

4-2 The breadth of psychological research

4-2a Psychology is evidence-based

Psychology is an evidence-based enterprise and we have also seen that disputes about what *should* count as evidence have had an important impact on the development of psychology as a discipline. For example, the rise of behaviourism was driven by the idea that only observable behaviour is legitimate data for psychology because only data that can be observed by others, and agreed upon, can be *objective*. Many other disciplines have had less trouble with this issue, partly because they have fewer choices about which methods to use, what kinds of data to collect and what kinds of evidence to accept. Think, for example, of mechanical engineering, chemistry or geology and compare these with psychology. The range of choices open to psychologists arises from the complexity of their subject matter – understanding and explaining humans and, to a lesser extent, other species.

Psychology is unusual because its subject matter (ourselves) is not only extremely complex but also reactive, and because we are inevitably involved in it, personally, socially and politically. This involvement is part of what fuels debates about how to do psychology and what counts as legitimate data.

This section will give some examples of how the unusual nature of psychology as a subject influences the practice of research. We shall look at the impact of our ‘involvement’ on how research questions are formulated, at the various kinds of evidence that could be used, and at the range of methods that are available to collect the evidence and to evaluate findings.

4-2b Researching ourselves as humans

Psychology aims to provide understandings of us, as humans. At a personal level this closeness to our private concerns draws us in and excites us. However, since psychologists are humans, and hence are researching issues just as relevant to themselves as to their research participants, they can be attracted towards researching certain topics and maybe away from others. This is perhaps more evident for psychological research that is most clearly of social relevance. At a societal level all kinds of social, cultural and political pressures, explicit or subtle, can influence or dictate what kinds of psychology, which topics and which theories, are given priority and funding. Until relatively recently, for example, it was difficult to obtain funding for research that was based on qualitative methods. This was because there was an erroneous belief in psychology, and in the culture more generally, that qualitative research could only help in gaining very specific and idiosyncratic understandings of particular individuals and could not make any useful contribution to broader understandings of people and psychological processes.

At a more personal level, what might psychologists bring to their theorising and research? Think about Freud. Many writers have speculated on what might have influenced Freud's work. One of his basic propositions was that all small boys, at approximately 5 years of age, are in love with and possessive about their mothers, seeing their fathers as frightening rivals. He called this the 'Oedipus complex'. We don't have to think too hard to realise that there could be a link between Freud's idea that the Oedipus complex is universal (applies to all male children in all cultures) and Freud's own childhood. He was the eldest son of a young and reputedly beautiful second wife to his elderly father. Another example, where the early personal life of the influential psychologist, Erik Erikson, may have affected his later theorising about the difficulty of finding an identity during adolescence.



Figure 1 Freud and his mother (1872)

It is possible also that our desires, beliefs and ideologies define not only *what* we want to study but also *how we interpret our findings*. Bradley (1989) alerts us to this possibility in relation to the study of children when he argues that different theorists have found support for their own theories from their observations of children. This indicates that personal values and beliefs are important in influencing the ways in which we view the world. Suppose you were engaged in an observational study of the effect on children's aggressive behaviour of viewing aggression on television. If you felt strongly about this issue, your observations of the way that children play after watching aggressive programmes might be biased by what you believe. It would be difficult to be objective because your own feelings, beliefs and values (your *subjectivity*) would have affected the evidence. Personal prejudices, cognitive biases, 'bad days' and unconscious factors can affect what we 'see' when we observe other people. We shall see later in this unit how the experimental method has endeavoured to minimise this kind of subjectivity, whilst other approaches – those concerned essentially with meanings and with people's inner worlds – have used subjectivity (people's reflections on themselves) itself as a form of data.



4-2c Different types of data in psychology

For a long time there has been a very important argument about what are the ‘legitimate data’ of psychology – what can and should be used as evidence. We have already seen that, from the very beginnings of psychology as a formal discipline, psychologists have used experimental methods, observations and introspection. In one form or another these methods continue to be central to psychology. The experimental method, adapted from traditional science, has most consistently been considered the dominant psychological method, providing data which can be ‘seen from the outside’ (outsider viewpoint) without recourse to introspection or people's own accounts of their mental states (insider viewpoint). However, as the research questions asked by psychologists have changed over time, research methods have broadened to include a range of different methods that produce different kinds of data. *Outsider viewpoints* gained from experiments and observations and *insider viewpoints* from introspection, interviews and analyses of what people say (and how they say it) all flourish as part of psychology in the twenty-first century. What *are* the legitimate data of a multi-perspective psychology? What can different kinds of data usefully bring to psychology?

A simple scheme can be used that divides the varieties of *data* into four categories:

Behavioural data, Inner experiences, Material data, and Symbolic data.

4-2d Behavioural data

For many decades ‘behaviour’ has provided the most dominant kind of evidence – what people and animals can be seen to do. Behaviour can cover a very wide range of activities. Think about examples such as a rat finding its way through a maze to a pellet of food, a participant in a memory experiment writing down words five minutes after having done a memorising task, a small group of children who are observed whilst they, jointly, use a computer to solve a problem, a teenager admitting to frequent truancy on a questionnaire. Some of these examples are behaviours that are very precisely defined and involve measurements – how fast the rat runs, how many words are remembered. This would be classed as quantitative research (i.e. with measurements and probably a statistical analysis). Other behaviours, such as the children learning to solve a problem using a computer, are less well defined but can be observed and described in detail, qualitatively (i.e. not measured and subjected to statistical analysis), or sometimes quantitatively (for example, when the frequency of particular actions can be counted up). The truancy example involves a *self-report* about behaviour that is not actually seen by the researcher. These particular examples of behaviours as data come from quite different psychological research traditions which you will learn about in the chapters that follow. The important point here is that behaviour is, in principle, observable – and often measurable in relatively objective ways – from the outside.

4-2e Inner experiences

A second kind of data is people's inner experiences, including their feelings, beliefs and motives. These cannot be directly seen from the outside; they remain private unless freely spoken about or expressed in some other way. Examples of these inner experiences include feelings, thoughts, images, representations, dreams, fantasies, beliefs and motivations or reasons. These are only accessible to others via verbal or written reports or as inferred from behaviours such as non-verbal communications. Access to this insider viewpoint relies on people's ability and willingness to convey what they are experiencing, and it is always problematic to study. This is because we often do not have the words to say what we experience, or we are not sufficiently aware of what we are experiencing, and/or cannot describe experiences quickly enough or in ways that others would understand. And parts of our inner worlds may be unavailable to consciousness.



Figure 2 Psychologists at Birkbeck College, University of London, have pioneered a method of studying brain activity in infants as they attend to different pictures

The psychoanalytic approach suggests, for example, that much of what we do is driven by unconscious motives, making it difficult or impossible to give accounts of our motivations. An example of the kind of data that comes from the insider viewpoint is people's answers to the question 'Who am I? Notice, however, that there is a paradox here. Although the data are essentially from the inside, the very process of collecting and interpreting the data inevitably introduces an outsider viewpoint. Sometimes the researcher can focus as far as possible on the subjectivity of the data – its meaning for the individual concerned – in effect, trying to see and think about the data 'through the eyes of the other'. This is what happens most of the time in psychoanalytic sessions. But for other purposes the researcher may stand further back from the individual and impose 'outsider' categories and meanings on the data. This, too, happens in psychoanalytic sessions when the analyst makes an interpretation of the patient's account from an outside, theoretical or 'expert' position.



4-2f Material data

A third kind of data is ‘material’ and provides more direct evidence from bodies and brains. This comes from biological psychology and includes biochemical analyses of hormones, cellular analyses, decoding of the human genome and neuropsychological technologies such as brain-imaging techniques. The data that can be collected from the various forms of brain imaging provide direct evidence about structures in the brain and brain functioning, enabling direct links to be made with behaviours and mental processes. For example, you may read about different kinds of failure of remembering, each of which can be shown to be associated with injury to particular locations in the brain.

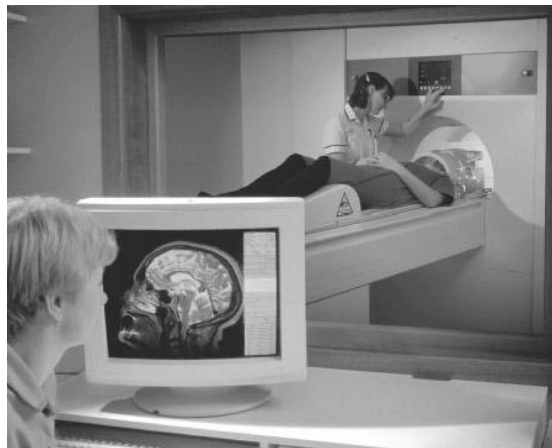


Figure 3 While participants are in a brain scanner, psychologists (or doctors) view their brains on a linked computer

Another familiar example of material evidence is the lie-detector technique where the amount of sweat that is excreted under stress changes the electrical conductivity of the skin. The actual raw data are the measures of the amount of current that passes through the skin, but these data are a direct indication of the amount of sweat produced, which in turn is an indicator of stress and so assumed to be evidence of lying.

4-2g Symbolic data

The fourth kind of data is essentially symbolic – symbolic creations of minds, such as the texts people have written, their art, what they have said (recorded and transcribed), the exact ways they use language and the meanings they have communicated. These *symbolic data* are the products of minds, but once created they can exist and be studied and analysed quite separately from the particular minds that created them. These kinds of data are used to provide evidence of meanings, and the processes that construct and communicate meanings. You may meet an example of this kind of data, and how it is used, where the language – the actual form of words – used to describe an identity is shown to give a specific meaning to that

identity. And the aim of the research is to understand the process of meaning-making rather than understand the inner world of the particular person who spoke the words. The point about these approaches is that they see language as constructive – the speakers (or writers), those with the inside viewpoint, are not always aware of what they are constructing. In general we could say that this fourth kind of data is analysed from an outsider viewpoint that attempts to take the insider viewpoint seriously, but does not privilege it.

