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2nd Edition

Psychology PSY1011/PSY1022: A Custom Edition

Compiled by Dr Shruti Mujumdar & Associate Professor Sean Cain

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Developmental editor: Briana Menz

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ISBN 978-0-170-42525-4
CP1161

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Level 7, 80 Dorcas Street
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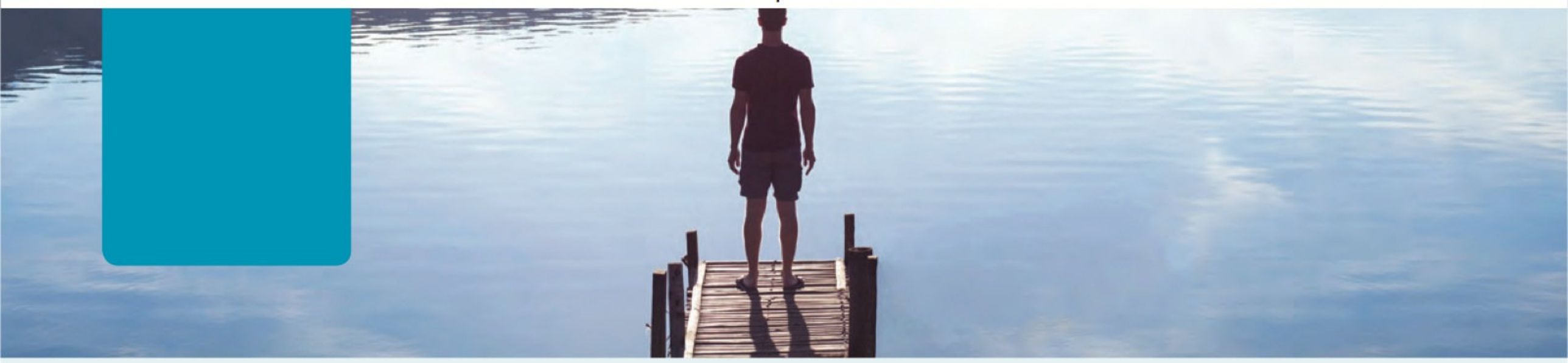
Printed in Singapore by 1010 Printing International Limited
1 2 3 4 5 6 7 21 20 19 18

Table of Contents

Psychology PSY1011



INTRODUCING PSYCHOLOGY

Psychology as a discipline has changed immensely since its humble beginnings. There is an amazing array of professional and applied areas that people with psychological training now work in. In this opening chapter, we provide an overview of psychology as a discipline and many of the more specialised areas in which psychologists work. However, the main focus is on providing an understanding of the theoretical and applied work of the discipline of psychology. It is important to note that the knowledge that you will gain from using this book underpins much of human behaviour, which is relevant and may be applied to many other disciplines and professions. We describe the linkages that tie these areas to one another and to other subjects, such as economics and medicine, and how research in psychology is being applied in everyday life. We then tell the story of how psychology developed and the various ways in which psychologists approach their work.

LEARNING OBJECTIVES

On completion of this chapter, you should be able to:

1.1 define psychology

1.2 understand the history of psychology

1.3 describe the role of the scientific method in the study of psychology

1.4 understand the diversity of psychology

1.5 develop an awareness of the knowledge, skills and values that reflect the science and application of psychology, and the possible career pathways in psychology.

APPLYING PSYCHOLOGY

1 Can studying psychology equip you with skills such as good oral and written communication skills and numeracy skills, well-developed computer skills, the ability to find and research information, and environmental awareness?

2 What other settings, other than psychological practice, do psychologists work in?

INTRODUCTION

A diverse range of employment opportunities is on offer when you study psychology. Studying psychology at an undergraduate level provides you with a range of skills and competencies that enable you to work in many different fields. In addition, some people choose to pursue postgraduate studies and become registered psychologists. In this book, we endeavour to provide you with the knowledge to consider different pathways for your future studies and employment.

Here are a number of people who have used the skills and knowledge gained in their study in psychology:

1. Nadine completed an undergraduate degree in psychology and then decided to seek employment before pursuing further studies. She worked in events management, where she was able to effectively use her excellent oral and written communication skills, knowledge of human behaviour, and problem-solving ability in a timely and ethical manner. After a year in the workforce, Nadine decided to study counselling at a postgraduate level.
2. Michelle found her dream job working as a regional training coordinator after completing her undergraduate degree in psychology. She works in a remote location assisting people as part of a mental health and drug service. Her teamwork and oral communication skills are invaluable to her role.
3. After completing a four-year degree in psychology, Frank went on to complete a Graduate Training Program in the public service. After developing his skills in human resources, Frank now manages a human resources department within a university.
4. Donna received an honours degree in psychology and was able to apply her high-level research skills when she started work in a large metropolitan hospital's sleep clinic. Using her knowledge and understanding of psychological theories related to sleep, Donna has progressed in her place of employment and now coordinates the sleep clinic.
5. Gerry completed a Master of Applied Psychology degree where he focused on community psychology. He sought employment in a non-government organisation in a regional location, where his role involves working with families to support children with learning difficulties.
6. As a graduate with a Master of Applied Psychology with a clinical focus, Josey completed supervised practice that enabled her to establish her own private clinical practice, which now employs three clinical staff.
7. Following completion of her honours degree in psychology, Eleanor went on to do a PhD during which she completed groundbreaking research into effective behavioural interventions for children with autism spectrum disorder. She now works as an academic in a university and also consults privately with other organisations.

The people described above are doing fascinating work in different areas, and some are employed as psychologists in one or more of psychology's many specialty areas, or *subfields*. Most of these people took their first psychology course without realising how many of these subfields there are, or how many different kinds of jobs are open to people who study psychology. But each of these people found something in psychology – perhaps something unexpected – that captured their interest, and they were intrigued. And who knows? By the time you have finished this book and your course, you may have found some aspect of psychology so compelling that you will want to make it your life's work too. At the very least, we hope you enjoy learning about psychology, the work of psychologists, and how that work benefits people everywhere.

There are a number of perspectives that underpin the structure of this book. In each chapter, we will highlight the application of psychological knowledge and skills through the appropriate Graduate Attributes of the Australian Undergraduate Psychology Program: knowledge and its application,

CHAPTER OUTLINE

research skills, critical and creative thinking skills, values and ethics in psychology, communication and interpersonal skills, and psychological literacy. An important aspect of this text is the focus on using psychological knowledge and the development of psychological literacy.

1.1 THE WORLD OF PSYCHOLOGY: AN OVERVIEW

psychology the science of behaviour and mental processes

Psychology is the science that seeks to understand behaviour and mental processes, taking into account physical attributes and the interaction with the environment. Generally, the goals of psychology are to understand, explain and predict human behaviour in different contexts. Psychology training begins with an undergraduate degree, which enables students to develop psychological knowledge and skills and apply them to a diverse range of areas, such as those described in the examples at the beginning of this chapter. These provide insights into the different outcomes and pathways that students of undergraduate psychology may take. Many students who begin an undergraduate psychology degree utilise their skills and knowledge in different careers without formally completing postgraduate studies to become a psychologist. A more detailed description of how to become a registered psychologist in Australia and New Zealand is given at the end of this chapter and online in Appendix A, 'Careers for psychology graduates'.

To begin to appreciate all of the things that are included under the umbrella of *behaviour* and *mental processes*, TRY THIS ↘ take a moment to think about how you would answer this question: Who are you? Would you describe your personality, your 20/20 vision, your interests and goals, your skills and accomplishments, your IQ, your cultural background, or perhaps a physical or emotional problem that bothers you? You could have listed these and many other things about yourself, and every one of them would reflect some aspect of what psychologists mean by behaviour and mental processes. It is no wonder, then, that this book's table of contents features so many different topics, including some – such as vision and hearing – that you may not have expected to see in a book about psychology. The topics have to be diverse in order to capture the full range of behaviours and mental processes that make you who you are and that come together in other ways in people of every culture around the world.

Some of the world's half-million psychologists focus on what can go wrong in behaviour and mental processes – psychological disorders, problems in childhood development, stress-related illnesses and the like – while others study what goes right. They explore, for example, the factors that lead people to be happy and satisfied with their lives, to achieve at a high level, to be creative, to help others, and to develop their full potential as human beings. This focus on what goes right, on the things that make life most worth living, has become known as **positive psychology** (Waterman, 2013; Wood & Tarrier, 2010), and you will see many examples of it in the research described throughout this book.

positive psychology a field of research that focuses on people's positive experiences and characteristics, such as happiness, optimism and resilience

Subfields of psychology

When psychologists choose to focus their attention on certain aspects of behaviour and mental processes, they enter one of psychology's subfields. Let's look at the typical interests and activities of psychologists in each subfield; more will be described in later chapters.

This section outlines many of the subfields of psychology. However, it is important to realise that there are nine areas of psychology which have been endorsed (that is, recognised) by the Psychology Board of Australia, and which also reflect the nine colleges within the Australian Psychological Society; namely, clinical, clinical neuropsychology, community, counselling, educational and developmental, forensic, health, organisational, and sport and exercise. In addition, there are currently

47 special interest groups (for example, Aboriginal and Torres Strait Islander peoples and psychology, psychologists in oncology, and so on). The New Zealand Psychological Society has eight professional institutes and special interest groups which members may join: clinical, community, counselling, criminal justice and forensic, educational and developmental, organisational, health, and special interest group (coaching). These groups provide members with opportunities to attend professional development activities and meet with other psychologists who work in similar areas of practice. The Australian Psychological Society and the New Zealand Psychological Society have a reciprocal relationship. For more on these societies and the Psychology Board of Australia, see the upcoming 'Studying and working in psychology in Australia and New Zealand' section.

Let's take a quick look at the typical interests and activities of psychologists in each subfield. Please be aware that we are using the term 'psychologist' loosely to include psychological scientists (who work in different subfields) as well as registered psychologists. We will describe their work in more detail in later chapters.

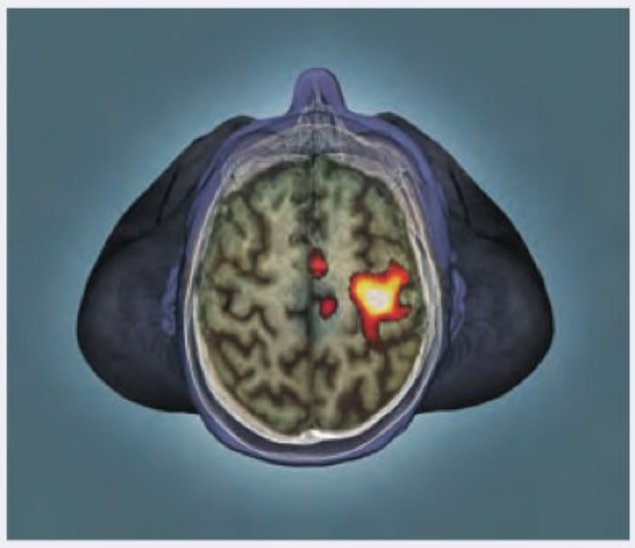
Biological psychology

Biological psychologists, also called *physiological psychologists*, use high-tech scanning devices and other methods to study how biological processes in the brain affect, and are affected by, behaviour and mental processes (see **Figure 1.1**). Have you ever had the odd feeling that a new experience, such as entering an unfamiliar house, has actually happened to you before? Biological psychologists studying this illusion of déjà vu (French for 'already seen') suggest that it may be due to a temporary malfunction in the brain's ability to combine incoming information from the senses, creating the impression of two 'copies' of a single event (Brown, 2004). In Chapter 3, 'Biological aspects of psychology', we describe biological psychologists' research on many other topics, such as how your brain controls your movements and speech, and what organs help you cope with stress and fight disease.

biological psychologists psychologists who analyse the biological factors influencing behaviour and mental processes; also called *physiological psychologists*

FIGURE 1.1 Visualising brain activity

Functional magnetic resonance imaging (fMRI) techniques allow biological psychologists to study the brain activity accompanying various mental processes.



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Cognitive psychology

TRY THIS ↘ Stop reading for a moment and look left and right. Your ability to follow this suggestion, to recognise whatever you saw, and to understand the words you are reading right now are the result of mental, or *cognitive*, abilities. Those abilities allow you to receive information from the outside world, understand it and act on it. **Cognitive psychologists** (some of whom prefer to be called *experimental psychologists*) study mental abilities such as sensation and perception, learning and memory, thinking, consciousness, intelligence and creativity. Cognitive psychologists have found, for example, that we don't just receive incoming information – we mentally manipulate it. Notice that

cognitive psychologists psychologists who study the mental processes underlying judgement, decision making, problem solving, imagining and other aspects of human thought or cognition; also called *experimental psychologists*

the drawing in **Figure 1.2** stays physically the same, but two different versions emerge, depending on which of its features *you* emphasise.

FIGURE 1.2 Husband and father-in-law

This figure is called 'Husband and father-in-law' (Botwinick, 1961) because you can see either an old or a young man, depending on how you mentally organise its features. The elderly father-in-law faces to your right and is turned slightly towards you. He has a large nose, and the dark areas represent his coat pulled up to his protruding chin. However, the tip of his nose can also be seen as the tip of a younger man's chin; the younger man is in profile, also looking to your right, but away from you. The old man's mouth is the young man's neckband. Both men are wearing a broad-brimmed hat.

Image from American Journal of Psychology. *Copyright 1961 by the Board of Trustees of the University of Illinois. Used with permission of the University of Illinois Press.*

engineering psychology
a field in which psychologists study human factors in the use of equipment and help designers create better versions of that equipment

Applications of cognitive psychologists' research are all around you. The work of those whose special interest is **engineering psychology** – also known as *human factors* – has helped designers create computer keyboards, mobile phones, MP3 players, websites, aircraft instrument panels, car navigation systems, nuclear power plant controls, and even TV remotes that are more logical, easier to use and less likely to cause errors. You will read more about human factors research and many other aspects of cognitive psychology in several chapters of this book.

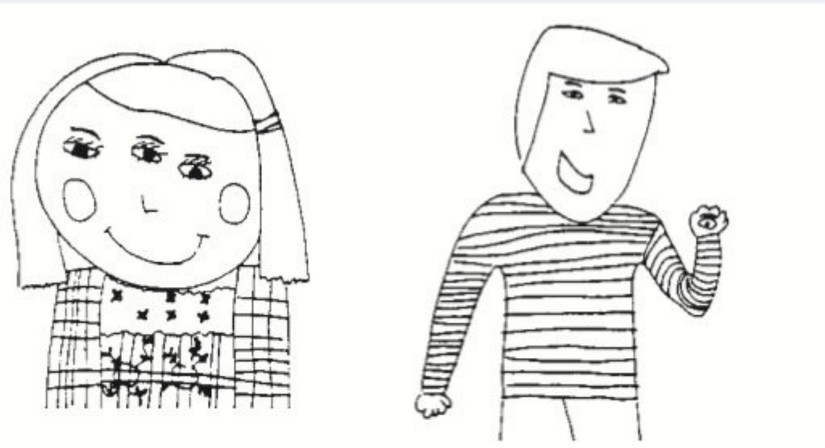
Developmental psychology

developmental psychologists
psychologists who seek to understand, describe and explore how behaviour and mental processes change over a lifetime

Developmental psychologists describe the changes in behaviour and mental processes that occur from birth through old age and try to understand the causes and effects of those changes (see **Figure 1.3**). Their research on the development of memory and other mental abilities, for example, is used by judges and lawyers in deciding how old a child has to be in order to serve as a reliable witness in court or to responsibly choose which divorcing parent to live with. The chapter on human development describes other research by developmental psychologists and how it is being applied in areas such as parenting, evaluating day care, and preserving mental capacity in elderly people.

FIGURE 1.3 Where would you put a third eye?

In a study of how thinking develops, children were asked to show where they would place a third eye if they could have one. Nine-year-old children, who were still in an early stage of mental development, drew the extra eye between their existing eyes, 'as a spare'. Having developed more advanced thinking abilities, 11-year-olds drew the third eye in more creative places, such as the palm of their hand 'so I can see around corners'.



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personality psychologists
psychologists who study the characteristics that make individuals similar to or different from one another

Personality psychology

Personality psychologists study individuality – the unique features that characterise each of us. Using personality tests, some of these psychologists seek to describe how your own combination of personality traits, like your fingerprints, differs from everyone else's in terms of traits such as openness

to experience, emotionality, reliability, agreeableness and sociability. Others study the combinations of personality traits that are associated with the appearance of ethnic prejudice, depression or vulnerability to stress-related health problems. And personality psychologists interested in positive psychology are trying to identify and understand the human strengths that help people to remain optimistic, even in the face of stress or tragedy, and to find happiness in their lives (Snyder & Lopez, 2009).

Clinical, counselling, community and health psychology

Clinical psychologists and **counselling psychologists** conduct research on the causes and treatment of mental disorders and offer services to help troubled people overcome those disorders. Their research is improving our understanding of the genetic and environmental forces that shape disorders ranging from anxiety and depression to schizophrenia and autism, and it is providing guidance to therapists about which treatment methods are likely to be most effective with each category of disorder.

clinical and counselling psychologists
psychologists who seek to assess, understand and change abnormal behaviour

Community psychologists focus on the prevention of psychological disorders by promoting people's resilience and other personal strengths. They also work with communities, non-government organisations and neighbourhood organisations to reduce crime, poverty and other stressful conditions that often lead to psychological disorders. That is, community psychologists try to understand the individual and systems interactions and work from a preventative systemic orientation.

community psychologists
psychologists who work with communities and individuals to prevent psychological disorders by striving for change in social systems

Health psychologists study the relationship between risky behaviours such as smoking or lack of exercise and the likelihood of suffering heart disease, stroke, cancer or other health problems such as hearing loss (see the Snapshot 'Psychology and health education'). They also explore the impact that illnesses such as diabetes, cancer and multiple sclerosis can have on people's behaviour, thinking, emotions and family relationships. Their research is applied in programs that help people to cope effectively with illness, as well as to reduce the risk of cancer, heart disease and stroke by changing the behaviours that put them at risk.

health psychologists
psychologists who study the effects of behaviour and mental processes on health and illness, and vice versa

SNAPSHOT

Psychology and health education

Have you ever thought about what hearing loss sounds like? As we age, many of us will suffer from hearing loss. For some, our work contexts affect our range of hearing. However, think of the impact of new technologies that enable us to listen to mobile music 24/7. This 'sonic silence' exhibit has been developed to educate people about hearing loss; it is a listening booth that simulates different types of noise-induced hearing problems.

In Australia and New Zealand, clinical, counselling, community and health psychologists have a master's degree or a doctorate in psychology. All of these psychologists differ from *psychiatrists*, who are medical doctors specialising in abnormal behaviour (psychiatry). You can read more about the work of clinical, counselling, community and health psychologists in Chapter 12, 'Health, stress and coping', and in Chapter 14, 'Psychological disorders and treatment'.

Educational and school psychology

Educational psychologists conduct research and develop theories about teaching and learning. The results of their work are applied in programs designed to improve teacher training, refine school

educational psychologists
psychologists who study methods by which instructors teach and students learn, and who apply their results to improving those methods

curricula, reduce truancy rates, and help students learn more efficiently and remember what they learn. For example, they have supported the use of the 'jigsaw' technique, a type of classroom activity in which children from various ethnic groups must work together to complete a task or solve a problem. These cooperative experiences appear to promote learning, generate mutual respect, and reduce intergroup prejudice (Aronson, 2004).

school psychologists psychologists who work with teachers and students, assist in diagnosing students' academic problems, provide counselling to students, and set up programs to improve students' achievement

School psychologists provide support to teachers and students, and they help to identify academic problems and to set up programs to improve students' achievement and satisfaction in school. They are also involved in activities such as the early detection of students' mental health problems, and crisis intervention.

Social psychology

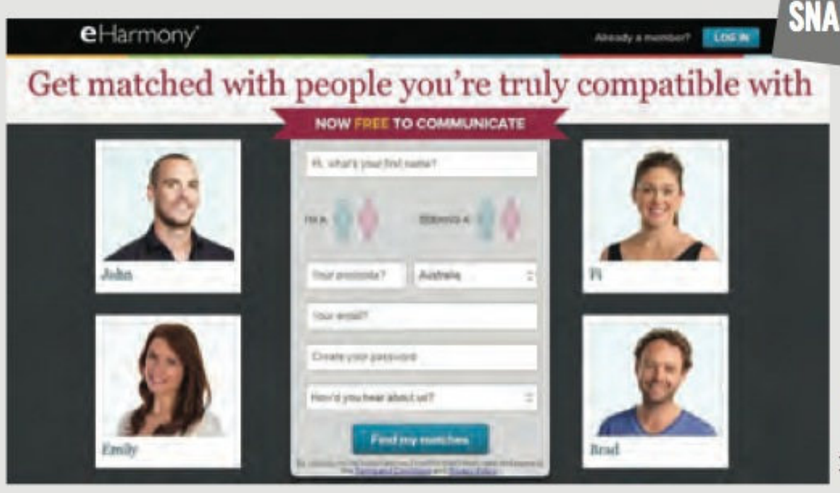
social psychologists psychologists who study how people influence one another's behaviour and mental processes, individually and in groups

Social psychologists study the ways in which people think about themselves and others, and how people influence one another. Their research on persuasion has been applied to the creation of safe-sex advertising campaigns designed to stop the spread of AIDS (acquired immune deficiency syndrome) or quit smoking campaigns. Social psychologists also explore how peer pressure affects us, what determines who we like (or even love; see the Snapshot 'Got a match?'), and why and how prejudice forms. They have found, for example, that although we may pride ourselves on not being prejudiced, we may actually hold unconscious negative beliefs about certain groups that affect the way we relate to people in those groups. Chapter 15, 'Social cognition and influence', describes these and many other examples of research in social psychology.

SNAPSHOT

Got a match?

Some commercial matchmaking services, such as eHarmony (eharmony.com.au), apply social psychologists' research on interpersonal relationships and attraction in an effort to pair up people whose characteristics are most likely to be compatible. According to eHarmony, it uses the data of over 200 000 couples globally to identify personality dimensions which influence how well two people are suited to one another.



eHarmony

organisational psychologists psychologists who study ways to improve efficiency, productivity and satisfaction among workers and the organisations that employ them

Organisational psychology

Organisational psychologists conduct research on leadership, stress, competition, pay rates and other factors that affect the efficiency, productivity and satisfaction of people in the workplace. They also explore topics such as worker motivation, work team cooperation, conflict resolution procedures and employee selection methods. Learning more about how businesses and organisations work – or fail to work – allows organisational psychologists to make evidence-based recommendations for helping them work better. Today, companies all over the world are applying research from organisational psychology to promote the development of *positive organisational behaviour*. The results include more effective employee training programs, ambitious but realistic goal-setting procedures, fair and reasonable evaluation tools, and incentive systems that motivate and reward outstanding performance.

sport psychologists psychologists who explore the relationships between athletic performance and such psychological variables as motivation and emotion

forensic psychologists psychologists who assist in jury selection, evaluate defendants' mental competence to stand trial, and deal with other issues involving psychology and the law

Other subfields

Our list of psychology's subfields is still not complete. There are **sport psychologists**, who use visualisation and relaxation training programs, for example, to help athletes reduce excessive anxiety, focus attention, and make other changes that let them perform at their best. **Forensic psychologists**

(see the Snapshot 'Linking psychology and law') may assist police and other agencies in profiling criminals, evaluating the mental competence of defendants, providing psychological reports for court processes, and performing many other tasks related to psychology and the law. **Environmental psychologists** study the effects of the environment on people's behaviour and mental processes. The results of their research are applied by architects and interior designers as they plan or remodel university residences, shopping malls, auditoriums, hospitals, prisons, offices and other spaces to make them more comfortable and functional for the people who will occupy them.

environmental psychologists
psychologists who study the effects of the physical environment on behaviour and mental processes

SNAPSHOT

Linking psychology and law

Forensic psychologists research the types of training required to appropriately carry out an investigative interview in the context of courts of law. With high representations of Aboriginal and Torres Strait Islander peoples in the Australian judicial system, there is a need for forensic psychologists to consider culturally appropriate communication and interactions (Powell & Bartholomew, 2003, 2011).

Fairfax Syndication/Edwina Pickles

More information about the subfields we have mentioned – and some that we haven't – are available on the websites of the Australian Psychological Society (www.psychology.org.au) and the New Zealand Psychological Society (www.psychology.org.nz).

Where do the psychologists in all these subfields work? **Table 1.1** contains a summary of where the approximately 20 000 psychologists in Australia and the 1000 psychologists in New Zealand find employment, as well as the kinds of things they typically do in each setting.

TABLE 1.1 Typical activities and work settings for psychologists

The fact that psychologists can work in such a wide variety of settings and do so many interesting – and often well-paid – jobs helps account for the popularity of psychology at universities. Psychology courses also provide excellent background for students planning to enter medicine, law, business, teaching and many other fields.

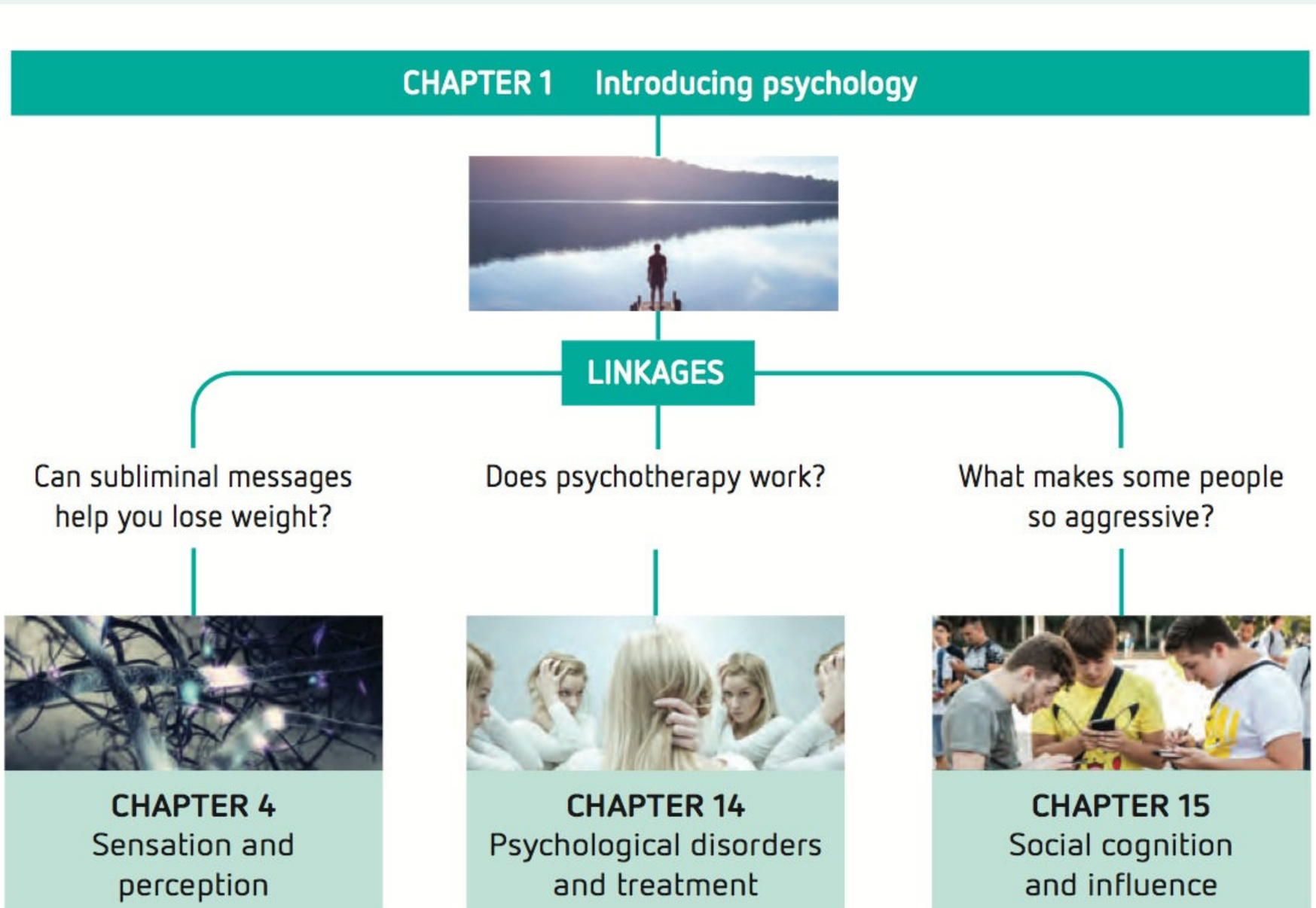
Work setting	Typical activities
Universities and professional schools	Teaching, research and writing, often in collaboration with colleagues from other disciplines
Mental health facilities (for example, hospitals, clinics, counselling centres)	Testing and treatment of children and adults
Private practice (alone or in a group of psychologists)	Testing and treatment of children and adults; consultation with business and other organisations
Business, government and other organisations	Testing potential employees; assessing employee satisfaction; identifying and resolving conflicts; improving leadership skills; offering stress management and other employee assistance programs; improving equipment design to maximise productivity and prevent accidents
Schools (including those for intellectually disabled and emotionally disturbed children)	Testing mental abilities and other characteristics; identifying children with problems; consulting with parents; designing and implementing programs to improve academic performance
Other	Teaching prison inmates; research in private institutes; advising legislators on educational, research or public policy; administering research funds; research on effectiveness of military personnel; and so on

Linkages within psychology and beyond

We have listed psychology's subfields as though they were separate, but they often overlap, and so do the activities of the psychologists working in them. When developmental psychologists study the changes that take place in children's thinking skills, for example, their research is linked to the research of cognitive psychologists. Similarly, biological psychologists have one foot in clinical psychology when they look at how chemicals in the brain affect the symptoms of depression. When social psychologists apply their research on cooperation to promote group learning activities in the classroom, they are linking up with educational psychology. Even when psychologists work mainly in one subfield, they are still likely to draw on, and contribute to, knowledge in other subfields.

LINKAGES

If you follow the many linkages among psychology's subfields as you read this book, you will come away not only with threads of knowledge about each subfield but also with an appreciation of the fabric of psychology as a whole. Each chapter has a special Linkages section that discusses the ties between material covered in the chapter, or the interrelation to another psychological subfield.



So if you want to understand psychology as a whole, you have to understand the linkages among its subfields. To help you recognise these linkages, we highlight three of them in a 'Linkages' diagram at the end of each chapter – similar to the one shown here. Each linkage is represented by a question

that connects two subfields, and the chapter numbers indicate where you can read more about each question (look for 'Linkages' symbols in the margins of that chapter). We pay particular attention to one of the questions in each diagram by discussing it in a special 'Linkages' section. If you follow the linkages in these diagrams, the relationships among psychology's many subfields will become much clearer. We hope that you find this kind of detective work to be interesting and that it will lead you to look for the many other linkages that we did not mention. Tracing linkages might even improve your results in the course, because it is often easier to remember material in one chapter by relating it to linked material in other chapters.

APPLYING PSYCHOLOGY

What other settings, other than psychological practice, do psychologists work in?

Links to other fields

Just as psychology's subfields are linked to one another, psychology itself is linked to many other fields. Some of these linkages are based on interests that psychologists share with researchers from other disciplines. For example, psychologists are working with computer scientists to create artificial intelligence systems that can recognise voices, solve problems and make decisions in ways that will equal or exceed human capabilities (Haynes, Cohen & Ritter, 2009; Wang, 2007). Psychologists are also collaborating with specialists in neuroanatomy, neurophysiology, neurochemistry, genetics and other disciplines in the field known as **neuroscience** (see the Snapshot 'Professor Harry Ellis Reef'). The goal of this multidisciplinary research enterprise is to examine the structure and function of the nervous system in animals and humans at levels ranging from the individual cell to overt behaviour.

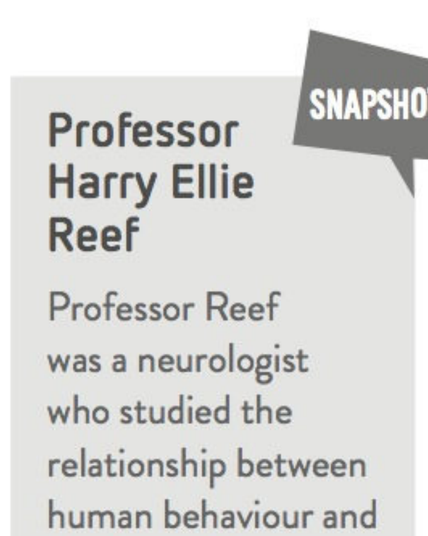
neuroscience the scientific study of all levels of the nervous system, including neuroanatomy, neurochemistry, neurology, neurophysiology and neuropharmacology

Many of the links between psychology and other disciplines appear when research conducted in one field is applied in the other. For example, biological psychologists are learning about the brain with scanning devices developed by computer scientists, physicists and engineers. Physicians and economists are using research by psychologists to better understand the thought processes that influence (good and bad) decisions about caring for patients and choosing investments. In fact, in 2002, the psychologist Daniel Kahneman won a Nobel prize in economics for his work in this area. Other psychologists' research on investigative interviewing has influenced how professionals in criminal investigations gather evidence in court proceedings (Powell, 2002). Psychological studies of the effects of ageing and brain disorders on people's vision, hearing and mental abilities is shaping doctors' recommendations about whether and when elderly patients should stop driving cars. This book is filled with examples of other ways in which psychological theories and research have been applied to health care, law, business, engineering, architecture, aviation and sports, to name just a few.

SNAPSHOT

Professor Harry Ellie Reef

Professor Reef was a neurologist who studied the relationship between human behaviour and the brain. He was a leading researcher in brain-related disorders and worked extensively in the field of neuroscience.



Research: the foundation of psychology

The knowledge that psychologists share across subfields and with other disciplines stems from the research they conduct on many aspects of behaviour and mental processes. For example, rather than just speculating about why some people eat too much or too little, psychologists look for answers by using the methods of science. This means that they perform experiments and other scientific procedures to systematically gather and analyse information about behaviour and mental processes and then base their conclusions – and their next questions – on the results of those procedures.

To follow up on the topic of eating, consider what would happen if you had just finished a big lunch at your favourite restaurant and a waiter got mixed up and brought you a plate of the same food that was meant for someone else. You would probably send it away, but why? Decisions to start eating or stop eating are affected by many biological factors, including signals from your blood that tell your brain how much 'fuel' you have available. The psychologist Paul Rozin was interested in how these decisions are affected by psychological factors, such as being aware that you have already

eaten (Rozin et al., 1998). What if you didn't remember that you just had lunch? Would you have started eating that second plate of food?

To explore this question, Rozin conducted a series of tests with R. H. and B. R., two men who had suffered a kind of brain damage that left them unable to remember anything for more than a few minutes. (You can read more about this condition, called *anterograde amnesia*, in Chapter 6, 'Memory'.) The men were tested individually, on three different days, in a private room where they sat with a researcher at lunchtime and were served a tray of their favourite food. Before and after eating, they were asked to rate their hunger on a scale from 1 (extremely full) to 9 (extremely hungry). Once lunch was over, the tray was removed and the researcher continued chatting, making sure that each man drank enough water to clear his mouth of food residue. After 10 to 30 minutes, a hospital attendant arrived with an identical meal tray and announced, 'Here's lunch'. These men had no memory of having eaten lunch already, but would signals from their stomachs or their blood be enough to keep them from eating another one?

Apparently not. **Table 1.2** shows that in every test session, R. H. and B. R. ate all or part of the second meal and in all but one session ate at least part of a third lunch that was offered to them 10 to 30 minutes after the second one. Rozin conducted similar tests with J. C. and T. A., a woman and a man who had also suffered brain damage but whose memories had not been affected. In each of two test sessions, these people finished their lunch but refused the opportunity to eat a second one. These results suggest that the memory of when we last ate can indeed be a factor in guiding decisions about when to eat again. They also support a conclusion described in Chapter 10, 'Motivation and emotion'; namely, that eating is controlled by a complex combination of biological, social, cultural and psychological factors. As a result, we may eat when we think it is time to eat, regardless of what our bodies tell us about our physical need to eat.

TABLE 1.2 The role of memory in deciding when to eat

Here are the results of a study in which brain-damaged people were offered a meal shortly after having eaten an identical meal. Their hunger ratings (1–9, where 9 = extremely hungry) before and after eating are shown in parentheses. B. R. and R. H. had a kind of brain damage that left them unable to remember recent events (anterograde amnesia); J. C. and T. A. had normal memory. These results suggest that the decision to start eating is determined partly by knowing when we last ate. Notice that hunger ratings, too, were more consistently affected by eating for the people who remembered having eaten.

Session	B. R. (amnesia)	R. H. (amnesia)	J. C.	T. A.
One				
Meal 1	Finished (7/8)	Partially eaten (7/6)	Finished (5/2)	Finished (5/4)
Meal 2	Finished (2/5)	Partially eaten (7/7)	Rejected (0)	Rejected (3)
Meal 3	Rejected (3)	Partially eaten (7/7)	–	–
Two				
Meal 1	Finished (6/5)	Partially eaten (7/6)	Finished (7/2)	Finished (7/3)
Meal 2	Finished (5/3)	Partially eaten (7/6)	Rejected (1)	Rejected (3)
Meal 3	Partially eaten (5)[a]	Partially eaten (7/6)	–	–
Three				
Meal 1	Finished (7/3)	Partially eaten (7/6)	–	–
Meal 2	Finished (2/3)	Partially eaten (7/6.5)	–	–
Meal 3	Partially eaten (5/3)	Partially eaten (7.5)	–	–

[a]B. R. began eating his third meal but was stopped by the researcher, presumably to avoid illness.

From Rozin, P., Dow, S., Moscovitch, M., & Rajaram, S. (1998). The role of memory for recent eating experiences in onset and cessation of meals: Evidence from the amnesic syndrome. Psychological Science, 9, *392–396. Reprinted by permission of Sage Publications, Inc.*

Rozin's study illustrates the fact that although psychologists often begin with speculation about behaviour and mental processes, they take additional steps towards understanding those processes. Using scientific methods to test their ideas, they reach informed conclusions and generate new questions. Even psychologists who don't conduct research still benefit from it. They are constantly applying the results of their colleagues' studies to improve the quality, accuracy and effectiveness of their teaching, writing or service to clients and organisations. For example, practising clinical psychologists are combining their psychotherapy skills with research from cognitive, organisational and sport psychology to help business executives, performing artists and athletes excel (Hays, 2009).

The rules and methods of science that guide psychologists in their research are summarised in Chapter 2, 'Research in psychology'. We have placed that chapter early in the book to highlight the fact that without scientific research methods and the foundation of evidence they provide, psychologists' statements and recommendations about behaviour and mental processes would carry no more weight than those of astrologers, psychics or tabloid journalists. Accordingly, we will be relying on the results of psychologists' scientific research when we tell you what they have discovered so far about behaviour and mental processes and also when we evaluate their efforts to apply that knowledge to improve the quality of human life.

IN REVIEW

The world of psychology: an overview

SUBFIELDS	FOCUS
Biological	Biological factors influencing behaviour and mental processes
Cognitive	The mental processes underlying judgement, decision making, problem solving, imagining and other aspects of human thought or cognition
Developmental	Seeking to understand, describe and explore how behaviour and mental processes change over a lifetime
Clinical	Seeking to assess, understand and change abnormal behaviour
Educational	The study methods by which instructors teach and students learn, and who apply their results to improving those methods
Social	How people influence one another's behaviour and mental processes, individually and in groups
Organisational	Ways to improve efficiency, productivity and satisfaction among workers and the organisations that employ them

Other

- *Forensic* – issues involving psychology and the law
- *Community* – working with communities and individuals to prevent psychological disorders by striving for change in social systems
- *Personality* – the characteristics that make individuals similar to or different from one another
- *Health* – effects of behaviour and mental processes on health and illness, and vice versa
- *Environmental* – effects of the physical environment on behaviour and mental processes

1.2 A BRIEF HISTORY OF PSYCHOLOGY

How did scientific research in psychology get started? Psychology is a relatively new discipline, but its roots can be traced through centuries, especially in the history of philosophy. Since at least the time of Socrates, Plato and Aristotle in ancient Greece, philosophers had been debating psychological topics, such as 'What is the nature of the mind and the soul?', 'What is the relationship between the mind and the body?' and 'Are we born with a certain amount of knowledge, or do we have to learn everything for ourselves?' They even debated whether it is possible to study such things scientifically.

consciousness the awareness of external stimuli and our own mental activity

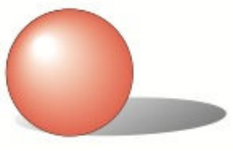
A philosophical view known as *empiricism* was particularly important to the development of scientific psychology. Beginning in the 1600s, proponents of empiricism – especially the British philosophers John Locke, George Berkeley and David Hume – challenged the long-accepted claim that some knowledge is innate. Empiricists argued instead that what we know about the world comes to us through experience and observation, not through imagination or intuition. This view suggests that at birth, our minds are like a blank slate (tabula rasa in Latin) on which our experiences write a lifelong story. For well over a century now, empiricism has guided psychologists in seeking knowledge about behaviour and mental processes through observations governed by the rules of science.

Wundt and the structuralism of Titchener

The 'official' birth date of modern psychology is usually given as 1879, the year in which a physiologist named Wilhelm Wundt established the first formal psychology research laboratory at the University of Leipzig in Germany (Benjamin, 2000). At around this time, a number of other German physiologists, including Hermann von Helmholtz and Gustav Fechner, had been studying vision and other sensory and perceptual processes that empiricism identified as the channels through which human knowledge flows. Fechner's work was especially valuable because he realised that one could study these mental processes by observing people's reactions to changes in sensory stimuli. By exploring, for example, how much brighter a light must become before we see it as twice as bright, Fechner discovered complex but predictable relationships between changes in the *physical* characteristics of stimuli and changes in our *psychological experience* of them. Fechner's approach, which he called *psychophysics*, paved the way for much of the research described in Chapter 4, 'Sensation and perception'.

FIGURE 1.4 A stimulus for introspection

TRY THIS ↘ Look at this object and try to ignore what it is. Instead, try to describe only your conscious experience, such as redness, brightness and roundness, and how intense and clear the sensations and images are. If you can do this, you would have been an excellent research assistant in Titchener's laboratory.



Wundt, too, used the methods of laboratory science to study sensory–perceptual systems, but the focus of his work was **consciousness**, the mental experiences created by these systems. Wundt wanted to describe the basic elements of consciousness, how they are organised, and how they relate to one another (Schultz & Schultz, 2004). He developed ingenious laboratory methods to study the speed of decision making and other mental events, and in an attempt to observe conscious experience, Wundt used the technique of *introspection*, which means 'looking inward' (see **Figure 1.4**). After training research participants in this method, he repeatedly showed a light or made a sound and asked them to describe the sensations and feelings these stimuli created. Wundt concluded that 'quality' (for example, cold or blue) and 'intensity' (for example, brightness or loudness) are the two essential elements of any sensation, and that feelings can be described in terms of pleasure or displeasure, tension or relaxation, and excitement or depression (Schultz & Schultz, 2004). In conducting this kind of research, Wundt began psychology's transformation from the *philosophy* of mental processes to the *science* of mental processes (see the Snapshot 'Wilhelm Wundt (1832–1920)').

SNAPSHOT

Wilhelm Wundt (1832–1920)

In an early experiment on the speed of mental processes, Wundt (third from left) first measured how quickly people could respond to a light by releasing a button they had been holding down. He then measured how much longer the response took when they held down one button with each hand and had to decide, based on the colour of the light, which one to release. Wundt reasoned that the additional response time reflected how long it took to perceive the colour and decide which hand to move. As noted in Chapter 7, 'Cognition and language', the logic behind this experiment remains a part of research on cognitive processes today.

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Edward Titchener, an Englishman who had been a student of Wundt's, used introspection in his own laboratory at Cornell University. He studied Wundt's basic elements of consciousness, as well as images and other aspects of conscious experience that are harder to quantify. One result was that Titchener added 'clearness' as an element of sensation (Schultz & Schultz, 2004). Titchener called his approach *structuralism* because he was trying to define the structure of consciousness.

Wundt was not alone in the scientific study of mental processes, nor was his work universally accepted. Some of his fellow German scientists, including Hermann Ebbinghaus, believed that analysing consciousness through introspection was not as important as exploring the capacities and limitations of mental processes such as learning and memory. Ebbinghaus' own laboratory experiments, in which he served as the only participant, formed the basis for some of what we know about memory today.

Gestalt psychologists

Around 1912, other German colleagues of Wundt, including Max Wertheimer, Kurt Koffka and Wolfgang Köhler, argued against his efforts to break down human experience or consciousness into its component parts. They were called *Gestalt psychologists* because they pointed out that the whole shape (*Gestalt* in German) of conscious experience is not the same as the sum of its parts. Wertheimer pointed out, for example, that if a pair of lights goes on and off in just the right sequence, we don't experience two separate flashing lights but a single light that appears to 'jump' back and forth. You have probably seen this *phi phenomenon* in action on advertising signs that create the impression of a series of lights racing around a display. Movies provide another example. It would be incredibly boring to look one at a time at the thousands of still images printed on a reel of film. Yet when those same images are projected onto a screen at a particular rate, they combine to create a rich and seemingly seamless emotional experience. To understand consciousness, then, said the Gestaltists, we have to study the whole 'movie', not just its component parts.

Freud and psychoanalysis

While Wundt and his colleagues in Leipzig were conducting scientific research on consciousness, Sigmund Freud was in Vienna, Austria, beginning to explore the unconscious. As a physician, Freud had presumed that all behaviour and mental processes have *physical* causes somewhere in the nervous system. He began to question that assumption in the late 1800s, however, after encountering several patients who displayed a variety of physical ailments that had no apparent physical cause. After interviewing these patients using hypnosis and other methods, Freud became convinced that the

causes of these people's physical problems were not physical. The real causes, he said, were deep-seated problems that the patients had pushed out of consciousness (Friedman & Schustack, 2003). He eventually came to believe that all behaviour – from everyday slips of the tongue to severe forms of mental disorder – is motivated by *psychological* processes, especially by mental conflicts that occur without our awareness, at an unconscious level. For nearly 50 years, Freud developed his ideas into a body of work known as *psychoanalysis*, which included a theory of personality and mental disorder, as well as a set of treatment methods. Freud's ideas are by no means universally accepted, partly because they were based on a small number of medical cases, not on extensive laboratory experiments. Still, he was a groundbreaker whose theories have had a significant influence on psychology and many other fields.

William James and functionalism

Scientific research in psychology began in North America not long after Wundt started his work in Germany. William James founded a psychology laboratory at Harvard University in the late 1870s, though it was used mainly to conduct demonstrations for his students (Schultz & Schultz, 2004). It was not until 1883 that G. Stanley Hall at Johns Hopkins University in Baltimore established the first psychology research laboratory in the United States. The first Canadian psychology research laboratory was established in 1889 at the University of Toronto by James Mark Baldwin, Canada's first modern psychologist and a pioneer in research on child development.

Like the Gestalt psychologists, William James rejected both Wundt's approach and Titchener's structuralism. He saw no point in breaking down consciousness into component parts that never operate on their own. Instead, in accordance with Charles Darwin's theory of evolution, James wanted to understand how images, sensations, memories and the other mental events that make up our flowing 'stream of consciousness' *function* to help us adapt to our environment (James, 1890, 1892). This idea was consistent with an approach to psychology called *functionalism*, which focused on the role of consciousness in guiding people's ability to make decisions, solve problems and the like.

James' emphasis on the functions of mental processes encouraged North American psychologists to look not only at how those processes work to our advantage but also at how they differ from one person to the next. Some of these psychologists began to measure individual differences in learning, memory and other mental processes associated with intelligence, made recommendations for improving educational practices in schools, and even worked with teachers on programs tailored to children in need of special help (Kramer, Bernstein & Phares, 2014).

John B. Watson and behaviourism

Besides fuelling James' interest in the functions of consciousness, Darwin's theory of evolution led other psychologists – especially those in North America after 1900 – to study animals as well as humans. These researchers reasoned that if all species evolved in similar ways, perhaps the behaviour and mental processes of all species followed the same or similar laws and they could learn something about people by studying animals. They could not expect cats or rats or pigeons to introspect, so they watched what animals did when confronted with laboratory tasks such as finding the correct path through a maze. From these observations, psychologists made *inferences* about the animals' conscious experience and about the general laws of learning, memory, problem solving and other mental processes that might apply to people as well.

John B. Watson, a psychology professor at Johns Hopkins University, agreed that the observable behaviour of animals and humans was the most important source of scientific information for

psychology. However, he thought it was utterly unscientific to use behaviour as the basis for making inferences about consciousness, as structuralists and functionalists did – let alone about the unconscious, as Freudians did. In 1913, Watson published an article titled 'Psychology as the behaviourist views it'. In it, he argued that psychologists should ignore mental events and base psychology only on what they can actually see in overt behaviour and in responses to various stimuli (Watson, 1913, 1919).

Watson's view, called *behaviourism*, recognised the existence of consciousness but did not consider it worth studying because it would always be private and therefore not observable by scientific methods. In fact, said Watson, a preoccupation with consciousness would prevent psychology from ever being a true science. He believed that the most important determinant of behaviour is *learning* and that it is through learning that animals and humans are able to adapt to their environments. Watson was famous for claiming that, with enough control over the environment, he could create learning experiences that would turn any infant into a doctor, a lawyer or even a criminal.

The American psychologist B. F. Skinner was another early champion of behaviourism. From the 1930s until his death in 1990, Skinner worked on mapping out the details of how rewards and punishments shape, maintain and change behaviour through what he termed 'operant conditioning'. By conducting a *functional analysis of behaviour*, he would explain, for example, how parents and teachers can unknowingly encourage children's tantrums by rewarding them with attention and how a virtual addiction to gambling can result from the occasional and unpredictable rewards it brings.

Many psychologists were drawn to Watson's and Skinner's vision of psychology as the learning-based science of observable behaviour. In fact, behaviourism dominated psychological research from the 1920s through the 1960s, while the study of consciousness received less attention, especially in the United States. (The section 'In review: A brief history of psychology' summarises behaviourism and the other schools of thought that have influenced psychologists over the past century.)

Psychology today

Psychologists continue to study all kinds of overt behaviour in humans and in animals. By the end of the 1960s, however, many had become dissatisfied with the limitations imposed by behaviourism (some, especially in Europe, had never accepted it in the first place). They grew uncomfortable about ignoring mental processes that might be important in more fully understanding behaviour (for example, Ericsson & Simon, 1994). The dawn of the computer age influenced these psychologists to think about mental activity in a new way – as information processing. Computers and rapid progress in computer-based biotechnology began to offer psychologists exciting new ways of studying mental processes and the biological activity that underlies them. As shown in **Figure 1.1**, for example, it is now possible to literally see what is going on in the brain when a person reads or thinks or makes decisions.

Armed with ever more sophisticated research tools, psychologists today are striving to do what Watson thought was impossible: to study mental processes with precision and scientific objectivity. In fact, there are probably now as many psychologists who study cognitive and biological processes as there are who study observable behaviours. So mainstream psychology has come full circle, once again accepting consciousness – in the form of cognitive processes – as a legitimate topic for scientific research and justifying the definition of psychology as the science of behaviour and mental processes.

IN REVIEW

A brief history of psychology

SCHOOL OF THOUGHT	EARLY ADVOCATES	GOALS	METHODS
Structuralism	Edward Titchener, trained by Wilhelm Wundt	To study conscious experience and its structure	Experiments; introspection
Gestalt psychology	Max Wertheimer	To describe the organisation of mental processes: 'The whole is different from the sum of its parts'	Observation of sensory–perceptual phenomena
Psychoanalysis	Sigmund Freud	To explain personality and behaviour; to develop techniques for treating mental disorders	Study of individual cases
Functionalism	William James	To study how the mind works in allowing an organism to adapt to the environment	Naturalistic observation of animal and human behaviour
Behaviourism	John B. Watson, B. F. Skinner	To study only observable behaviour and explain behaviour through learning principles	Observation of the relationship between environmental stimuli and behavioural responses

Check your understanding

1 Darwin's theory of evolution had an especially strong influence on _____ism and _____ism.

2 Which school of psychological thought was founded by a European medical doctor?

3 In the history of psychology, _____ was the first school of thought to appear.

1.3 APPROACHES TO THE SCIENCE OF PSYCHOLOGY

We have seen that the history of psychology is, in part, a history of differing ways in which psychologists thought about, or 'approached', behaviour and mental processes. Today, psychologists no longer refer to themselves as structuralists or functionalists, but the psychodynamic and behavioural approaches remain, along with some newer ones known as the biological, evolutionary, cognitive and humanistic approaches. Some psychologists adopt just one of these approaches, but most are eclectic – they blend aspects of two or more approaches in an effort to understand more fully the behaviour and mental processes in their subfield (for example, Cacioppo et al., 2000). Some approaches to psychology are more influential than others these days, but we will review the main features of all of them so you can more easily understand why different psychologists may explain the same behaviour or mental process in different ways.

The biological approach

As its name implies, the **biological approach** to psychology assumes that behaviour and mental processes are largely shaped by biological processes. Psychologists who take this approach study the psychological effects of hormones, genes and the activity of the nervous system, especially the brain (see the Snapshot 'What can brain mapping tell us?'). So if they are studying memory, they might try to identify the changes taking place in the brain as information is stored there (**Figure 6.15**, in Chapter 6, 'Memory', shows an example of these changes). If they are studying thinking, they might look for patterns of brain activity associated with, for example, making quick decisions or reading a foreign language.

Research discussed in nearly every chapter of this book reflects the enormous influence of the biological approach on psychology today. To help you better understand the terms and concepts used in that research, see Chapter 19 (online), 'Behavioural genetics', and Chapter 3, 'Biological aspects of psychology'.

SNAPSHOT

What can brain mapping tell us?

Biological psychologists are able to provide further understanding to many areas of psychology, such as reasoning and decision making, because of technology's increasing sophistication.

Science Photo Library/University of Durhum/Sim

The evolutionary approach

Biological processes also figure prominently in an approach to psychology based on Charles Darwin's 1859 book *On the Origin of Species*. Darwin argued that the forms of life we see today are the result of *evolution* – of changes in life forms that occur over many generations. He said that evolution occurs through **natural selection**, which promotes the survival of the fittest individuals. Those whose behaviour and appearance allow them to withstand the elements, avoid predators and mate are able to survive and produce offspring with similar characteristics. Those less able to adjust (or *adapt*) to changing conditions are less likely to survive and reproduce. Most evolutionists today see natural selection operating at the level of genes, but the process is the same. Genes that result in characteristics and behaviours that are adaptive and useful in a certain environment will enable the creatures that inherit them to survive and reproduce, thereby passing those genes on to the next generation. According to evolutionary theory, many (but not all) of the genes that animals and humans possess today are the result of natural selection.

The **evolutionary approach** to psychology assumes that the *behaviour and mental processes* of animals and humans today are also the result of evolution through natural selection. Psychologists who take this approach see cooperation as an adaptive survival strategy, aggression as a form of territory protection, and gender differences in mate selection preferences as reflecting different ways through which genes survive in future generations (Griskevicius et al., 2009). The evolutionary approach has generated a growing body of research (for example, Buss, 2009; Confer et al., 2010); in later chapters, you will see how it is applied in relation to topics such as helping and altruism, mental disorders, temperament and interpersonal attraction.

The psychodynamic approach

The **psychodynamic approach** to psychology offers a different slant on the role of inherited instincts and other biological forces in human behaviour. Based on Freud's psychoanalysis, this approach assumes that our behaviour and mental processes reflect constant and mostly unconscious psychological struggles within us (see **Figure 1.5**). Usually, these struggles involve conflict between the impulse to satisfy instincts (such as for food, sex or aggression) and the need to follow the rules of civilised society. So psychologists taking the psychodynamic approach might see aggression, for example, as a case of primitive urges overcoming a person's defences against expressing those urges. They would see anxiety, depression or other disorders as overt signs of inner turmoil.

biological approach an approach to psychology in which behaviour and behaviour disorders are seen as the result of physical processes, especially those relating to the brain and to hormones and other chemicals

natural selection the evolutionary mechanism through which Darwin said the fittest individuals survive to reproduce

evolutionary approach an approach to psychology that emphasises the inherited, adaptive aspects of behaviour and mental processes

psychodynamic approach a view developed by Freud that emphasises the interplay of unconscious mental processes in determining human thought, feelings and behaviour

FIGURE 1.5 What do you see?

TRY THIS ↘ Take a moment to write down what you see in these clouds. According to the psychodynamic approach to psychology, what we see in cloud formations and other vague patterns reflects unconscious wishes, impulses, fears and other mental processes. In the personality chapter, we discuss the value of personality tests based on this assumption.

Photodisc

Freud's original theories are not as influential today as they once were (Mischel, 2004a), but you will encounter modern versions of the psychodynamic approach in other chapters when we discuss theories of personality (see Chapter 3, 'Personality'), psychological disorders and psychotherapy (see Chapter 14, 'Psychological disorders and treatment').

The behavioural approach

behavioural approach an approach to psychology emphasising that human behaviour is determined mainly by what a person has learned, especially from rewards and punishments

The assumptions of the **behavioural approach** to psychology contrast sharply with those of the psychodynamic, biological and evolutionary approaches. The behavioural approach is rooted in the behaviourism of Watson and Skinner, which, as already mentioned, focused entirely on observable behaviour and on how that behaviour is *learned*. Accordingly, psychologists who take a strict behavioural approach concentrate on understanding how past experiences with rewards and punishments act on the 'raw materials' provided by genes and evolution to shape observable behaviour into what it is today. So whether they are trying to understand a person's aggressiveness, fear of spiders, parenting methods or drug abuse, behaviourists look mainly at that person's learning history. As they believe that behaviour problems develop through learning, behaviourists seek to eliminate those problems by helping people replace maladaptive habits with new and more appropriate ones (see the Snapshot 'Why is he so aggressive?').

SNAPSHOT

Why is he so aggressive?

Psychologists who take a cognitive-behavioural approach suggest that behaviour is not shaped by rewards and punishments alone. They say that children's aggressiveness, for example, is learned partly by being rewarded (or at least not punished) for aggression but also partly by seeing family and friends acting aggressively. Furthermore, attitudes and beliefs about the value and acceptability of aggressiveness can be learned as children hear others talk about aggression as the only way to deal with threats, disagreements and other conflict situations (for example, Cooper, Gomez & Buck, 2008; Wilkowski & Robinson, 2008).

Shutterstock.com/Lopolo

Recall, though, that the peak of behaviourism's popularity passed precisely because it ignored everything but observable behaviour. That criticism has had an impact on the many behaviourists who now apply their learning-based approach in an effort to understand thoughts, or cognitions, as well as observable behaviour. Those who take this *cognitive-behavioural*, or *social-cognitive*, approach explore how learning affects the development of thoughts, attitudes and beliefs and, in turn, how these learned cognitive patterns affect overt behaviour.

The cognitive approach

The growth of the cognitive-behavioural perspective reflects the influence of a broader cognitive view of psychology. This **cognitive approach** focuses on how we take in, mentally represent and store information; how we perceive and process that information; and how all these cognitive processes affect our behaviour. Psychologists who take the cognitive approach study the rapid series of mental events – including those outside of awareness – that accompany observable behaviour. So in analysing, say, an aggressive incident in a cinema ticket queue, these psychologists would describe the following series of information-processing events: first, the aggressive person (1) *perceived* that someone has cut into the ticket queue, then (2) *recalled* information stored in memory about appropriate social behaviour, (3) *decided* that the other person's action was inappropriate, (4) *labelled* the person as rude and inconsiderate, (5) *considered* possible responses and their likely consequences, (6) *decided* that shoving the person is the best response, and (7) *executed* that response.

cognitive approach a way of looking at human behaviour that emphasises research on how the brain takes in information, creates perceptions, forms and retrieves memories, processes information and generates integrated patterns of action

humanistic approach an approach to psychology that views behaviour as controlled by the decisions that people make about their lives based on their perceptions of the world

Psychologists who take a cognitive approach focus on these and other mental processes to understand many kinds of individual and social behaviours, from decision making and problem solving to interpersonal attraction and intelligence, to name but a few. In the situation just described, for example, the person's aggression would be seen as the result of poor problem solving, because there were probably several better ways to deal with the problem of queue jumping. The cognitive approach is especially important in the field of *cognitive science*, in which researchers from psychology, computer science, biology, engineering, linguistics and philosophy study intelligent systems in humans and computers. Together, they are trying to discover the building blocks of cognition and to determine how these components produce complex behaviours such as remembering a fact, naming an object, writing a word or making a decision (see the Snapshot 'Cognitive science at work').

The humanistic approach

Mental events play a different role in the **humanistic approach** to psychology (also known as the *phenomenological approach*). Psychologists who favour the humanistic perspective see behaviour as determined primarily by each person's capacity to choose how to think and act. They don't see these choices as driven by instincts, biological processes, or rewards and punishments but rather by each individual's unique perceptions of the world. So if you see the world as a friendly place, you are likely to be optimistic and secure. If you perceive it as full of hostile, threatening people, you will probably be defensive and fearful.

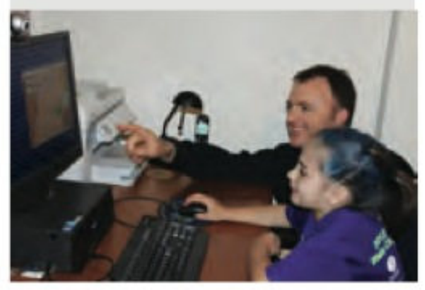
Like their cognitively oriented colleagues, psychologists who choose the humanistic approach would see aggression in a cinema queue as stemming from a perception that aggression is justified. Whereas the cognitive approach leads psychologists to search for laws governing *all* people's thoughts and actions, humanistic psychologists try to understand how each individual's unique experiences guide *that* person's thoughts and actions. In fact, many who prefer the humanistic approach claim that because no two people are exactly alike, the only way to understand behaviour and mental processes is to focus on how they operate in each individual. Humanistic psychologists also believe that people are essentially good, that they are in control of themselves, and that they have an innate tendency to grow towards their highest potential.

The humanistic approach began to attract attention in North America in the 1940s through the writings of Carl Rogers, a psychologist who had been trained in, but later rejected, the psychodynamic approach. We describe his views on personality in Chapter 13, 'Personality', and his psychotherapy methods in Chapter 14, 'Psychological disorders and treatment'. Another influential figure of the same era was Abraham Maslow, a psychologist who shaped and promoted the humanistic approach through his famous hierarchy-of-needs theory of motivation, which we describe in Chapter 10,

SNAPSHOT

Cognitive science at work

Some cognitive psychologists undertake work in cognitive skill acquisition, where the main interest is in how practice leads to improved performance and knowledge. This has obvious implications for education in general and specifically the development of educational software for children.



'Motivation and emotion', and Chapter 13, 'Personality'. Today, the impact of the humanistic approach to psychology is limited, mainly because many psychologists find humanistic concepts and predictions too vague to be expressed and tested scientifically. It has, however, helped inspire the theories and research in positive psychology that are now becoming so popular (Snyder & Lopez, 2009). (For a summary of all the approaches we have discussed, see the section 'In review: Approaches to the science of psychology'.)

IN REVIEW

Approaches to the science of psychology

APPROACH	CHARACTERISTICS
Biological	Emphasises activity of the nervous system, especially of the brain; the action of hormones and other chemicals; and genetics
Evolutionary	Emphasises the ways in which behaviour and mental processes are adaptive for survival
Psychodynamic	Emphasises internal conflicts, mostly unconscious, which usually pit sexual or aggressive instincts against environmental obstacles to their expression
Behavioural	Emphasises learning, especially each person's experience with rewards and punishments; the *cognitive-behavioural approach* adds emphasis on learning by observation and the learning of certain ways of thinking
Cognitive	Emphasises mechanisms through which people receive, store, retrieve and otherwise process information
Humanistic	Emphasises individual potential for growth and the role of unique perceptions in guiding behaviour and mental processes

Check your understanding

1 Teaching people to be less afraid of heights reflects the _____ approach.
2 Charles Darwin was not a psychologist, but his work influenced the _____ approach to psychology.
3 Assuming that people inherit mental disorders suggests a _____ approach.

1.4 HUMAN DIVERSITY AND PSYCHOLOGY

Today, the diversity seen in psychologists' approaches to their work is matched by the diversity in their own backgrounds. This was not always the case. As in other academic disciplines in the early 20th century, most psychologists were white, middle-class men (Walker, 1991). Almost from the beginning, however, women have been part of the field (Schultz & Schultz, 2004); see the Snapshot 'Mary Whiton Calkins (1863–1930)'. Throughout this book, you will find discussions of the work of their modern counterparts, whose contributions to research, service and teaching have all increased in tandem with their growing representation in psychology (see the Snapshot 'Professor Carmen Mary Lawrence').

The Psychology Board of Australia publishes a statistical breakdown of registered psychologists in the country. Currently, women comprise 79 per cent of this group and men 21 per cent (Psychology Board of Australia, 2016). The most represented age group is that between the ages of 30 and 34 years (15 per cent). In 2010, the New Zealand psychologist workforce comprised approximately

SNAPSHOT

Mary Whiton Calkins (1863–1930)

Mary Whiton Calkins studied psychology at Harvard University, where William James described her as 'brilliant'. Because she was a woman, though, Harvard refused to grant her a doctoral degree unless she received it through Radcliffe, which was then an affiliated school for women. She refused but went on to do research on memory and in 1905 became the first woman president of the American Psychological Association (APA). Margaret Washburn (1871–1939) encountered similar sex discrimination at Columbia University, so she transferred to Cornell and became the first woman to earn a doctorate in psychology. In 1921, she became the second woman president of the APA.

Courtesy of Wellesley College Archives/photo by Pastridge

70 per cent women and 29 per cent men, with 16 per cent of psychologists in the over-60 age group (the largest age grouping) (NZ Ministry of Health, 2016); a breakdown in terms of cultural identity indicated that about 5 per cent were Māori psychologists. With respect to Australian Aboriginal and Torres Strait Islander peoples, 39 Indigenous psychologists were registered in 2009, which was less than 1 per cent of total registrations (Rickwood, Dudgeon & Gridley, 2010). Only two had doctoral qualifications, and both were women – Dr Pat Dudgeon and Dr Tracey Westerman.

sociocultural factors social identity and other background factors, such as gender, ethnicity, social class and culture

culture the accumulation of values, rules of behaviour, forms of expression, religious beliefs, occupational choices and the like for a group of people who share a common language and environment

The impact of sociocultural diversity on psychology

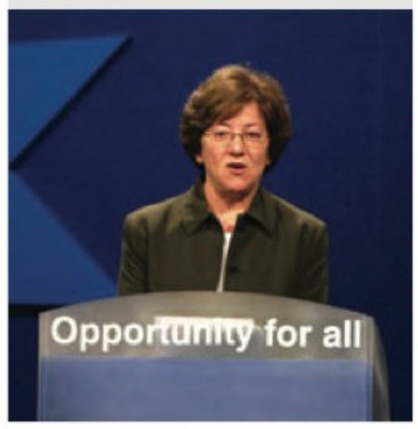
Another aspect of diversity in psychology lies in the wide range of people that psychologists study and serve. This change is significant because most psychologists once assumed that all people were very much alike, and that whatever principles emerged from research or treatment efforts with one group would apply to everyone, everywhere. They were partly right, because people around the world *are* alike in many ways. They tend to live in groups, have religious beliefs and create rules, music, dances and games. The principles of nerve cell activity or reactions to heat or a sour taste are the same in men and women everywhere, as is their recognition of a smile. However, not all people's moral values, achievement motivation or communication styles are the same. These and many other aspects of behaviour and mental processes are affected by **sociocultural factors**, including people's gender, ethnicity, social class and the culture in which they grow up. These variables create many significant differences in behaviour and mental processes, especially from one culture to another (for example, Shiraev & Levy, 2010).

Culture has been defined as the accumulation of values, rules of behaviour, forms of expression, religious beliefs, occupational choices and the like for a group of people who share a common language and environment (Fiske et al., 1998). Culture is an organising and stabilising influence. It encourages or discourages particular behaviours and thoughts; it also allows people to understand and know what to expect from others in that culture. It is a kind of group adaptation, passed along by tradition and example rather than by genes from one generation to the next (Castro & Toro, 2004). Culture determines, for example, whether children's education will focus on skill at hunting or reading, how close people stand during a conversation, and whether or not they form lines in public places. Psychologists and anthropologists have found that cultures can differ in many ways (Cohen,

SNAPSHOT

Professor Carmen Mary Lawrence

Carmen Lawrence was born on 2 March 1948. She was awarded a doctorate in psychology in 1983 and went on to pursue a career in politics, from which she retired in 2007. Professor Lawrence was the first woman to become the premier of a State of Australia.



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