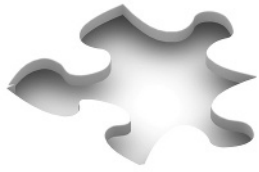
1 

Introduction: Beginning to Understand You

- What is psychology?
- Psychology and common sense
- The psychologist's approach
- Are psychologists devious experimenters?
- The psychological experiment
- What we expect affects what we see
- Experiments are not enough

Have you ever puzzled over someone's actions and found yourself wanting to ask:

'Why did you do it?'
'What were you thinking?'
'How did you feel?'

If so, then you are posing the questions that psychologists also seek to answer – both at the level of the individual and also for people in general. What lies behind each person's behaviour, thoughts and feelings? Psychology can be defined as the study of behaviour, thoughts and feelings and this definition is encapsulated in our three questions. If we know someone well we expect to be able to predict what they will do, think, or feel in many everyday situations.

If a member of your family is slow to wake in the morning, but is bright-eyed at midnight, you soon learn to discuss important topics with that person in the evening rather than at breakfast. You come to expect him or her to eat little at breakfast, nod rather than talk, and through the experience of many mornings together you are able to predict a whole host of other things about that person's behaviour. In a sense, we are all amateur psychologists because we observe our relatives' and friends' behaviour carefully and discover rules by which they seem to act. This ability is not unique to adults. In a family it is likely that the children and the dog have also learned to make these predictions about each other. Have you ever noticed that your dog seems to know almost as soon as you do that you are going to take him for a walk?

Perhaps, you are thinking this is all just common sense. But we hope to show that psychology goes well beyond what can be answered by common sense. It is a subject that has developed a variety of methods to assist in answering questions about human behaviour, thoughts and feelings, and these methods are illustrated by boxed examples throughout this book.

WHAT IS PSYCHOLOGY?

What does psychology mean to you? When people who have not studied the subject are asked to say what comes into their mind when the words 'psychology' or 'psychologists' are mentioned, a whole ragbag of answers is given:

'Psychologists know what you are thinking.'
'They analyse you like Freud did.'
'They measure IQ and personality.'
'Psychologists deal with problems like phobias and depression.'
'They use lie detectors.'
'They do devious experiments.'

The commonest answers deal with uncovering the hidden aspects of people and their psychological problems and, as these answers show, there is often more than

a certain wariness about psychologists and their profession. Sigmund Freud's name is often mentioned in connection with psychology, and his ideas have certainly influenced psychologists. But what did he actually do?

Was Freud a psychologist?

Sigmund Freud (1856–1939), often referred to as 'the father of psychoanalysis', was not a psychologist. Freud was a Viennese physician who became interested in the role of unconscious mental processes in influencing people's behaviour and, in particular, their psychological problems. He was interested in exploring human behaviour, feelings and thoughts, but his ideas were based on his clinical work. He built up a view of what makes humans 'tick' from his deductions about the causes of the problems he saw in his patients. Thus his view of human nature was shaped by observing and trying to help those who had problems; he was not concerned with the 'normal' or average person, but just a small number of rather unhappy people.

Essentially, Freud believed that a large part of the mind is unconscious, and that our behaviour is 'driven' by instincts housed in this unconscious area of the mind. The expression of these instincts is, he suggested, shaped by our early life experiences: so, for example, a person who is deprived of adequate breast feeding, or mother love, might later show neurotic patterns of behaviour, such as a craving for comfort, food or love.

In attempting to find the causes of psychological problems, Freud's approach, in psychoanalytic therapy, was to use a variety of techniques that were intended to give insights into a person's unconscious mental processes. Two of these techniques were free association and dream analysis. In the former, a patient would lie on a couch and be asked to say freely whatever thoughts or feelings came to mind; in dream analysis the contents of the patient's dreams were explored using free association with a dream event as the initial stimulus. Freud believed that these techniques led him to the source of a patient's problems, and, by bringing that source out into the open, into conscious awareness, the emotional release (or catharsis) induced would assist in helping the patient towards a solution of the problem.

Figure 1.1 Sigmund Freud (1856–1939). *(Science Photo Library.)*

But being based on clinical evidence, which is open to a variety of interpretations, Freud's ideas cannot easily be tested or verified in the way that modern psychologists believe to be essential. So although Freud's views of the human mind and behaviour have influenced psychological thinking, they are not, as we shall see, central to it.

Three different approaches

The distinction between psychoanalysis, psychiatry and psychology needs to be clarified, because it is not a simple one. Psychiatry is a branch of medicine and, as such, psychiatrists are concerned largely with the treatment of mental illnesses and psychological problems. Any qualified medical doctor may choose to specialize and take a further qualification in psychiatry, just as he or she might select gynaecology or surgery. Psychiatrists, like medical doctors (or general practitioners), may use drugs in the treatment of mental illness, or they may use other methods such as behaviour therapy – a technique also used by psychologists.

Psychologists train by taking a degree course in psychology in which all aspects of behaviour and its underlying causes – in both humans and other animals – are studied. One distinction between psychologists, psychiatrists and psychoanalysts is that the former are concerned with all people, while the latter two are concerned solely with those who cannot cope, and who are unwell. Clinical psychologists, however, also make the patient the main focus of their work, but the treatment methods used by them involve therapies that do not rely on the prescription of drugs.

Psychoanalysts have their own training, which is quite separate from that of both psychologists and psychiatrists. This training usually involves the would-be analysts first undergoing psychoanalysis themselves in order to gain increased insight. Psychologists and psychiatrists sometimes undergo further training in order to become psychoanalysts, and thus it is perhaps not surprising that there is sometimes confusion in the minds of the public about these three professions.

In this book we are concerned with psychology, which has developed its own rigorous methods of studying humans, quite distinct from the techniques of psychoanalysis. Indeed, at the height of Freud's influence at the turn of the century, psychologists showed a marked disregard for subjective reports of mental processes (introspection) as the major source of data. Overt behaviour became the focus of attention and psychology became known as the 'science of behaviour'; thoughts and feelings were largely ignored, being intangible and unobservable. Speculations about the causes of human behaviour based on introspection were thought to be unhelpful and misleading.

PSYCHOLOGY AND COMMON SENSE

Psychologists are often said to be studying the obvious, spending years trying to find the answers to questions that common sense can tell us. We, as psychologists, believe this to be an unfair comment, and to test your common sense we should like you to answer the following questions using just your own ideas – please don't refer to books to find the answers.

Question 1

How long do dreams last? In *A Midsummer Night's Dream* (I.i), Lysander says that true love is 'brief' and 'momentary', like a dream. Do dreams really come and go

in an instant as Shakespeare apparently believed? Do you think a typical dream lasts:

(a) a fraction of a second;
(b) a few seconds;
(c) a minute or two;
(d) many minutes;
(e) a few hours?

Take a bonus point for correctly answering the following question about yourself. How often do you dream?

(f) hardly ever or never;
(g) about once every few nights;
(h) about once a night;
(i) several times every night.

Question 2

On a trip to the local supermarket with Fred, Georgina came across two brands of canned kidney beans. One of the cans was twice as wide and twice as deep as the other, but to Georgina's surprise they were similarly priced, and the labels showed that they both weighed 250 grams. 'There's probably more water in the smaller one,' she thought. She decided to play a little trick on Fred. She moved the self-adhesive price tags so as to cover the weights that were marked on the labels, and she then showed the cans to Fred. 'Fred Darling,' she said, 'I've got a problem. Are you any good at judging weights?' 'I am rather, and I can tell you've lost a bit of weight,' replied Fred, playfully lifting Georgina off the ground. 'I'm not sure which of these two cans of kidney beans is heavier,' she lied. 'What do you think? Take your time feeling them.' After lifting the cans and holding them for a while, what did Fred probably reply?

(a) the smaller can feels slightly heavier;
(b) the smaller can feels much heavier;
(c) the larger can feels slightly heavier;
(d) the larger can feels much heavier;
(e) neither can feels noticeably heavier than the other.

Question 3

Chapter 9 of the Gospel According to St John in the Bible is devoted entirely to an episode in which Jesus restored the sight of a man 'which was blind from his birth'. More recently, surgical, rather than miraculous, methods have occasionally been used to restore the sight, late in life, of people born blind. During the first few days after the bandages are removed, do you think such people:

(a) see nothing at all;
(b) see only a blur;
(c) see only vague shapes moving about;
(d) recognize familiar objects without touching them;
(e) recognize objects by sight only after touching and looking at them simultaneously;
(f) see everything upside down?

Question 4

A group of friends decided to put some money into a kitty and spend it at the race track on Derby Day. Before each race they wrote down their private opinions about the bet that ought to be placed. Then the group assembled to discuss their individual opinions and to arrive at a group decision. On each race, the most cautious decision was not to place a bet at all, a more risky decision was to place a small bet on a horse with favourite odds of winning, and a very risky decision was to place a large bet on an outsider. Compared to the average of the individual decisions, are the group decisions likely to have been:

(a) more cautious;
(b) more risky;
(c) neither more cautious nor more risky?

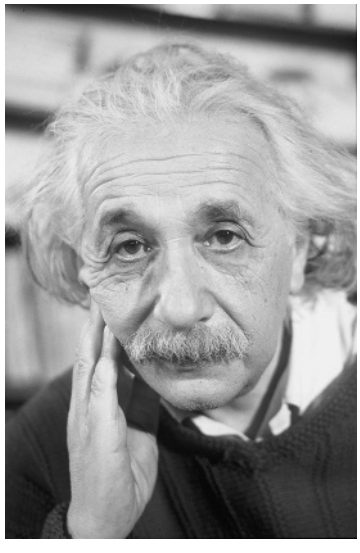


Figure 1.2 Albert Einstein (1879–1955). Are exceptionally intelligent people healthier than others? *(Popperfoto/Alamy.)*

Question 5

The influential philosopher Friedrich Nietzsche (1844–1900) suffered from insanity and general ill-health for the last 20 years of his life. The great physicist Albert Einstein (1879–1955), on the other hand was quite sane and enjoyed good health through most of his three score years and sixteen. Are exceptionally intelligent people in general:

(a) less physically and mentally healthy than others;
(b) more physically and mentally healthy than others;
(c) similar to others in physical and mental health;
(d) less mentally healthy but similar to others in physical health;
(e) less physically healthy but similar to others in mental health?

You will find the answers on pages 11–12.

THE PSYCHOLOGIST'S APPROACH

Today psychologists base their conclusions about humans on both observations of the behaviour of many people, and reports from those people themselves. It is more than the 'science of behaviour', because people's own unique experiences also form part of the data.

Psychologists use a wide range of equipment to measure both easily observable and unobservable bodily changes. The well-known lie detector or polygraph is one example: this measures a variety of physiological changes, including heart rate and skin moistness, but psychologists would rarely use this to detect lies. Indeed, most psychologists are well aware of its fallibility in this respect. What is fascinating about the polygraph is that it can reveal minute changes in emotional arousal.

Read the following words:

- COMPUTER
- ROSE
- BAR
- MOTHER
- TEAPOT
- PENCIL
- SEX
- CAR
- BABY
- WINDOW

Did you detect any change in emotional level in yourself as you read them? Probably not. But a polygraph would reveal that certain words are more emotionally loaded for some people than are others. Mother, baby and sex might mean much more to you than the other words because they obviously stand for things about which many people are emotional. But if you have a friend called ROSE, or you had just bought a brand new CAR, then these words might also be emotionally loaded words for you, and this would show on the polygraph reading. Thus the polygraph can give us more information about someone's emotions than they can themselves.

The study of human behaviour, thought and emotion over many years has enabled psychologists to see how certain psychological problems may arise, and how they may be treated; by charting human behaviour, patterns emerge that enable predictions to be made about the frequency with which one event may follow on another. While there is also much to learn, there is already quite a lot that psychologists can predict about human behaviour and hence the measurement of personality and intelligence is in part, if not in total, a reality, as the contents of Chapters 3 and 12 will show.

ARE PSYCHOLOGISTS DEVIOUS EXPERIMENTERS?

Psychologists are sometimes charged with doing rather devious experiments. In the past this assertion was probably quite fair in relation to a small proportion of psychological studies and, later in this book (Chapter 5, for example), there are examples of such experiments. A certain degree of control over events under study is necessary in the initial stages of studying people, and there are good reasons for this. For example, if psychologists wish to study the effect of a substance on some aspect of human psychology or behaviour, then they must test it in such a way that the people taking part in the experiment do not know whether they are receiving the substance or not.

THE PSYCHOLOGICAL EXPERIMENT

In order to illustrate the care that psychologists must take in planning experiments, an experiment carried out by Winnifred Cutler and colleagues will be described. Research in some non-human mammals has indicated that female reproductive physiology can be affected by odours (chemical signals) from males. Cutler's research investigated this possibility in human females and this research explored the role of underarm (axillary) secretions and the menstrual cycle. See Box 1.1, which explains some technical terms that psychologists use.

Having selected a particular sample of women to act as participants, and having decided what aspects of the menstrual cycle would be measured (in this case menstrual cycle length and regularity over a number of cycles), the aim was to compare individuals who received a given dose of chemical substance (male secretions) – the experimental group – with those who received no dose – the control group. The problem was to ensure that the people did not know whether or not they were receiving the substance, despite the fact that participants had to consent to take part in the study and be aware that some substance might be used. (There are numerous regulations, or ethical guidelines, concerning these latter points that we need not consider here.)

Psychologists solve this problem by using a placebo, an inert substance that can be administered in exactly the same way as the substance under investigation. In this study, the placebo was ethanol that was given alone or with the chemical substance (the male secretions) mixed into it without being detectable. Participants in the experiment were assigned at random to the experimental (male secretions) and control (placebo) conditions, and each received identical treatment – both groups had the substance or placebo placed on the upper lip and were told not to wash the area for six hours. This treatment was carried out three times a week for about 14 weeks. The pulse and blood pressure of each participant were also recorded at each treatment to dilute the focus of the study. Details of menstrual cycles during this period were recorded.

BOX 1.1
VARIABLES IN PSYCHOLOGICAL EXPERIMENTS

The psychological experiment described in this chapter illustrates one form of a typical experiment in psychology. The experiment was designed to answer a specific question: 'Do underarm (axillary) secretions from human males influence menstrual cycle length and regularity in females?' It included an experimental group in which the chemical secretions in ethanol, the independent variable, were administered to the participants, and a control group in which the participants received a placebo, ethanol alone, instead of ethanol plus axillary secretions. The independent variable is so called because it is the variable the psychologist chooses to manipulate. The thing (behaviour, emotion, thought etc.) measured following the treatment, in this case menstrual cycle length and regularity, is called the dependent variable because it is assumed to be dependent on the treatment the experimental group receives. A comparison of the menstrual cycles of women in the experimental and control groups enables the psychologist to measure the effect of male secretions; the experiment was planned so that the only difference between the groups was the presence or absence of the male secretions, and the control group provided a baseline level of response with which the effects of the secretions can be compared. A control group of this kind is not always essential in the design of an experiment. In some cases the psychologist may simply use two or more dose levels of the independent variable (in this case male secretions), because these also enable a comparison to be made between differently dosed groups.

As we have said, the participants were unaware of, or blind, to the nature of the study (the effect of male secretions on the menstrual cycle), and the technician administering the experimental substance/placebo was also blind to the purpose of the study. Thus we say that the study was double-blind.

Participants who know the nature of a study may be sceptical about the outcome, or indeed convinced that a particular outcome may occur and be concerned to demonstrate this outcome. Sometimes the very fact of taking part in the research can have effects on participants, even in the placebo group.

To return to the experiment, the researchers did find that male secretions had an effect on female menstrual pattern by producing a reduction in the proportion of aberrant (or unusual) length cycles within the 14 weeks of treatment. This suggests that prolonged exposure to male axillary secretions may alter the female endocrine system. See Chapter 2 for more discussion.

WHAT WE EXPECT AFFECTS WHAT WE SEE

Our beliefs about things can have quite a dramatic effect on us and everyday experience can confirm this. It is generally agreed that there are no scientifically proven aphrodisiacs, for instance, and yet many people firmly believe that they know of such substances. Providing that their belief is not disturbed, it is likely that the substance will 'work' for them. The psychologist must always be aware that if he or she seeks to investigate any aspect of humans, the expectations of those humans must be taken into account and, if necessary, controlled for in a study such as the male secretions study just described.

Perhaps all this control seems ludicrously contrived, but another example may serve to show how necessary such procedures are. Parents will often assert that they always treated their children in the same way, regardless of their sex. Yet, psychological research has shown that parents' treatment, or descriptions, of babies vary greatly as a function of the sex of the infant.

In a study we carried out, a 9-month-old baby was filmed with its mother. We showed the film to groups of people who were asked to make an assessment of the baby (its behaviour, appearance, healthiness etc.), but to some groups we said, 'This baby is a little boy called John,' and to others we said, 'This baby is a little girl called Mary.' We found that on measures such as activity, fidgetiness, appearance and weight estimates, the 'boy' baby and 'girl' baby were consistently described differently. (Don't forget the baby was the same throughout.) For example, the 'boy' was seen as more active and more fidgety. Other studies show similar findings, and they reveal how easy it is for our judgements to be shaped by our preconceptions.

EXPERIMENTS ARE NOT ENOUGH

The studies described indicate just one way in which psychologists can control events in order to study human behaviour, but there are many other methods that psychologists use. Perhaps you will have realized already that the experimental method cannot be applied to just any area we want to investigate. Indeed, our discussion of the differences parents report in boy and girl babies is a case in point. We cannot assign sex to one group and not another in order to investigate how 'sex' influences behaviour. We all have a biological sex – no one is truly neutral – and thus in exploring sex differences all we can do is correlate observed behaviour with one sex or the other. If we observe that males have shorter hair than females (i.e. short hair and maleness are positively correlated), or that males cry less or fight more than females, we are not justified in saying that biological sex per se caused these differences.

Correlational studies provide useful information for the psychologist, as we shall see, but these studies outlined above are only two examples of a number of techniques psychologists have for investigating feelings, thoughts and emotions. Many more of these methods are covered in boxes throughout this book.

A lot of people find methodology difficult to understand fully until they have more idea of the questions and problems psychologists are seeking to understand. For this reason we shall discuss lots of examples of the psychologist's work first and then illustrate some of these examples, to show particular methods used in research, in boxes throughout the book.

What next?

The following chapters cover a range of topics that have been found to be of particular interest to those seeking to understand more about behaviour, emotion and cognition. The next chapter looks at a type of behaviour with which we are all very familiar – body language.

Recommended Reading

Colman, A.M. (1999). *What Is Psychology?* London: Routledge. [N.B. This book gives full details of the five questions and answers posed in this chapter and includes many more questions and answers.]

Answers to questions posed in 'Psychology and Common Sense'

1.(d,i) Score one point for realizing that a typical dream lasts many minutes (generally about 20 minutes), and take a bonus point for knowing that you dream several times every night (everyone does). You may think that you dream much less than this, because you probably only remember fragments of dreams that occur just before you wake up. Dream researchers made these discoveries while studying sleepers, recording their brain waves by sticking tiny electrodes onto their heads. The electrodes reveal characteristic patterns of electrical activity in the brain during dream sleep. Dreaming coincides with this brain activity (sleepers woken during the brain activity report dreaming), with rapid eye movements beneath closed eyelids (REM sleep), and, in men, with penile erection. Dream events appear to last about as long as the same events in waking life. Studies have demonstrated the universality of dreaming, and these answers could not have been found by introspection alone.

2.(b) Score one point. Fred is almost certain to have thought that the smaller can felt much heavier than the larger one. The illustration is reliable and startlingly powerful. Experiments have shown that when two objects are of equal weight but one is markedly larger than the other, about 98 per cent of people judge the smaller object to be much heavier than the larger one and feel certain that they are right.

3.(d) Score one point. People whose blindness is cured late in life are able to recognize familiar objects without touching them. This question has been debated since the seventeenth century, but it was not satisfactorily resolved until psychologists investigated it carefully in the 1960s and 1970s. Studies of a number of

individuals who were born blind, but had their sight restored late in life, confirmed this finding.

4.(b) Score one point. The group decisions are likely to have been riskier than the average of the individual decisions. This is an example of the group polarization phenomenon. Although the phenomenon is strongly counter-intuitive, it is robust and easily exhibited in classroom demonstrations. A special case of group polarization (discussed in Chapter 5), called the risky shift, was discovered by two independent researchers in the late 1950s and early 1960s. Using quite different methods both researchers showed that group decisions tend, in general, to be riskier than individual decisions. Two hypotheses have been used to explain this. One states that during group discussions most group members are likely to discover that there are others present whose decisions, individually, are riskier than their own. Because people in general admire risk, the more cautious will then change their decision. The other debate suggests that the more risky arguments are more likely to be aired in a group discussion (again because riskiness is admired), and hence others will be persuaded by these arguments.

5.(b) Score one point. Exceptionally intelligent people are in general physically and mentally healthier than others. The evidence for this comes from various sources, including a continuing study initiated by the American psychologist Lewis Terman in the early 1920s of over fifteen hundred exceptionally intelligent children.

Terman's gifted sample – the 'termites' as they came to call themselves – were selected from the Californian school system in 1921. All had IQs above 135, which put them in the top 1 per cent of the population intellectually. Their ages at the beginning of the study ranged from 3 to 19 years. They were assessed on a variety of psychological tests and were also examined physically, and the sample was retested many times again until 1982. The researchers found that the physical and mental health of the 'termites', both male and female, remained 'good' to 'very good' compared with the rest of the population throughout this time.

Comment: How did you score? If you scored six points this is exceptionally good – but we cannot think how you did it, unless you have already read quite a lot of psychology. If you truly are a beginner in psychology, we predict a score of one or two because we think you could not possibly work out these answers purely on the basis of common sense. These questions are taken from Andrew Colman's book What Is Psychology? and if you are intrigued by them, we recommend you read this book (see Recommended Reading), which is full of lots more questions of this type.