

## Introduction

- Psychology is a young science, with its own special methods and theories for measuring and understanding phenomena.
- Preclinical teaching should not principally provide factual material, which is only forgotten, but a broader conceptual understanding.
- Psychology is often perceived as a 'difficult' subject, partly because of the multiple theories, which work over different time scales, and partly because of a supposed absence of 'facts'.
- The method of study known as SURFACE LEARNING, with its emphasis upon rote-learning, will not work well in studying the behavioural sciences. Instead DEEP LEARNING, with its emphasis upon ideas and principles, is required.
- Psychology is not taught only to help you understand other people, but also to help you understand yourself, and your relation to other people.

Psychology, along with sociology, is a newish entrant to the already crowded preclinical curriculum. The General Medical Council first recommended the inclusion of behavioural sciences in the medical curriculum in 1957, the advice was reinforced by the Royal Commission on Medical Education ('The Todd Report') of 1968, and during the 1970s most medical schools appointed special teachers in both psychology and sociology. It is surprising therefore that psychology and sociology are sometimes still controversial, with students and staff arguing their legitimate place within the medical curriculum. Rather than being seen as akin to the traditional preclinical sciences of anatomy, physiology and biochemistry, they are instead viewed as mere commonsense dressed up in complicated words. Such a view is however rapidly disappearing as it is accepted that an understanding of behaviour is central to the treatment of disease and the promotion of health. In 1991 the British government issued a consultative document entitled *The Health of the Nation*, which recognized this explicitly:

'...there is considerable emphasis in this document on the need for people to change their behaviour – whether on smoking, alcohol consumption, exercise, diet, avoidance of accidents [or]...sexual

behaviour. The reason is simple. We live in an age where many of these main causes of premature death and unnecessary disease are related to how we live our lives.'

Psychology, and its place in the training of medical students, is frequently misunderstood. Few would dispute the place of anatomy, or other preclinical subjects, although often their purpose is not properly comprehended. A detailed knowledge of anatomy is not relevant to the daily practice of most doctors, or even to most surgeons except in their particular area of specialisation. Neither are medical students taught anatomy so that a quarter of a century hence they will recall, instantly and without hesitation that the musculo-phrenic and superior epigastric arteries are branches of the internal thoracic artery, or that teres major, teres minor, the humerus and the long head of triceps are the defining features of the quadrilateral space. As a matter of empirical fact, most students will forget such information soon after being examined in it. Nevertheless the careful and systematic study of anatomy does leave a residue within the student; an awareness of the three-dimensional inter-relations of body components, a conceptual grasp of the relations and functions of muscle, artery, vein and nerve. Without detailed study, this anatomical awareness would not be possible. The dividends on this investment of time are paid throughout the doctor's career whenever the structure of the body is considered, be it in carrying out a lumbar puncture, contemplating the fate of a peanut inhaled by a child, or viewing a tomographic scan. Anatomy is not medicine, but is a basis of medicine: clinical skills are built upon such foundations. Additionally, anatomy is taught well or badly according to the extent to which its eventual applications are considered.

Psychology is likewise basic to medicine. It does not intend to provide specific skills of daily use in the actual practice of medicine. Rather its purpose is to make you aware that human beings have a psychological dimension to them (as well as chemical, cellular, physiological, anatomical and social dimensions), and in particular that illness inevitably has a host of psychological aspects. As a doctor whose role is to treat the *whole* patient (rather than being a mere technician concerned solely with one detailed topic), you must necessarily understand the broad principles underlying thought and behaviour. The specific details are not of enormous importance (and indeed, as in all sciences, will evolve so that ideas once thought to be correct may be seen as erroneous or even laughable by future generations). What does matter is understanding the approach of the subject, its own especial flavour. Most medical students have already been trained in the physical sciences (such as chemistry) and in biological sciences (such as biology and physiology). Each subject has its own 'logic', an approach that recognizes the inherent problems

specific to its own subject matter, and allows scientifically valid conclusions to be reached. The logic of chemistry cannot simply be transplanted into the physiology laboratory for many reasons; an important one is that physiological phenomena are inherently more variable than chemical processes. Likewise the logic of psychology often differs from other preclinical sciences.

Psychology attempts to teach a number of things. First and foremost it tries to convince the student that although in some ways psychological phenomena are inherently different from other biological phenomena, they are not necessarily beyond scientific analysis. On the contrary, psychology has evolved its own special techniques and methods for studying what might otherwise seem to be scientifically intractable problems concerned with such subjective phenomena as feelings, moods, interests and perceptions. These methods and theories provide a set of conceptual tools that can be applied to a whole range of situations. These concepts could be taught by considering many different situations (such as the psychology of political opinion, social behaviour in rats, or perception in pigeons). However, in the present context, the subject is better taught with examples, wherever possible, which are relevant to medical practice, because that way the future application of the ideas will be obvious. Nevertheless, it must be remembered that the specific information is not the core of the subject; instead it is the underlying general principles and ideas. Therefore, although this book discusses in some detail the problems of bereavement, and does not mention the problems of being diagnosed as diabetic, this does not mean that only the former is 'important'. Each may well be important in your future practice, and each shares certain features. The central feature of each is *loss*, with all that implies; loss of a friend or relative in one case, of a way of life and of a sense of one's own well-being in the other. By understanding how loss affects the bereaved you will also gain insights into the role of loss in the newly diagnosed diabetic. This book is short and I have therefore chosen the topics using two criteria: to illustrate important psychological principles or to discuss important practical problems that will be met in practice; and, preferably, both. Nevertheless, the book does not pretend to be comprehensive; there are many larger books and journals in libraries for those wishing to develop their new conceptual tools on more substantial material.

The other important approach of this book, and it is one in which I especially hope that it differs from many other introductory textbooks, is its emphasis upon *evidence*. Psychology is an empirical science and as such is based on data. Most illustrations in this book are not theoretical or generalized abstractions from data, but show actual experimental results. The underlying message is that psychology is done by measuring things which at first sight may seem almost immeasurable. Often these measures are straightforward and easy to

apply, requiring apparatus only as complicated as a pencil, paper and stop-watch. As such psychology is ideal for student research projects as well as for complicated research programmes. As always in science though, the difficult part is not simply collecting data but collecting the *right* data, and interpreting them as a convincing answer to a specific research problem; then others can repeat the study, enter the results, and advance the theory further.

Psychology in medical schools has a reputation as a 'difficult' subject. Why is this? Students often say there are many technical terms; the implication is that these are unnecessary, being more easily stated in ordinary language. However, all sciences have their technical terms (anatomy perhaps being the most extensive), and their purpose is to make important but subtle differences between concepts. Psychology is no exception. Everyday language is a deceptive friend and must be extended if it is to describe the subtleties of thought and mind. Another complaint is that psychologists cannot make up their minds, and insist on giving several different theories to describe a single process. More annoyingly, the psychologists apparently insist on students knowing *all* of the theories, although it would surely seem obvious that only one can actually be correct, and hence *that* is the one to be learnt. The problem here is more subtle, being partly connected with the nature of psychology, and partly with the nature of students.

Psychology works on many different time scales, from simple learning processes lasting a few minutes, to social phenomena over days, weeks, and months, and to developmental processes literally encompassing the entire life-span. Different levels of explanation are needed to account for processes from all of these points of view (in the same way as a building needs plans, elevations and sections if it is to be described properly). In other cases there are indeed rival theories, each with evidence in its favour, but none of which can account for all that needs to be explained. Final judgement must therefore be reserved at present. Students must use their critical powers to assess the relative merits of the rival theories, determine how well they fit the data, and consider how future data may allow one to accept a particular theory and to reject another. Understandably the response of students to such uncertainty is often to feel confused.

The sense of confusion engendered by the behavioural sciences is partly a function of previous education. Science as taught in school is typically cut and dried. Facts are facts, and there is little problem. Preclinically this is also true of many of the subjects, and reflects their later stage of development as sciences. To use an astronomical metaphor, topographical anatomy, the oldest of the preclinical sciences, is like a long burnt out star, a white dwarf, a dense but hardly illuminating mass. The mature sciences of biochemistry and physiology are like our own sun, seemingly fixed and immutable,

producing a deceptively clear, even light; deceptive because at the sun's centre considerable heat and energy are being generated from the controversies of researchers, although those phenomena are hardly discernible to the student. Psychology and sociology are akin to young, new star systems, distantly perceived through ever more powerful telescopes. Appearing on the scene only recently, the turmoil at their heart is apparent even from afar, and as yet their light is neither strong nor predictable. It is controversy, in the form of disparate theories, that fuels the reactions behind them, and which illuminates the world around them. Overall there is a sense of excitement in anticipating the eventual evolution of what will probably be new star systems, albeit ones whose final form is far from clear.

A further problem for students is in the way that they study the basic social sciences, which is influenced by the knowledge that they need to pass the essential exams at the end of the preclinical course. Two major approaches to learning have been identified by educational psychologists. *SURFACE LEARNING* is the mere rote-learning of material, which is passively absorbed in its totality, seemingly without any obvious intervention of mind or brain, later to be spewed forth onto the exam paper, and subsequently to be forgotten forever. It is an efficient method if the quantities are relatively small, and the exam is similar in structure to the material taught. It is however educationally unedifying for student and teacher alike. By contrast, *DEEP LEARNING* is the understanding of principles and ideas, so that novel problems can be approached, and controversies critically evaluated. It is what most teachers would say is the purpose of a university education, although many students fail ever to see this, as often as not because of the limited nature of their teaching. Deep learning is hard work, requiring extensive thought, but is very efficient in the long term because only one idea needs to be learned, rather than many specific instances. Much teaching in medical schools regrettably encourages a mindless surface learning approach (and some cynics say that is why they are often called medical *schools* rather than universities). For some subjects, surface learning can work well. It does *not* work well for psychology or sociology (or for that matter, for physiology, with its emphasis upon systems theory, or for statistics, which are other subjects often felt to be 'difficult'). The prescription for success is simply stated: psychology is about the mind, and the mind will not be understood without the application of hard work from another mind, your own.

Psychology and sociology have a further role as basic medical sciences that is nothing to do with a cold, calculating and rigorous application of scientific principles to other people in other situations, but is instead to do with helping you to understand yourself. While reading, thinking and learning about processes such as 'perception', 'memory', 'thinking' or 'learning', you will inevitably realize that you

yourself are simultaneously carrying out those tasks. Psychology is not a soulless knowledge about a remote organism; instead it concerns you yourself and all you do, and it can help develop a self-awareness, an insight, which would be difficult to attain otherwise. Similarly when learning about social psychology there will be an awareness that you are also part of a social world in which you have certain motives and drives. And on a more sober note, you also are mortal, will inevitably become ill, be treated as a patient and eventually die, as will those around you. These processes are inexorable, and are a part of the human condition. Denial of them in yourself or in others will help neither you nor your patients in your future professional career; and of course denial is itself also a psychological process that will be studied. Part of the role of psychology in a preclinical course is to remind you that medicine is not just about enzymes, electrodes, scalpels and drugs but is about people, other human beings like yourself who react to events and have similar problems and views of the world. Psychology is not only a science, it is a human science, and it is in a broad sense part of the humanities. Theories of education have sometimes been likened to a jug or spectacles. The jug model regards students as a vessel into which facts are poured until full. The spectacle model says that education provides a pair of glasses through which the student can see the world differently and more clearly. Psychology's role is unashamedly that of extending your vision, both outwards and inwards.