

# 1

# The Nature of Psychology

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## Learning Outcomes

When you've finished reading this chapter, you should be able to:

- Understand views of psychology as the systematic study of mind and behaviour.
- Identify the range of approaches adopted in finding explanations in psychology.
- Recognize the ways in which psychology can be approached scientifically.
- Evaluate arguments about the appropriateness of scientific psychology.

## Introduction

This book introduces a range of issues and debates in psychology by looking at how psychology is actually done. We'll look at several examples of how psychology has engaged with controversial social issues, and use these examples to highlight debates about the way in which psychology is conducted, presented, and understood. Along the way, we'll see that the discipline of psychology is a socially embedded activity that uses a number of methods to produce knowledge about human nature and human behaviour. This activity is conducted by psychologists with multiple purposes behind what they do. This range of methods and purposes leads to psychology being a very diverse discipline, investigating every aspect of human life from a variety of perspectives (Richards, 2010). The result is that different kinds of psychology produce different kinds of knowledge about mental life and behaviour.

Although there is great diversity in the discipline, there is a standard view of psychology that is most commonly presented in popular writing, most often taught in institutions, and most frequently practised by researchers and practitioners. This view sees psychology as an objective science that uncovers the truth about human behaviour (Fox & Prilleltensky, 1997). Most kinds of psychology conform to this view to varying degrees, but there are some psychologists who have fundamental disagreements with it. Such psychologists describe themselves as *critical psychologists*, and emphasise the ways in which the discipline has particular relationships with its members, its host society, and its subject matter (Jones & Elcock, 2001).

In this book, we'll consider some of the claims of critical psychologists by looking at examples of what psychology has done, and what it has claimed, from the past and present. In looking at these examples, we'll consider why psychology has produced the knowledge that it has, and evaluate the extent to which the standard view of psychology is accurate, or the claims of critical psychologists are valid. Before we can do this, we need to describe the standard view of psychology more fully. We do that in this chapter. We start by considering what the discipline of psychology claims to be, and where it comes from, before looking at the range of theoretical approaches that psychologists adopt in trying to explain human behaviour. We'll then look particularly at how scientific method can be applied to psychology, before considering some debates about whether such a scientific approach is appropriate.

### 1.1 What Is Psychology?

The term *psychology* is much used, but also much mis-used. Throughout this book, we will use the term to refer to the academic and professional discipline that investigates mental events and behaviour, and dysfunctions of these. There is a problem here, though, because those things the discipline investigates – mental health, behaviour, and so on – are also called *psychology*. So, psychology is the discipline that has as

### Focus Box 1.1 Psychology and psychology

The term *psychology* can refer to a particular subject matter – mental states, behaviour, disorders, and the like – and to the academic and professional discipline that investigates that subject matter. This distinction between the discipline and its subject matter is important. The standard view of the discipline is that it is separate from its subject matter, and is able to objectively observe and theorise about it. So, just as a physicist can investigate gravity objectively, without affecting it, so can the psychologist investigate attitudes without affecting them. This view supports the use of the scientific method to investigate topics in psychology, just as it is used in natural sciences like physics.

An alternative view is that there isn't a clear separation between the discipline of psychology and its subject matter. Rather, psychologists are influenced by their own psychological states in doing their work; and the work of psychologists influences people's psychology, the subject matter of the discipline. We can say that there is a "reflexive" relationship between the discipline and its subject matter (Jones & Elcock, 2001), such that they affect each other interactively (see Figure 1.1). As an example, we'll see in chapter 4 that psychologists have long investigated the question of whether different

ethnic groups differ in ability, particularly regarding intelligence. Typically, those psychologists who believe beforehand in the existence of such differences find evidence to support those beliefs, whereas those psychologists who don't believe in such differences find evidence to support their views. The contrast between the two sets of claims is largely due to differences between the views of the psychologists concerned. In addition, the effect of the work is to persuade people of the existence or not of such differences, which then changes their behaviour, which in turn changes the experiences of different ethnic groups and hence the results of future studies in the same area. As Valentine (1992, p.4) states, "[A]ctually doing psychology constitutes part of its subject matter."

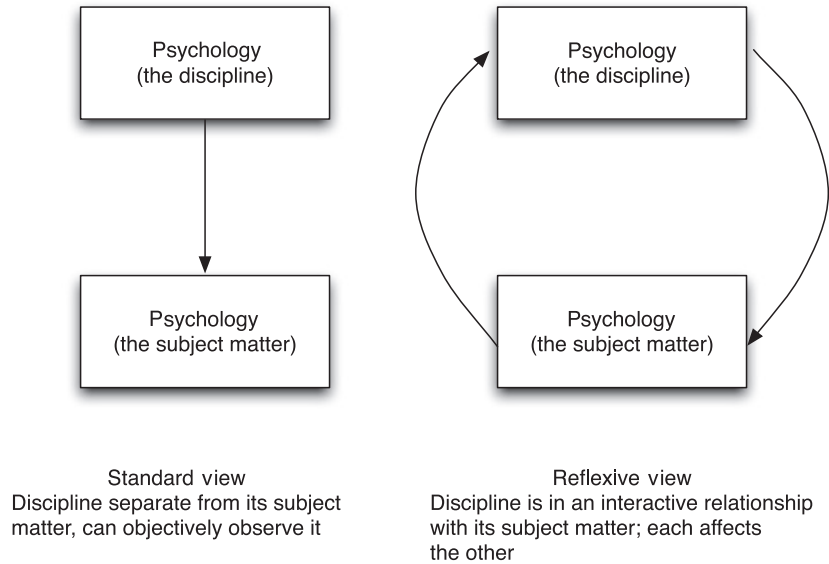
The idea that there is a reflexive relationship between the discipline and its subject matter is at the heart of this book. When we look at controversial social issues, such as race and IQ, we'll see that the views of psychologists can influence the results they report, lending support to the idea that the discipline does not stand apart from its subject matter in the way that the natural sciences do. If this is the case, then we need to think differently about many of the claims that psychology makes.

its subject matter psychology! Focus Box 1.1 discusses the relationship between the discipline and its subject matter in more depth.

The term *psychology* is also used more widely. When we think about the performance of sportspeople, we may attribute success or failure to "their psychology". When we think about our own or others' behaviour, we may say that we're psychologising. We're surrounded by claims about psychology in the media, and there's a large market for "popular" psychology. All these uses of the term are reasonable, but by and large they are beyond the scope of this book. Our focus will be on the discipline, and so we'll start by setting out what we think the discipline of psychology consists of.

#### 1.1.1 Popular views of psychology

Given how frequently the term *psychology* is used, it should come as no surprise to learn that there are a range of different views of what psychology is. Unfortunately, popular views of psychology are usually at odds with the reality of the discipline.



**Figure 1.1** The relationship between the discipline of psychology and its subject matter. This book takes the view that there is a reflexive relationship between the discipline of psychology and its subject matter. Each influences the other.

Before giving our definition of psychology, we'll look at some of these popular views. Popular, or "everyday," views of psychology fall into two broad groups. On the one hand, people sometimes think of psychology in terms of self-help or self-improvement, and relate it to the general category of "mind, body, and spirit" so popular with booksellers. On the other hand, there are a set of views of psychology as an academic and professional discipline. We'll look at both of these.

For many people, the idea of psychology is synonymous with self-help. In part this is due to the way psychology is presented in the media (Howard & Bauer, 2001), and in part it is due to the extraordinary growth of the self-help industry (Justman, 2005). Psychology in the media often consists of untested claims and advice, myths, and pseudo-psychological concepts of limited validity (Furnham, 2001). This collection of topics is sometimes termed *popular* or *pop psychology*, and constitutes many people's idea of psychology. There is concern within the discipline of psychology about the influence of pop psychology. Stanovich (2009) suggests that it gives the illusion of expert knowledge that allows any individual to take control of their life. This is a worthy goal, but many of these "experts" lack expertise, and pop psychology often obscures the findings of the psychology conducted by academics and professional practitioners. Such are the concerns about pop psychology that we examine it in more depth in Chapter 13. It suffices for now to say that pop psychology is an inaccurate representation of what the discipline is like (Jones & Elcock, 2001).

Despite the prevalence of popular psychology, people recognise a separate discipline of psychology that consists of academics and professionals doing research and conducting interventions. However, here too there is a misunderstanding of what psychology is like. For many, disciplinary psychology is synonymous with the work of Freud; for example, Furnham (2001) suggests that 90% of people in the street identify Freud as a psychologist, but only around 5% can identify a living psychologist. Freud's psychodynamic approach was successful with the public, with people finding it easy to imagine that subconscious motivations and drives may influence our behaviour (Richards, 2010). However, we shall see that it had a limited influence on the discipline of psychology. The other (less) common view of disciplinary psychology is of a person in a white coat shaping people's behaviour through a system of rewards and punishments. This reflects the behaviourist approach that was widespread from around the 1930s to the late 1950s, but this view has little relevance to contemporary academic psychology.

One reason why these popular views persist is that the discipline has done quite a poor job of presenting itself to the public. Despite a long tradition of psychologists urging each other to be accessible and relevant, much disciplinary psychology remains obscure and arcane to the layperson. Most publications in psychology are dry and academic, and require education in the field to be understandable. There have been some notable recent attempts to give more accessible introductions to the discipline, including Stanovich (2009) and Jarrett and Ginsburg (2008). However, we shall see that although psychologists have their own views of what their discipline is, these views may themselves be mistaken. In this book, we hope to give an alternative understanding of the nature of psychology.

### 1.1.2 Defining psychology

Psychology has been defined in many different ways, but the usual definition is as "the science of mind and behaviour" (e.g. Gross, 2005). This tells us both the subject matter of psychology and the methods that most psychologists prefer to use, those of science. Actually, this definition both reveals and obscures the diversity of modern psychology: reveals, because its subject matter is extensive, and any discipline attempting to investigate such a large subject must be diverse; and obscures, because it suggests that psychology is a single entity, with a unified purpose and approach. As we shall see, there is considerable debate within psychology about the methods that should be used, and the purposes of psychological investigation.

Given the diversity of modern psychology, a safer definition might be "the systematic study of mental life and behaviour". This suggests that psychology investigates a range of phenomena using a range of techniques, with an emphasis on the use of empirical evidence to support theory (Stratton & Hayes, 1999). This emphasis on systematically gathered evidence is what unites psychology, and differentiates it from other approaches to explaining mind and behaviour. For most psychologists, this means using the scientific method, and such is the importance of the scientific method that we devote a large part of this chapter

to discussing its use. Broadly speaking, scientific approaches to psychology aim to ascertain truths about human psychology through objective observation. However, some reject this view and claim that human psychology cannot be investigated objectively. There is debate in some parts of psychology about the nature of the discipline, and particularly about the validity of the scientific method (e.g. Bell, 2002; Gross, 2009). Over the course of this book, we use evidence of how psychology has been conducted to tell us more about these debates. For example, if a psychologist produces theories about racial differences in IQ that seem to be influenced by their political views, then we might doubt their objectivity (see chapter 4). We hope that by the end of the book, the reader will be better able to interpret psychological claims.

### 1.1.3 The emergence of psychology

The idea of investigating “mind and behaviour” isn’t a novel one. As a social species, it is difficult to see how people could not think about such things. We need to understand how the world around us works. We develop some understanding of how the physical world works; for example, we expect most objects to stay where we put them and not to fly away, unless the object in question is a bird. This physical understanding is sometimes called *naïve physics*. Similarly we have a naïve, or “everyday”, psychology that is the sum of our understanding of the social and psychological world (Furnham, Callahan, & Rawles, 2003). However, this everyday psychology is flawed in a number of different ways: it is subjective, idiosyncratic, and often inaccurate (Jones & Elcock, 2001). Because of this, from the earliest times scholars have attempted to find better ways of explaining mind and behaviour, developing disciplines such as philosophy and theology. We use the term *reflexive discourse* to refer to such approaches to explaining human nature. Reflexive discourse is an important part of any field that deals with people, including for example education, medicine, and literature. Educators, clinicians, and writers all deal with aspects of human nature, and characterise people in particular ways. In this sense, we can see the discipline of psychology as a distinct form of reflexive discourse, as is everyday psychology. Psychology emerges to provide better explanations of human thought and behaviour than other forms of reflexive discourse, by using systematically gathered evidence.

We can learn a lot from studying the development of different forms of reflexive discourse, and of psychology in particular. Ebbinghaus (1908, p.3) famously stated, “Psychology has a long past, but its real history is short.” This is presented in introductory textbooks as meaning that psychology can trace its roots to ancient Greek philosophy, and that psychology answers the same kinds of questions as philosophy but uses the “superior” scientific method to do so. As such, psychologists claim the kudos of the ancient Greeks, together with the kudos of the scientific method. This is an appealing justification for the existence of psychology, but is also a self-serving misrepresentation (Jones & Elcock, 2001). It is true that Greek philosophy represents one of the earliest formal approaches to reflexive discourse. It is also

true that all forms of reflexive discourse ask similar questions to each other about aspects of mind and behaviour. However, Danziger (1997) shows that ancient philosophy and modern psychology have very different understandings of human nature. As such, they represent different strands of reflexive discourse.

Arguably, psychology doesn't have the long past alluded to in Ebbinghaus' quote. It is truer to say that its history is short – psychology as a scientific discipline is often claimed to begin in 1879, when Wilhelm Wundt opened an experimental psychology laboratory in Leipzig. However, this too is something of a misrepresentation. It is more reasonable to suggest that psychology emerged gradually over the course of the nineteenth century, as one of several attempts at a scientific form of reflexive discourse (Jones, 2008a). Why psychology emerges during this period is a demonstration of the extent to which psychology relies on the sociocultural context it finds itself in. Modern Western science is usually seen as beginning during the sixteenth-century Renaissance, although scientific thought can be seen in Hellenic, Indian, Chinese, and, particularly, Arabic civilisations (Munday, 2005). If reflexive discourses have been pursued for millennia, and modern scientific methods have been available for 400 years, why did it take so long for psychology to develop? Richards (2010) claims that the means for scientific psychology were available in 1700, but the demand was absent. It required significant social changes for the idea of psychology to take hold. These included an emphasis on individualism following economic change, and the widespread acceptance of evolutionary thought. Before this, humankind was seen as separate from the animal kingdom and only explicable through theology. With the acceptance of evolutionary thought, humankind came within the scope of natural science (Jones, 2008a). Helped by advances in understanding of physiology and psychophysics, by the second half of the nineteenth century a science of psychology became both possible and, more importantly, acceptable.

When psychology emerged, the form it took was strongly influenced by the social context it emerged within. Initially, the new scientific psychology developed in Germany, whose university system was more amenable to generating new knowledge than more traditional English-speaking universities (Goodwin, 2004). Many of the students at these universities were visiting scholars from the United States, who took the new ideas back to North America. However, the form of psychology that developed in the United States was a hybridisation of German experimentalism and British evolutionary biology, further adapted to local circumstances (Jones & Elcock, 2001). We shall see in chapter 2 that different social contexts in the United States and in Germany led to different forms of psychology. German psychology began as a *science of mind*, but in the United States quickly became a *science of behaviour* – what Leahey (2003) terms a shift from mentalism to behaviouralism. As psychology expanded in the United States, the new knowledge began to be applied in a range of areas, including mental health and business (Benjamin, 2007). By the late 1930s, behaviourism was the most common academic approach, with a separate strand of applied work and with psychoanalytic approaches marginalised (Jones & Elcock, 2001).

#### 1.1.4 Contemporary approaches to psychology

A major change occurred within psychology in the middle of the twentieth century. Although before that most experimental psychology adopted a behaviourist view, it became clear that there were aspects of psychology that behaviourism couldn't explain, notably language. These included additional areas of human experience, for example social interaction, where psychology looked beyond the individual; and neuropsychology, where psychologists investigated the importance of brain operation to human behaviour (Goodwin, 2004). This has led to two separate ways of characterizing the work of academic psychologists: through the theoretical approaches adopted, and through the topics investigated.

In the second half of the twentieth century, a range of approaches developed to investigate psychology. This range is one reason for the diversity of psychology. We'll briefly list them here. For fuller coverage, see Jarvis (2000) or, more briefly, Jones (2008a).

- *Behaviourist*. The behaviourist approach rejects the investigation of internal mental processes, and instead emphasises the investigation of observable behaviour, and the importance of the environment in shaping behaviour. Behaviour is seen as the result of learned associations between stimuli and an individual's responses to them. The main theories are of classical (Pavlovian) and operant (Skinnerian) conditioning.
- *Psychodynamic*. There are a range of psychodynamic forms of psychology, including those of Jung and Adler, but the approach is most commonly associated with Freud's psychoanalytic approach. There's an emphasis on a dynamic inner conflict and the use of a range of defence mechanisms to resolve that conflict; there is also the view that children develop through a number of psychosexual stages.
- *Humanistic*. This approach is mainly applied to counselling. It rejects determinism and emphasises free will. As part of this, it rejects the positive truth seeking of science and instead investigates phenomena from the subjective experience of individuals. The emphasis is on the need to study the whole person.
- *Cognitive*. This is the main contemporary approach to experimental psychology, investigating topics in cognitive psychology and also in social and developmental psychology, amongst others. The approach emphasises active mental processing, seeing the brain as an information processor like a computer. The cognitive approach uses experimental methods, but also uses computer modelling and findings from neuropsychology.
- *Physiological*. The physiological approach investigates brain function in both healthy and impaired brains, brain chemistry and its influence on psychological function, and the role of genetics in influencing behaviour. The focus may be on either brain factors or genetics, or may be a combination of both. The common assumption that unites forms of the physiological approach is that biology underlies behaviour.

- *Social constructionist.* The social constructionist approach is relatively recent. It challenges mainstream psychology methodologically and, for some, politically. Social constructionists believe that we construct our view of the world through social interaction, and that the ways in which we construct the world affect our actions. The approach investigates our constructions of the world through the analysis of the language we use to describe it.

This range of approaches exists because of the complexity of human behaviour. For any particular phenomenon in psychology, it may be explained at one of several levels of explanation, from basic physiology to the influence of others on our behaviour (Jones, 2008d). There's no one right level of explanation: which is appropriate depends on the kind of question one wants to ask. For example, we might want to know why a particular behaviour is performed, or how it is performed. These are two different questions, and may require different approaches to answer them. This presents a potential problem. Given that psychologists are able to choose different approaches for a particular question, then it may be that psychologists will choose approaches that will give them the kinds of answer they want. As an example, when we consider psychology and gender in chapter 5, we'll see that some psychologists investigate gender differences using a physiological or cognitive approach, while others reject the notion of fixed gender differences and adopt a social constructionist approach. This is one way in which the views of the psychologist may influence the theories they produce.

In addition to the theoretical approaches listed above, there is a standard set of topic areas within contemporary psychology which capture most aspects of human nature, behaviour, and experience. Psychologists may identify themselves through the topic area they investigate; for example, someone may describe themselves as a social psychologist. This set of topic areas is reflected in the curricula of taught psychology programmes. In the United Kingdom, for example, the British Psychological Society has a standard syllabus for accredited psychology degrees. This syllabus identifies five main topic areas:

- *Cognitive psychology.* This considers the mental processes underpinning cognition, including perception, memory, thinking and reasoning, and language.
- *Psychobiology.* This looks at both brain function and architecture, and genetic inheritance, and how they influence mind and behaviour.
- *Social psychology.* This area covers people's interpersonal and group behaviours.
- *Developmental psychology.* This investigates various aspects of development, including cognitive and social development, throughout the life span.
- *Individual differences.* This looks at topics in personality and intelligence, including their measurement and the existence of individual differences.

The set of approaches that may be adopted and the set of topics that may be studied intersect with each other. Different psychologists may use the same approach to investigate different phenomena, or different approaches to investigate the

same phenomenon. For example, the cognitive approach may be applied to cognitive psychology or to social psychology, while social psychological phenomena may be investigated using a cognitive approach or a social constructionist approach (Jarvis, 2000). This combination of topics and approaches leads to the diversity of contemporary psychology. Indeed, some would claim that various areas of psychology differ so much from each other that they constitute different kinds of psychology. That is, they are separate forms of reflexive discourse that all happen to share the label *psychology* (Richards, 2010).

## 1.2 Psychology as Science

We have already seen that there is a considerable degree of diversity in psychology. However, we have also heard that for most people, a defining characteristic of psychology is that it uses the scientific method to investigate phenomena. Of the six approaches listed above, only the humanist and social constructionist approaches reject the scientific method. One reason why the scientific method is so highly valued is that it is seen as ensuring objectivity. We will see throughout the book that some of the most controversial issues in psychology revolve around whether or not psychologists are making objective claims. Given this, it is important that we understand why science is believed to ensure objectivity, and reasons why this belief may be misplaced.

### 1.2.1 The appeal of science

Jones (2008b, p.20) describes science as a “way of knowing” that has a particular appeal in modern society. Part of the reason for this appeal is that scientific findings can be tested by others, providing a degree of self-regulation in scientific claims: it is difficult, though not impossible, for idiosyncratic or unsupported claims to be accepted without challenge. Beyond that though, the appeal of science reflects changes in society since the Renaissance, and particularly since the Industrial Revolution. The technologies wrought in the Industrial Revolution were seen as improving people’s lives, and science came to be seen as a benefactor. A significant reason why scientific psychology developed in the United States in particular is that people wanted a technology of social change (Jones & Elcock, 2001). Later in the book, we’ll see many examples of how this desire for a practical science showed itself in the work of psychologists.

When scientific psychology first emerged in the late nineteenth century, there were competing ideas of what a scientific psychology might be like (Danziger, 1994). As psychology grew, and as behaviourism became the dominant approach to experimental psychology, a standard methodology developed in psychology. This standard method is that which is most commonly taught in psychology courses and most commonly used by psychology researchers, and is often presented as the “obvious and only way” to do psychology research (Jones & Elcock, 2001, p.60).

However, Danziger (1994) shows that the reasons why this particular form of science was adopted owe much to its value in a particular social context. McGhee (2001) shows how psychology's methods reflect philosophies of science that were extant in the 1930s, reflecting several hundreds of years of development of classical science. However, philosophies of science have developed since the 1930s, particularly with advances in quantum physics and an increased appreciation of the sociology of scientific knowledge (Potter, 1996). McGhee suggests that the result is that "some psychological research is still stuck in an earlier framework" (p.23). Despite this, it is still the standard methodology, and so is the method that we discuss here. As you might imagine, though, there are issues with this method. We shall discuss some of those in the next section.

### 1.2.2 The nature of science

The standard approach to science involves systematically observing regularities, making predictions from these regularities, and then testing the resulting predictions. This process can be repeated by others, so our results can be independently verified. This increases our faith that they are correct rather than the result of idiosyncratic supposition. Classical science has the aims of description, prediction, and control (Gross, 2009). These aims are related. In investigating a given phenomenon, we first give an objective and accurate description of it. We can then develop a theory, and use this to make predictions. We can test these predictions in a controlled study. If our predictions are correct, then we believe our theory to be correct, and we have a better understanding of the phenomenon. If the predictions turn out not to be correct, then there's a problem with our theory and we should either revise or abandon it. Having theories that we believe to be correct allows us to exert some control over the phenomenon.

Science has a number of features, and these features underpin the way in which science is conducted and the kinds of theories that science produces. Only some theories count as scientific, and they do so insofar as they display these features. When people debate whether psychology should be a science, they're asking whether psychology can and should display the features of science. Gross (2009) identifies these as including:

- *Positivism*. Science should attempt to find positive, objective truths.
- *Determinism*. Events have determining causes, and science is concerned with identifying these causes.
- *Materialism*. Only matter exists, and the causes of events are features of the material world.
- *Reductionism*. Complex phenomena can be understood through their constituent parts. Understanding of a whole situation comes from understanding the simpler parts that make up the situation.
- *Empiricism*. Scientific theories should be developed from observed evidence.

Most of the approaches to psychology described previously accept these features and develop theories that display them. However, these are assumptions that come about because of a desire to use the scientific method, and they are debated. For example, humanists reject the idea that psychologists should search for objective truths. We'll see in later chapters that scientific explanations may not be the best explanations for some psychological phenomena.

### 1.3 Issues in Scientific Psychology

While some debate whether psychology should be a science, it is a fact that most psychology is done scientifically. When later we look at some of the controversial claims made by psychologists, we'll see that these claims have been supported by evidence that is claimed to be scientific. To gain a better understanding of these controversies, we need to focus on the scientific approach to psychology, and consider what kinds of issues might arise in taking such an approach.

#### 1.3.1 Issues in the quality of scientific psychology

One set of issues in scientific psychology relates to how well scientific research is done. Studies have to be carefully designed and conducted to ensure they provide the evidence that the researcher hopes for. In this section we'll look at some general issues in how scientific psychology is done.

##### *Control*

The logic of the psychology experiment is that if we change one aspect of a situation, and if we then observe a change in some measure, then we can say that the change in the situation caused the change in the measure. However, this is true only if we can guarantee that the only aspect of the situation that changed is the one we wanted to change. If anything else in the situation has changed, or if the two different aspects of the situation differ in any other way, then we can't draw the conclusion that our change caused the change in the measure – it could have been one of the other differences instead. To ensure that this doesn't happen, we need to exert control over the situation, such that the only thing differing between different aspects of a situation is that which we want to differ. We also need to know that there aren't any hidden, underlying differences. Only then can we say something causes a difference (Gomm, 2003).

Total control is very difficult to achieve in a pure experiment, but it is possible with careful design. However, many claims in psychology are based on quasi-experiments. In a pure experiment, the experimenter engineers a change and can, in principle, guarantee that this is the only difference between experimental groups. In a quasi-experiment, a researcher looks for differences between pre-existing groups. It looks like an experiment, but there's no control. Think about

this the next time you hear someone claim that they've found differences in, say, sociability between men and women. Usually when researchers report gender differences, they report them as fixed biological facts. However, the researchers aren't themselves changing the gender of their participants. They have no way of knowing whether there have been different life experiences between men and women that might affect their sociability, meaning that sociability might be entirely socially determined and have nothing to do with biology (Jones, 2008c). Chapter 5 considers problems with gender research in more depth.

### *Validity*

The problem of control is an example of the wider issue of validity. *Validity* has two senses. On the one hand, it refers to the extent to which a study investigates what it claims to investigate, known as *internal validity*. A study without adequate control doesn't have internal validity, and hence its results can't be trusted (Rosnow & Rosenthal, 2004).

The other sense of validity is that of external validity. *External validity* refers to the extent to which the results of a study apply more widely. Psychologists are usually interested in universal aspects of human nature. However, it's impossible to investigate everyone on a particular characteristic. Because of this, psychologists do research on samples from a wider population, and learn about the subset of the population that they test. They hope that they can generalise the results from that small group to the wider population. However, there are two main reasons why this may not be possible (Jones, 2008b). On the one hand, there is a trade-off between internal validity and external validity. The more carefully a researcher constructs a study to ensure internal validity, the less that study is like real life (McGhee, 2001). Think about a typical experiment investigating short-term memory. This may involve asking people to remember lists of words, but that's a very artificial situation. Most people don't remember lists of words outside of a laboratory. The other main threat to external validity comes from the fact that we have to rely on studying samples. We can only generalise from a sample to the wider population to the extent to which that sample is typical, or representative, of the wider population. Imagine that we gave a list of short words to one group of people, and a list of long words to another group of people. It may be that the group getting the short words just happened to have particularly good short-term memories, and so weren't typical of the wider population. In that case, it would be wrong to claim that in all cases, short words are easier to remember than long words (McGhee, 2001).

### *Measurement*

A particular problem faced by psychologists is that it's not usually possible to directly observe psychological phenomena. For example, how do we measure "extroversion"? However, the scientific method relies on making observations. The difficulty of measuring internal mental states is one reason why philosophers such as Kant argued for the impossibility of a science of the mind, and part of the

reason why behaviourists focused on overt behaviour (Goodwin, 2004). The solution was found in physics. The principle of operationism stated that hypothetical constructs, such as extroversion, can be measured in terms of the observable behaviours they produce (Jones & Elcock, 2001). So, people with high levels of extroversion behave in outgoing ways, while people with low levels of extroversion behave in a less outgoing manner. This allowed psychologists to develop measures of psychological phenomena through operational definitions (Jones, 2008b). In the case of extroversion, a standard questionnaire measuring extroversion, the EPI (Eysenck & Eysenck, 1964), asks respondents to indicate how frequently they behave in certain kinds of behaviour, with some behaviours counting as extroverted, and some behaviours counting as introverted.

The idea of operationism sounds reasonable, and it makes it possible to extend scientific psychology to a range of areas that couldn't otherwise be investigated. However, it does lead to a range of issues. One is that such measures have to be carefully designed to ensure that they measure what they claim to measure, and that they do so accurately. Numerous techniques have been developed to help psychologists do this (Michell, 1999). There are, however, more fundamental issues. In particular, someone has to decide what counts as part of a measurement. Which behaviours are extroverted, and which are introverted? This can lead to tests being a reflection of attitudes in a particular culture at a particular point in time (Richards, 2010), rather than a reflection of some enduring truth. This often goes unrecognised, and psychological measurements are often treated as true measures of fixed aspects of human nature. A further problem is that of reification (Jones, 2008b). When psychologists develop tests for hypothetical constructs, they assume that the existence of the test is proof that the construct exists, but this isn't necessarily the case. We might develop a questionnaire measuring degree of liking for hamsters that seems to give reliable and meaningful numbers. However, that doesn't mean that everyone has a fixed level of hamster liking as a stable personality trait. A similar criticism is sometimes levelled at intelligence: although there are many intelligence tests, there's considerable debate about whether intelligence exists as a single, fixed aspect of human capability (Richardson, 2000; see also chapter 3).

### *Artefacts*

A final issue in the way in which scientific psychology is done is the possibility of artefacts. Artefacts are results in investigations arising from the behaviour of the participants or the researchers. As such, they invalidate the results of a study because the results aren't being caused by what the investigator believes the cause to be (Rosenthal & Rosnow, 2007). Participant artefacts typically arise when participants are able to guess what they think a study is trying to find, and respond in a way that either helps or hinders the researcher's intention. Either way, the results are artificial because the participants aren't behaving naturally. Experimenter effects come in a range of forms, but in general come about because researchers have certain expectations about what the results of a study will be, and behave

either intentionally or unintentionally in ways that make those results more likely. For example, chapter 4 describes measurements of the cranial capacity of skulls to ascertain whether there were differences in capacity between the skulls of whites and blacks. Gould (1996) describes how the measurers knew beforehand which skulls were white and which black, and tried harder to fill the white skulls to get a higher measure.

### 1.3.2 Issues with bias in scientific psychology

The issues discussed in the previous section relate to whether scientific studies are conducted well enough for us to have faith in their results. It is possible to create and conduct well-designed studies that do give us results we can trust. However, this isn't always done, and in reading about psychological research it is important to consider how well research has been conducted. For the most part, poorly conducted research can be seen as carelessness by the researcher. However, in some cases research may be conducted which is explicitly biased (Banyard, 1999). This is particularly likely in those areas where psychology engages with controversial social issues, such as those covered in this book.

A range of different forms of bias has been identified within psychology. The most commonly discussed are ethnocentrism, androcentrism, and racism (Jones, 2008c). *Ethnocentrism* relates to the way in which psychologists approach cultural differences. In an ethnocentric view, the psychologist's own culture is seen as correct or natural, and any differences observed in other cultures are seen as deficient. For example, psychologists in strongly individualistic cultures may see the behaviour of people from more collectivist cultures in negative terms. *Androcentrism* relates to a male-centred point of view, where male characteristics and performance are seen as the norm, and any deviation by women is seen negatively. *Racism* similarly relates to looking for differences between ethnic groups, and seeing any differences found as suggesting a deficiency on the part of one group or another.

What unites these forms of bias is that they occur when the views, attitudes, and values of psychologists influence the claims they make. The existence of bias threatens psychology's claim to be an objective science. Banyard (1999) suggests that psychologists cannot be objective and value free, but adds that often psychologists are blind to their biases. In part this may be deliberate, but more generally psychologists often assume that the methods they use necessarily assure objectivity. However, both Banyard (1999) and Jones (2008c) show that the potential for bias is inherent in psychology's methods. Scientific approaches to psychology typically look for differences between groups, often assuming one group to be the norm; look at "average" measures, while failing to recognise the wide variation in performance within groups; ignore minority groups; and ascribe fixed, causal differences following quasi-experiments. In later chapters, we shall see these characteristics in much of the research reported on differences between racial and gender groups.

## 1.4 Chapter Summary

We began the chapter by defining psychology as an academic and professional discipline that engages in reflexive discourse, usually using the scientific method. This emerged gradually over the course of the nineteenth century, and grew quickly in the twentieth century. Its emergence and growth depended on a range of social factors. After a period in which psychology was characterised by distinct “schools” of psychology, contemporary psychology has become a diverse discipline that investigates a range of topics using a number of different approaches, while sharing a commitment to the use of systematic research methods. There is disagreement in the discipline over what the appropriate approach to use is, and particularly over whether psychology should try to adopt a scientific method. Some characterise *psychology* as an umbrella term incorporating a range of different forms of reflexive discourse, but for the most part psychology presents a united front as “the science of mind and behaviour.”

Having established that most psychologists adopt a scientific approach to the discipline, we then looked at why the scientific method is so appealing. We saw that there are particular social factors encouraging the view of science as the best way of knowing about human nature. We went on to consider the features of science and how scientific psychology can be done, but saw that there are a range of issues in the conduct of scientific psychology. In particular, we suggested that there is a range of biases that might afflict psychology, both due to the views of psychologists and due to the methods that scientific psychology uses. The underlying theme throughout the chapter has been psychology’s claim to be an objective, value-free science, divorced from its social context, that finds the truth of human nature. We’ve presented the grounds for this claim, but also suggested a number of reasons to doubt it. In the rest of the book, we’ll look at ways in which psychology has been done, to consider the claim in more depth. We start in the next chapter by considering the extent to which psychology is embedded in particular social contexts.

### Self-test Questions

1. What are the differences between *academic psychology* and *popular psychology*?
2. How can we define *psychology*?
3. What does the term *reflexive discourse* refer to?
4. Why did psychology emerge when it did?
5. What different approaches do contemporary psychologists adopt?
6. Why is a scientific approach to psychology so appealing?
7. What are the key features of science?
8. What issues arise in the way in which scientific psychology is done?
9. What forms of bias exist in psychology?

## Thinking Points

1. In what ways does psychology differ from other forms of reflexive discourse such as philosophy, sociology, and theology?
2. What are the advantages and disadvantages of psychology's diversity?
3. What are the limitations of the scientific approach as a way of knowing for psychology?

## Further Reading

Benjamin, L. T. (2007). *A brief history of modern psychology*. Oxford: Blackwell.

There are many histories of psychology available. As the title suggests, this one is brief, but it gives a clear coverage of the emergence of modern psychology.

Burr, V. (2003). *Social constructionism* (2nd edn). London: Routledge.

Few introductory textbooks discuss social constructionism, but it is becoming an important approach to contemporary psychology. This book gives an accessible introduction to the field.

Gross, R. (2009). *Themes, issues and debates in psychology* (3rd edn). London: Hodder Arnold.

The chapter "Psychology as Science" has an introduction to the idea of psychology as a science and issues and debates around this.

Jarvis, M. (2000). *Theoretical approaches in psychology*. London: Routledge.

Gives a good coverage of the range of theoretical approaches to be found in psychology. It's particularly thorough on physiological approaches, but has little on social constructionism.

McGhee, P. (2001). *Thinking psychologically*. Basingstoke: Palgrave Macmillan.

Gives a very good critical overview to thinking about psychology, as well as doing psychology.

Richards, G. (2010). *Putting psychology in its place: Critical historical perspectives* (3rd edn). London: Routledge.

This is key reading for the critical, reflexive view of psychology described in this chapter.