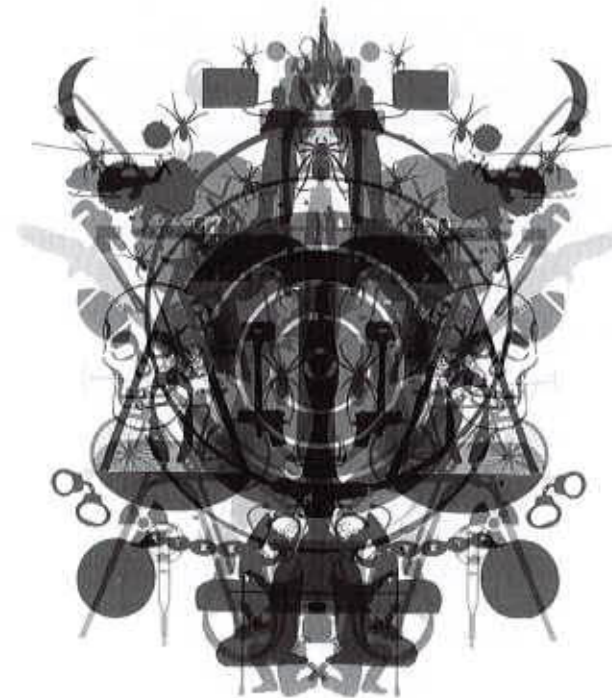
Putting Theory into Practice

SECOND EDITION

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# About this book

Psychology is the study of the behaviour of animate beings, and, fittingly, it is a living, evolving discipline. No matter what you do for a living or what your interests might be, psychology and psychologists have made an impact on your life, and will continue to do so. While there are vast numbers of written references on most of the specific academic topics in psychology, much less is written on the application of psychology to people's everyday lives. There are many individual, published papers on specific applied problems, but there are far fewer books that summarize themes in applied research (see Coolican et al. 1996).

## Applied research

Applied research has a long history, particularly in the UK. It involves applying theoretical or academic psychology to real-world situations. The single element that probably distinguishes outstanding applied research from more mediocre attempts is the extent to which the researcher *successfully* maps the mainstream academic literature onto the real-world problem. Good applied psychology is based on working hypotheses that evolve directly from mainstream psychological research. We define a working hypothesis as a preliminary description of the nature of the problems and the potential underlying factors that are based on initial observations. Sometimes the underlying factors are easy to identify, and other times they are more difficult. Once these potential factors are identified, the psychologist then reviews the available literature, which may include empirical evidence, in order to identify which theoretical concepts are most helpful in establishing how to proceed. Importantly, the working hypothesis changes as the psychologist gathers more knowledge and evidence about the problem. As we shall see, sometimes the psychologist discovers that their initial working hypothesis was wrong.

## Working hypotheses

Working hypotheses should not be confused with informal conjectures or hunches. In fact, our personal conjectures or hunches about what might be important to consider are not usually helpful. While personal conjecture—based on sound experience—is unquestionably important, at least for the person, these hunches do not translate easily into explanations that can be generalized to different individuals and across different situations. While we



may all have hunches, they do not necessarily link to domains of experimental literature, or bodies of independently accrued knowledge. Working hypotheses are thus more than hunches; they have clear theoretical arguments underpinning them and they link those arguments directly to critical features of the real-world problem. As this distinction is essential, we provide an illustration.

## The role of theory

Suppose a psychologist is asked to comment on the best way or ways in which to interview a witness to a crime. There are four ways in which mainstream theoretical concepts can direct the working hypotheses with which the psychologist proceeds. First, theoretical concepts help to inform the psychologist about the variables in the interview situation that should be considered. In this example, any number of variables could be examined: the colour of the room, seating arrangement, and general environmental comfort; the interpersonal dynamics between the interviewer and the interviewee; the interview techniques used by the interviewer. Any one of these might influence behaviour. What is important is that the psychologist has knowledge of sound theoretical concepts that would help to explain *why* any one of these factors can influence behaviour. Selecting those with a theoretical basis provides the psychologist with some rationale for choosing the variables in the first place. We do not mean to imply that the applied situation cannot inform theory, simply that the decision to use theory generally leads to more efficient research.

Second, theoretical concepts inform the psychologist on how to address the variables that have been selected. Roughly speaking, the concepts determine the framework for considering the variables in a particular manner. In our example, a psychologist could rely on concepts derived from cognitive psychology, and focus on how a witness's confidence in her memory for details of a crime can be influenced by the interview strategy. Alternatively, the psychologist could rely on concepts derived from studies of individual differences, and consider whether certain interview strategies are beneficial or harmful for individuals who have anxious personalities. While the specific choice of the theoretical concepts may be unimportant, it is essential that the concepts are well constructed and based on sound evidence.

Third, theoretical concepts identify for the psychologist the various ways to measure the variables that they have selected. For example, the psychologist might want to know whether the interview strategy was beneficial by asking the interviewer and witness how comfortable each of them felt during the interview. Alternatively, the psychologist might use physiological measures such as the galvanic skin response (GSR) to determine whether the witness's levels of stress increase or decrease. It is essential that the method of measurement is relevant to the issues the psychologist wishes to address. Most often this is assured by using measurements that are common within the literature, given the applied problem. The work runs the risk of being useless, or highly controversial, if no one else agrees on the measurement.

Fourth, mainstream concepts help inform the psychologist about the range of interpretations that might be placed on behavioural evidence. For example, they may conclude that when a witness's stress levels decrease this is better for the outcome of the interview. Alternatively, it may be concluded that lowered stress levels are harmful for the outcome of

the interview because the witness is not sufficiently motivated. If there are no other references in the literature to the interpretation, there is no way that the psychologist can integrate their findings into the literature. Without such integration, there is little hope for the results to have any impact. They will be too novel to interpret outside the specific situation in which the psychologist has operated and cannot be generalized to any other related work that might have preceded it.

## The nature of theories

We need to make an important point. Although we advocate theoretically driven research, we do not wish to imply that 'any old theory will do'. As we have already said, theoretical concepts are usually drawn from existing theories, not from hunches or conjectures. A central aspect of science consists of competition between theories, and this has been particularly true of the life sciences, including psychology. How can we determine that a theory is valid? Does it give a correct description of events and facts? Can it predict new events and facts? A considerable body of thought has been devoted to these questions. The extensive literature that it has generated need not concern us here, but there are two general approaches that should be considered for our purposes.

The first approach focuses on the ways in which a theory can be *disconfirmed*; that is, how a theory can be proven false by facts. The critical element in this approach is that a theory is only valid if it is *capable of being proven false*. For obvious reasons, theories do not, in general, fly in the face of reality. So, simply to show that a given theory fits the facts does not necessarily mean that it is true. Rather, there must be some logical mechanism in the theory, or some body of fact to which it refers, that makes it possible to show that it is false. This is a delicate point. Of course, we do not seek to disprove the theory in order to show that it was not valid in the first place; that would be silly. However, the theory must not be protected from disconfirmation and only theories that lend themselves to being tested, and proven correct, are valid.

Several interesting consequences flow from this approach. It implies that a particular theory may need to be tested again and again as new facts emerge. It also implies that in comparing two competing theories we should look for a special set of facts that will disqualify one of them but not the other. We must set up a so-called crucial experiment, an experiment for which the two theories make different or opposite predictions. Surprisingly, this is very difficult to do and the fields of psychology are littered with the broken remnants of crucial experiments that turned out not to be crucial! The reasons why such difficulties arise lie beyond the scope of this book. If you are interested you can consult a text on the scientific method (e.g. Agnew and Pyke 2004).

## An absurd example

In order to demonstrate how difficult it may be to devise an experiment to prove that one of two competing theories is correct, let us give a rather absurd example. Remember that the point is that while it might be easy to show a theory to be true, it may be very difficult to prove, indisputably, that it is false.



One of the authors (AL) has come to believe that the electrical equipment in his house is operated by elves. They are small, invisible, good-natured, silent, and helpful. An Elf King rules them. AL communicates with the Elf King, exclusively, using a number of switches and buttons. If, for example, AL wants light in his study, he simply flicks a switch on the wall and the Elf King orders his subjects to run swiftly down a long copper wire leading to a light bulb. If AL wants music he 'turns on' the radio and the Elf King sends his helpers down the wires leading to the loudspeaker.

Now, the other author (DB) has a competing theory. DB's theory is based on notions of electrons and electrical currents—which are as equally invisible and helpful as AL's elves. Ask yourself: how can DB *prove* that AL's theory is invalid? Flick the light switch and the light comes on; AL's theory is confirmed. Turn on the electric oven and it rapidly heats; theory confirmed. Whatever DB does can be 'explained' by AL's theory of the elves. It is no use telling AL about electrons, the small, invisible, helpful entities that DB believes in. Their presence and activity can only be determined by observing the consequences of the actions you take. What is needed is a crucial experiment. But at this level the only crucial experiment is one which would involve tests that *prove* that AL's invisible elves do not exist. But how? Obviously, there is no feasible way.

### An alternative approach

Many psychologists prefer to adopt a second approach to the question of what makes a good theory because of the difficulty discussed above and other more formal reasons. The second approach argues that a theory is valid if it is useful. This is the pragmatist's position, so named by Alan Baddeley (2001) in his chapter in *Psychology in Britain*. The pragmatic approach says that a theory can be regarded as true for practical purposes if it gives an accurate description of the available facts. This approach may seem simplistic at first but it has a number of advantages. It enables us to isolate theoretical concepts that can be applied to a particular problem, even if parts of the theory are not universally true. We can call this the principle of local application and it is an important point to stress. The task of applied psychology is not to test the validity of theories, but to use them. While it is obviously important that the theoretical concepts have some empirical integrity, the comprehensive testing of any theory is the domain of the experimental and theoretical psychologist, not the applied psychologist. Because of this the pragmatic approach has been the usual practice in applied settings, and this choice is well justified.

Let us illustrate this with our witness example. Suppose a theory says that people who are generally anxious will be poorer at reporting details when a certain interview strategy is used. The theory also predicts that people who are depressed will be *better* if this same strategy is used. Now, one of our colleagues who is an experimental psychologist conducts an empirical study and finds that the prediction about anxious people was confirmed, but that the prediction about depressed people was not confirmed. The theory is obviously only partially supported. However we, as applied psychologists, might still want to consider whether to use the strategy or not, when asked to work on a case with an anxious witness. As we can see, the principle of local application allows us to use what is relevant, and discard what is irrelevant, for the applied problem.

The concepts underlying the issues just reviewed are complex indeed, and our treatment of them has been *intentionally* simple. What the reader should remember is that there are two ways to decide whether a theory is useful for a real-world problem. One way is whether a theory has been preferentially confirmed by empirical evidence; the other is whether some aspect of the theory can be used successfully to describe critical features of the problem. More often than not the applied psychologist will consider those components of a theory that are really needed, and pay little or no attention to those that are not relevant to the applied situation.

While applied research was prominent in the latter half of the twentieth century, it appears that it has lost its appeal as of late. As psychologists spend less time writing about the ways in which psychology can be applied, the importance of psychology to real-world problems seems to be growing rather than diminishing. This book intends to redress this apparent imbalance by giving the reader some idea of how psychology is applied, and might be applied, to real-world problems.

## The structure of this book

This book identifies everyday problems in which psychologists could or have been asked to help. We intend to provide the reader with a good idea of who might use a psychologist, how a psychologist decides which theoretical concepts are relevant, and what a psychologist does in applying these concepts. We also show how the psychologist's input was assessed, in terms of whether their input helped, hindered, or had no impact on the applied problem. A significant point of departure from other books is that we contend that it is the problem rather than the psychologist that determines the professional roles that are adopted. Thus, the book is not structured around the training or academic background of the psychologist, but rather the real-world situation that the psychologist operates within.

We provide the reader with examples of applied settings that reflect major themes in mainstream psychological research. In what follows, individual chapters introduce general real-world settings where psychologists can be used. These real-world settings are depicted as rooms. So, for example, we have a chapter that is entitled 'The court room' (Chapter 5). In this chapter, the court room is the general class of settings, or real-world situations, where psychologists apply their skills and knowledge. It is not our aim to explore or describe the settings as such; neither is it to define all of the possible roles that a psychologist can play in that setting. Instead we consider specific problems that arise in the real-world court room, and explore how the psychologist intervened.

## The structure of the rooms

Each chapter has a general introduction that provides a brief summary of the many ways in which psychologists may be or have been involved in the particular real-world room. We intend these introductions to be a review of the more traditional psychological concepts, and psychologists, that are associated with the particular room. So, for example, the court room

is traditionally associated with topics falling under the heading of forensic psychology and is traditionally the domain of the forensic and clinical psychologist. While it is *not* our approach to define the court room in terms of one specific domain or professional training, we do want the reader to have this general information about the room. However, once the room has been introduced, we provide two specific scenarios of how a psychologist has been used that might diverge from the traditional trend. As you are introduced to each of these rooms, make a note of your own spontaneous visual imagery. The court room, for example, may suggest dark, wooden panelling, and an atmosphere of gravity, enhanced by the wigs and robes of the officials. You will find that these images help you to remember the material.

### Five basic questions

We pose the same series of five questions for each scenario we provide. First we ask: *What is the problem?* This is an obvious question, as without a clear and comprehensive description of the problem, any subsequent action that is taken is likely to be incorrect. The second question, *Why was the psychologist involved?*, considers why the psychologist was approached by the client. The question effectively defines why the client turned to the psychologist for assistance. For example, the psychologist may have been asked to remedy a problem that was already known to exist. Alternatively, the psychologist may be involved so as to anticipate where problems might arise. The specific reasons behind the psychologist's involvement can have serious consequences. For example, a client may ask a psychologist to address a particular problem, only for the psychologist to discover that there is a different, more pressing problem that needs attention. As the examples will demonstrate, the reasons for the psychologist's involvement are often critical in determining the outcome of any applied research.

Of course, we are all too aware that often the psychologist is *not* asked to intervene at the time the problem arises; and that their input comes after the fact. Sometimes, the client actively ignores the psychologist's findings! We include examples such as these because they are important in illustrating how problems might have been avoided had a psychologist been approached.

The third question, *What are the important theoretical concepts?*, identifies the theoretical concepts that might be relevant to the psychologist. As we have argued already, good applied research is that which allows theoretical concepts to direct it. As such, the question of theoretical concepts is essential in clarifying the working hypotheses that the psychologist used. The fourth question, *What did the psychologist do?*, clearly specifies the manner in which the psychologist approached the problem, the nature of the interventions that were introduced, and the type of behavioural evidence that was provided, if any. For example, psychologists may conduct preliminary experiments and summarize their results in a formal written report.

The fifth question, *How was the psychologist's input assessed?*, addresses a fundamental issue. Generally, it is important to demonstrate that the psychological input to the problem has done something. This question of assessment is perhaps the least clear-cut of all. Assessment is likely to be influenced by a host of factors, including, political and economic, as well as psychological. One could argue that an obvious assessment is to see whether the problem stayed at the same level, went up, or went down. However, as we shall see, many situations are not quantifiable in that manner.

At the end of each chapter, we provide a list of references, including websites, where the interested reader may find further information. We deliberately include traditional academic references alongside less traditional ones, for example television programmes and magazine articles. In this way, the reader is provided with a range of reference sources, some more accessible to the lay public, others more appropriate for individuals with some background in psychology or related fields. A general bibliography at the end of the book lists the works referred to in each chapter, and also includes materials that were not specifically referenced, but will be of interest to those who may wish to expand their knowledge of applied psychology.



### Additional reading

Readers who wish to pursue in more detail the topics raised throughout this book will find the following journals and website useful.

*Journal of Applied Psychology* (founded in 1917)

*Journal of Applied Behavioural Science*

*Journal of Applied Developmental Psychology*

*Journal of Occupational Psychology*

*Journal of Experimental Psychology: Applied*

*The Psychologist*

International Association of Applied Psychology: [www.iaapsy.org](http://www.iaapsy.org)