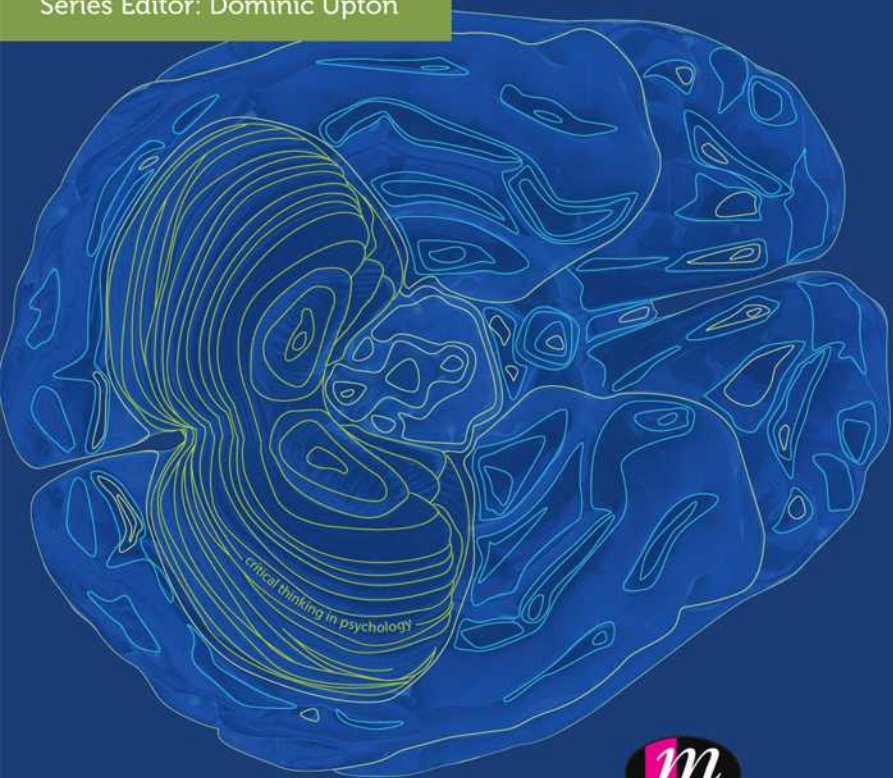


critical thinking in psychology

Developmental Psychology

Penney Upton

Series Editor: Dominic Upton



www.learningmatters.co.uk

Critical Thinking in Psychology

Developmental Psychology

Critical Thinking in Psychology – titles in the series

| | |
|---|------------------------|
| Cognitive Psychology | ISBN 978 0 85725 522 8 |
| Developmental Psychology | ISBN 978 0 85725 276 0 |
| Personality and Individual Differences | ISBN 978 0 85725 114 5 |
| Research Methods and Design in Psychology | ISBN 978 0 85725 469 6 |
| Social Psychology | ISBN 978 0 85725 280 7 |

Critical Thinking in Psychology

Developmental Psychology

Penney Upton

Series Editor: Dominic Upton



LearningMatters

First published in 2011 by Learning Matters Ltd

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission in writing from Learning Matters.

© 2011 Penney Upton

British Library Cataloguing in Publication Data

A CIP record for this book is available from the British Library

ISBN 978 0 85725 276 0

This book is also available in the following ebook formats:

Adobe ebook ISBN 978 0 85725 278 4

ePUB ebook ISBN 978 0 85725 277 7

Kindle ISBN 978 0 85725 279 1

The right of Penney Upton to be identified as the Author of this Work has been asserted by her in accordance with the Copyright, Designs and Patents Act 1988.

Cover and text design by Toucan Design

Project management by Diana Chambers

Typeset by Kelly Winter

Printed and bound in Great Britain by Short Run Press Ltd, Exeter, Devon

Learning Matters Ltd

20 Cathedral Yard

Exeter EX1 1HB

Tel: 01392 215560

E-mail: info@learningmatters.co.uk

www.learningmatters.co.uk



Contents

| | | |
|-----------|---|-----|
| | Acknowledgements | vi |
| | Series editor's introduction | vii |
| Chapter 1 | Themes and theories in developmental psychology | 1 |
| Chapter 2 | Prenatal development, birth and the neonate | 26 |
| Chapter 3 | Development in infancy | 48 |
| Chapter 4 | Early childhood | 69 |
| Chapter 5 | Middle and late childhood | 90 |
| Chapter 6 | Adolescence | 112 |
| Chapter 7 | Adulthood | 132 |
| Chapter 8 | Death, dying and bereavement | 152 |
| | Glossary | 172 |
| | References | 189 |
| | Index | 217 |

Acknowledgements

Many thanks to Lee Badham, Tracey Price and Emma Jackson for their technical assistance.

A big thank you must also go to my husband for his advice and encouragement while writing this textbook, and to my three favourite children – Francesca, Rosie and Gabriel – who have taught me a lot about the practical aspects of child development!

Series editor's introduction

Studying psychology at degree level

Being a student of psychology is an exciting experience – the study of mind and behaviour is a fascinating and sprawling journey of discovery. Yet, studying psychology at degree level brings with it new experiences, new skills and knowledge. This book, one in a comprehensive new series, brings you this psychological knowledge, but importantly brings with it directions and guidance on the skills and experiences you should also be developing during your studies.

Psychology is a growing discipline – in scope, in breadth and in numbers. It is one of the fastest-growing subjects to study at GCSE and A-Level, and the number of students studying the subject at university has grown considerably over the past decade. Indeed, psychology is now one of the most popular subjects in UK higher education, with the most recent data suggesting that there are some 45,000 full-time students currently enrolled on such programmes (compiled from Higher Education Statistics Agency (HESA) statistics available at www.HESA.ac.uk) and it is likely that this number has not yet peaked.

The popularity of psychology is related to a number of reasons, not the least of which is its scope and its breadth – psychology is a sprawling discipline that seeks to analyse the human mind and behaviour, which is fascinating in its own right. Furthermore, psychology aims to develop other skills – numeracy, communication and critical analysis to name but a few. For these reasons, many employers seek out psychology graduates – they bring a whole host of skills to the workplace and any activities they may be involved in. This book brings together the knowledge base associated with psychology along with these critical skills. By reading this book, and engaging with the exercises, you will develop these skills and, in this way, will do two things: excel in your studies and your assessments; and put yourself at the front of the queue of psychology graduates when it comes to demonstrating these skills to potential employers.

Developing higher level skills

Only about 15–20 per cent of psychology graduates end up working as professional psychologists. The subject is a useful platform for many other careers because of the skills it helps you to develop. It is useful to employers because of its subject-specific skills – knowing how people act is pertinent in almost any job and is particularly relevant to those that involve working directly with people. Psychology also develops a number of generic and transferable skills that are both essential to effective undergraduate study and valuable to employers. These include higher-level intellectual skills, such as critical and creative thinking, reflection, evaluation and analysis, and other skills such as communication, problem solving, understanding and using data, decision making, organisational skills, teamworking and IT skills.

The Quality Assurance Agency in Higher Education (QAA) subject benchmarks for psychology (www.qaa.ac.uk/academicinfrastructure/benchmark/honours/psychology.asp), which set out the expectations of a psychology degree programme, highlight the sorts of skills that your degree should equip you with. The British Psychological Society (BPS), which accredits your degree course, acknowledges that graduate employability is an important area of focus for universities and expects that opportunities for skills development should be well embedded within your programme of study. Indeed, this is a major focus of your study – interesting as psychology is, you will need and want employment at the end of your degree.

The activities in this book have been designed to help you build the underpinning skills that you need in order to become independent and lifelong learners, and to meet the relevant requirements of your programme of study, the QAA benchmarks and the needs of you and your potential employer.

Many students find it a challenge to develop these skills, often learning them out of context of their study of the core knowledge domains of psychology. The activities in this book aim to help you to learn these skills *at the same time* as developing your core psychology knowledge, giving you opportunities continuously to practise skills so that they become second nature to you. The tasks provide guidance on what the skill is, how to develop basic competence in it and how to progress to further expertise.

At the same time, development of these skills will enable you to better understand and retain the core content of your course – being able to evaluate, analyse and interpret content is the key to deepening understanding.

The skills that the activities in this book will help you to develop are as presented in Table 0.1.

Table 0.1: Skills developed in this book

| <i>Generic skills</i> | <i>Transferable skills</i> |
|----------------------------------|---|
| • critical and creative thinking | • communication: oral, visual and written |
| • reflection | • problem solving |
| • analysing and evaluating | • understanding and using data |
| | • decision making |
| | • organisational skills |
| | • teamwork |
| | • information technology |
| | • independent learning |

In addition to review and essay questions, each chapter in this book will contain novel learning activities. Your responses will be guided through these activities and you will then be able to apply these skills within the context of developmental psychology.

Features in this book

At the start of each chapter there will be **learning outcomes**. These are a set of bullet points that highlight the outcomes you should achieve – both skills and knowledge – if you read and engage with the chapter. This will mean at the outset of the chapter that we try to orientate you, the reader, and demonstrate the relevance of the topic.

We have also included learning features throughout the individual chapters in order to demonstrate key points and promote your learning.

- **Bulleted lists** are used within the chapter to convey key content messages.
- **Case studies** are included as part of a critical thinking activity.
- **Tasks** are a series of short review questions on the topic that will help you assess yourself and your current level of knowledge – use these to see if you can move on or whether you need to reread and review the material.
- **Critical thinking activities** allow for the review of the text by encouraging key critical and creative thinking of the psychology material presented, and provide development of the generic skills. Each of these activities is followed by a **Critical thinking review** which unpicks the activity for you, showing how it should have been tackled, the main skill it develops and other skills you may have used in completing the activity.
- **Skill builder activities** use the psychology material presented in the text but will be focused on one particular transferable skill as outlined in Table 0.1. Each of these activities is followed by a **Skill builder review** which may provide further hints and which makes explicit the skills it helps to develop and the benefits of completing the activity.

At the end of the chapter there will also be some pedagogic features that you will find useful in developing your abilities.

- **Assignments** In order to assess your awareness and understanding of the topic, we have also produced a series of questions for you to discuss and debate with your colleagues. You can also use these questions as revision materials.
- **Summary: what you have learned** at the end of each chapter we present a summary of the chapter as a series of bullet points. We hope that these will match the learning outcomes presented at the outset of the chapter.

- **Further reading** we have included items that will provide additional information – some of these are in journals and some are full texts. For each we have provided the rationale for suggesting the additional reading and we hope that these will direct you accordingly.
- **Glossary** entries are highlighted in bold in the text on their first appearance in a chapter.

Finally, there is a full set of **references** to support all of the material presented in this text.

We hope you enjoy this text, which is part of a series of textbooks covering the complete knowledge base of psychology.

Professor Dominic Upton

June 2011

Chapter 1

Themes and theories in developmental psychology

Learning outcomes

By the end of this chapter you should:

- understand how developmental psychology has evolved as a discipline;*
- be able to critically evaluate the main themes and theories in developmental psychology;*
- know who the key historical and contemporary figures are in developmental psychology;*
- have a critical understanding of the research methods commonly applied in developmental psychology;*
- have developed your written communication and independent learning skills;*
- be able to engage in reflection on contemporary and traditional approaches in psychology.*

Introduction

Developmental psychology is the scientific study of age-related changes in mind and behaviour. Originally it was believed that the development of all our skills and abilities was completed in childhood. We now understand that development is a lifelong process; change does not stop because we have reached adulthood. The purpose of this chapter is to introduce the **lifespan approach** to the study of development and to show you the importance of examining changes that occur in adulthood, as well as those that occur in childhood. In Chapter 7, for example, we see the way in which cognitive skills can continue to increase in adulthood or decline depending on personal experiences. Developmental psychology informs several applied fields, including educational psychology, child clinical psychology and child forensic psychology, and also complements the other main fields in psychology, including social, cognitive and individual differences.

Themes in developmental psychology

There are a number of themes that run right through developmental psychology. These are:

- the influence of nature versus nurture;
- continuity versus discontinuity in change;
- critical versus sensitive periods of development;
- stability versus change;
- the role of the individual in development.

Nature versus nurture

As a student of psychology you will come across the nature–nurture debate throughout your studies. It is one of the most fundamental and oldest issues in psychology and philosophy, and one that we will return to in later chapters. The debate concerns the relative contributions of inheritance and the environment in determining our knowledge and behaviour. Philosophers such as Plato and Descartes supported the idea that we are born with knowledge and **innate** skills. Other thinkers such as John Locke argued for the concept of **tabula rasa** – the idea that the mind is a blank slate at birth, with experience determining what we know. These philosophical viewpoints have influenced some of the great thinkers in developmental psychology as you will see later on in the chapter.

In developmental psychology the debate centres around two main questions.

- Are children born with innate knowledge or skills or are these acquired from interaction with the environment?
- Is development driven by external factors or by something inside each individual?

In this context, nature refers to traits, abilities and capacities that are inherited. It includes anything produced by the predetermined unfolding of genetic information. Development that relies on nature alone is known as **maturation**. In contrast, nurture refers to the environmental influences that shape development. These can be biological; for example, substance misuse in pregnancy may result in changes in growth and development of the unborn child. More often than not, nurture refers to the social and cultural factors that shape our environment and way that the behaviours of those around us influence our development. This includes the way we are raised as children, the attitudes and behaviours of our peer group, our experiences and even the choices we make as we get older. Societal factors, such as the socio-economic circumstances in which we find ourselves, may also be important.

One area where this debate has been quite prominent is that of language acquisition, a topic we will return to in more detail in Chapter 3. A major question here is whether or not certain properties of human language are specified genetically or simply acquired through learning. The **nativist** position argues that the environmental input from language is insufficient for infants and children to acquire the structure of language. A well-known proponent of this view is linguist Noam Chomsky, who asserted that there is a 'universal grammar' that applies to all human languages and is pre-specified (Chomsky, 1979). He calls this the **language acquisition device (LAD)**. This view is supported by some contemporary psychologists, including Steven Pinker, who argues convincingly that language is a human instinct, wired into our brains by evolution (Pinker, 2007).

In contrast, the **empiricist** position on the question of language acquisition suggests that language input is sufficient to provide the information we require to learn the structure of language. This perspective proposes that infants acquire language through a process of statistical learning. Language is acquired by the general learning methods that apply to all aspects of human development.

There is evidence to support components of both the nativist and the empiricist position, both for language and for other aspects of development. In contemporary psychology the consensus view is that development results from an interaction between genes and environment. However, that does not mean that this issue has been put aside. The debate now concerns the relative role of nature and nurture for different aspects of development. In language development, for example, theorists such as Jerome Bruner (1983) agree with Chomsky's notion of an LAD. However, Bruner asserts that Chomsky gives too big a role to this aspect of language acquisition, noting that social context, and the behaviour of parents in particular, have a significant impact on language development. This aspect of the environment he calls the **language acquisition support system (LASS)**. According to Bruner, the LAD cannot function alone and every LAD therefore needs a LASS.

Continuity versus discontinuity

This issue concerns whether development follows a smooth continuous path, or whether it is a discontinuous stage-based process. In continuous change, development is gradual and cumulative. Changes are quantitative in nature and the underlying processes that drive change are the same over the course of the lifespan. In this view, one behaviour or skill builds upon another, such that later development can be predicted from what occurred early in life. Physical growth and changes in height provide one example of continuous change in childhood. In discontinuous change, development occurs in distinct, usually abrupt stages. Each stage is qualitatively different from the last. Examples sometimes cited from nature include the caterpillar that turns into a butterfly, or the tadpole that becomes a frog.

The question for developmental psychology concerns whether psychological skills and abilities in childhood are qualitatively different from those of adults. Or are children merely mini adults, who

simply lack the knowledge that comes with experience? One area in which this debate has been of primary concern is cognitive development. Jean Piaget, for example, proposed a four-stage **theory** to describe how children reason and interact with their surroundings (1952, 1962, 1983). According to Piaget, children's thinking is characterised at each stage by different forms of mental organisation. This gives rise to qualitative differences in thinking and reasoning at each stage. This, in turn, means that a child's view of the world is different from that of an adult. In contrast to this, information-processing models of cognitive development have proposed that this idea is flawed and that cognitive change occurs because of an increase in quantitative advances, not qualitative differences. A child's ability to engage in more sophisticated reasoning processes is believed to stem from a change in their capacity to handle information. This increased capacity, along with improved processing speeds, makes processing more efficient.

Once again, psychologists generally agree that neither approach is complete. It is more likely that some processes may be better described as continuous and others as occurring through stages. There is also some suggestion that continuous and discontinuous processes may interact. *Neo-Piagetian theory* (e.g. Case, 1999) suggests that the changes in information-processing mechanisms, such as speed and memory capacity, are responsible for the progression from stage to stage.

Critical versus sensitive periods for change

A critical period is a specific time during development when a particular event has its greatest impact. As you will see in Chapter 2, maternal diseases, such as **rubella**, have greater consequences for foetal development in the eleventh week of pregnancy than in the thirtieth week. Rubella contracted in the eleventh week may lead to blindness, deafness and heart problems. Rubella in the thirtieth week may have no significant impact on **prenatal** development. In this case, specific events during the critical period lead to **atypical development**. In developmental psychology, a critical period for development usually implies that certain environmental stimuli are necessary for typical development to occur. John Bowlby (1951), for example, suggested that, if children did not receive the right kind of care in the first two years of life, their emotional development would be adversely affected. According to Bowlby, between six months and two years of age is a critical period for relationship formation. If children are not able to form a strong attachment with a carer during this period, their ability to form relationships later in life will be permanently damaged.

Better understanding of the **plasticity** and **resilience** of human nature has led to a reassessment of this idea. Most developmentalists now agree that, rather than suffering permanent damage from a lack of stimuli during early periods of development, it is more likely that people can use later experiences to help them overcome deficits. It is now more common to talk about 'sensitive' rather than 'critical' periods. In a sensitive period we may be more susceptible to particular stimuli; however, the absence of those stimuli does not always result in irreversible damage.

Stability versus change

This issue concerns the extent to which early traits and characteristics persist throughout life or are able to change. Does the shy child become a shy adult? Can a shy child become a gregarious adult? The stability–change issue involves the degree to which we merely become older versions of our younger selves. Theorists who believe in stability in development often argue from a nativist stance, emphasising the role of heredity for the development of psychological characteristics. We inherit aspects of our personality, for example, in much the same way that we inherit eye colour. From this perspective we cannot change our psychological self, only learn to control it. Thus, the shy child remains shy as an adult even if he or she learns to act in an outgoing manner in social situations.

From an empiricist viewpoint, stability in psychological characteristics stems from the impact of early experiences that cannot be overcome. An individual is shy not because of a genetic predisposition, but because during early experiences of interacting with others they encountered considerable stress, leading them to avoid social interaction. This has much in common with the idea described in the preceding section, that there are critical periods of development during which specific experiences permanently influence later behaviour.

The alternative viewpoint is that there is potential for change throughout the life span. Later experiences are believed to be able to influence development just as early ones do. The majority of contemporary theorists accept this perspective. However, there is still some debate as to how much change is possible. On the one hand, Baltes (2003) argues that, while adults are able to change, their capacity to do so is less than that of a child and diminishes over time. On the other hand, Kagan (2003) argues that personality traits such as shyness have a genetic basis; yet he also provides evidence that even these inherited traits can be subject to change over time.

The role of the individual in development

This concerns the extent to which development is driven by external factors or by something inside each individual. Are children active agents who influence their own development or passive agents who merely respond to forces in the developmental progression? Traditional views of development see the individual as passive in their development. Empiricists see the child as a passive recipient of stimuli, while nativists see the child as passively following a biological programme. Most contemporary theories of development recognise an active role for children in their own development. This thinking has its roots in the philosophy of Immanuel Kant, who argued for a synthesis of nativism and empiricism. He proposed that we are born with certain mental structures that help us to interpret input from our senses in particular ways. By themselves, they cannot give us knowledge. It is only through interaction with the environment that these structures order and organise experience. He also proposed an active role for individuals as organisers of this experience.

Modern theories of development recognise children as central to their own development. The individual is able to influence development directly through the choices they make and increasingly, as they get older, by selecting their environment. They are also able to affect development indirectly through their behaviour, which can affect how others respond to them and, to some extent, the experiences they encounter.

Theories of development

Miller (2002) defines a *theory* as a set of interconnected statements including definitions, axioms, postulates, hypothetical constructs, laws and testable hypotheses, which describe unobservable structures, mechanisms or processes and relate them to observable events. Complete theories of development are rare in contemporary psychology, according to Miller. Rather, developmental theories serve as frames of reference for examining change in specific aspects of mind or behaviour, such as cognition or emotional functioning. In this way, they are perhaps better viewed as *models* of development – that is, informal theories of more limited scope.

However, developmental psychologists usually have a particular theoretical perspective. Their view of development is usually based on a general set of assumptions about how change occurs and the factors they believe to be most significant in producing developmental change. You may well have come across some of these theoretical perspectives in other areas of psychology. While there are many approaches in psychology, the most significant from a developmental standpoint include the psychodynamic, learning, constructivist and social constructivist perspectives, which are described briefly here. We will return to these theories later in the chapter when we look at some key figures in development on pages 10–19.

Psychodynamic theories

Proponents of the psychodynamic perspective believe that behaviour is motivated by inner forces, memories and conflicts, of which a person has little awareness or control. These inner forces usually result from childhood experiences and continue to influence behaviour across the lifespan. The best-known theorists in this perspective are Sigmund Freud (1856–1939) and Erik Erikson (1902–94).

Learning theories

This perspective suggests that the key to understanding development lies in observable behaviour and an individual's response to environmental stimuli. The assumption here is that behaviour is a learned response to **reinforcement** provided by the environment. The learning and

conditioning principles described in the **behavioural** theories of BF Skinner (1936) and John B Watson (1913, 1924) account for human development.

One area that behaviourist theories do not explain is the type of learning that takes place when someone learns by observing a **model**. Called **social learning** by Albert Bandura (1963), this is the process by which someone imitates the behaviour observed in another person when it appears to have reinforcing consequences, and inhibits such behaviour when the observed consequence is punishment.

Constructivist and social constructivist theories

Constructivism argues that learning and development occur when an individual interacts with the environment around them. Individuals are seen as active learners who construct their own understanding and knowledge of the world from their actions upon the environment. Development is suggested to take place in sequential stages and children's thinking is proposed to be different from that of adults. The most well-known theorist in this perspective is Jean Piaget (1896–1980), who developed an important theory of cognitive development.

Social constructivist theories are a variant of this perspective and emphasise the influence of the social and cultural environment on development. The social context of development and an individual's interactions with other people are seen as playing an important role in development. The most significant theorists to take account of social and cultural factors in development are Lev Vygotsky (1930/1978) and Urie Bronfenbrenner (1977).

How has developmental psychology evolved as a discipline?

There are two key areas to be aware of with regard to the progress of developmental psychology as a discipline. First, there has been a change in the focus of interest from development in childhood, to development across the lifespan. Second, there has been a gradual change in the way that this development has been studied.

From child development to lifespan development

The scientific study of children began in the second half of the nineteenth century, when Charles Darwin (1809–82) first put forward his theory of evolution. In his book *On the Origin of Species* (1859), Darwin focused attention on the significance of the immaturity of human infants. In particular, he proposed that **ontogeny** recapitulates **phylogeny**. According to this recapitulation theory, individual development replicates the evolution of the species. For example, in the very early stages of development the human **embryo** looks like a fish, even having gill slits. This fits well

with the evolutionary idea that humans evolved from other vertebrates. Darwin also kept a detailed record of his infant son's development, which he later reported in the journal *Mind* (1877). Baby biographies such as this one were popular during the late nineteenth century and are often credited with being some of the first studies in human development. While not scientifically sound, these single **case studies** made human development a legitimate topic for study.

A number of other scientists of the time were influenced by these baby biographies and Darwin's theories, most notably Granville Stanley Hall (1846–1924), the founder of the American Psychological Association. Well aware of the shortcomings of the baby biographies, Hall became a strong advocate of the need to base child-rearing on scientific principles. His own studies used questionnaires in an attempt to collect more objective data and to explore *the contents of children's minds* (Hall, 1891). At around the same time in England, James Sully (1842–1923) established a new subject at London University called 'Child Psychology'.

Initially, developmental psychology focused on the changes that take place in childhood. It was only in the early twentieth century that adolescence began to be studied as a distinct life stage. One of the first psychologists to study and write about adolescence was Hall (1904), who suggested that this was an important period of change, typified by intense emotional turmoil, which he called 'storm and stress'. The importance of psychological development as a process that continues throughout adulthood as well as childhood and adolescence was not fully recognised until much later in the twentieth century. Hall himself wrote about changes in adulthood in 1922; however, one of the most important theories to suggest that psychological development continues across the lifespan was that of Erik Erikson (1950).

Although some early theorists such as Hall saw all phases of the lifespan as worthy of investigation, for much of the twentieth century the study of human development was divided into age-related specialities. Some researchers focused on infancy and childhood, others specialised in adolescence and some focused on gerontology, the study of ageing and old age. So while many areas of the lifespan were being studied, this was being done in quite separate, self-contained disciplines. In this traditional approach to studying development the emphasis is on the idea that most developmental change occurs in childhood and adolescence. This is followed by adulthood, a period of relative stability. Finally, old age is believed to be characterised by decline. This is quite different from the lifespan perspective, which began to emerge as a distinct discipline in the 1960s and 1970s. According to this perspective, developmental change occurs throughout the lifespan and changes in adulthood are as important as those in childhood. No age period dominates development. Changes that occur as we age may also be positive; ageing is not defined by decline. Development is therefore **multidirectional**. This means that, as some capacities or behaviours decrease, others expand. Furthermore, development includes both gain and loss throughout the lifespan and these may even occur together. Development is also believed to be **multi-dimensional**; that is, it consists of biological, social, emotional and cognitive changes, all of which are interrelated. The study of development should therefore be seen as **multidisciplinary**;

neuroscientists, psychologists, sociologists and medical researchers have different but complementary perspectives on age-related change, making multidisciplinary research an important goal. It is also recognised that development can be influenced by the environment in which an individual lives. Thus, the **socio-cultural context** of development is seen as highly relevant to developmental change. Finally, the *plasticity* of human development – the idea that we retain capacity for change in response to environmental factors right across the lifespan – is emphasised.

This lifespan approach to development has become increasingly popular in recent years, perhaps in response to increases in life expectancy. This is undoubtedly because of the optimistic view it gives of ageing. Rather than being seen as the endpoint of development as it is in the traditional view, adulthood is seen as an important time of growth and change. Furthermore, adulthood and ageing are no longer portrayed as a period of decline; positive change is seen to take place even for older adults. As we shall see in Chapter 7, there is a lot of evidence that supports this positive view of ageing.

From the traditional to a new research paradigm

In the late nineteenth century, the new study of child development used a systematic approach to investigating age-related changes. The methods used were based on those used in the natural sciences and involved evaluating theories of development by generating and testing hypotheses. This is known as the *hypothetico-deductive* method. When following this scientific **experimental** method, the aim is to collect objective data and carry out a **quantitative** analysis in order to provide accurate descriptions and explanations of how and why change occurs. It is also common to carry out data collection under controlled conditions in a laboratory.

An underlying assumption in this traditional scientific approach is that there is an objective reality in the world that can be observed, measured and categorised. This is sometimes referred to as a **positivist approach** and has been used widely in developmental psychology since the study of human development began. This approach has produced much of the theoretical work and research described in this book. However, in the last 20 to 30 years, there has been increasing debate about whether the approach taken in traditional science is appropriate for the study of human development. One important objection that we will encounter throughout this book is that, in traditional lab-based research, development is being studied outside a meaningful social context. The findings may therefore lack **ecological validity**, which means that they may no longer hold true when people are behaving naturally in their everyday settings. It is also argued that people's behaviour during a research study may also be changed because of other factors, such as the uneven power relationship between the researcher and the participant. It has also been suggested that researchers may impose on participants their own ideas of what is being measured, by the research tools that they use and the way they design the study. Thus a participant's behaviour during the study may not be completely natural but may, in part, be an artefact

of participating in the research. The problem of the uneven power relationship has been suggested as a particular issue when working with children and is something we will return to in later chapters.

These objections to the positivist approach have resulted in a different emphasis in the way that some developmental psychologists conduct their research. They may do this while still following the core principles of the traditional scientific approach. For example, studies have been carried out to investigate the influence of context on people's behaviour, but using traditional experimental methods. A good example of this is the work of Margaret Donaldson (1978), which looked at how children's cognitive performance changed according to the language used and the meaningfulness of the situation. More studies have been carried out to research people's behaviour in everyday situations using *observations* and **quasi-experimental** methods. The collection of more **qualitative** data, using open-ended questions in questionnaires and **interviews** that allow participants to raise ideas that the researcher had not included, has also become more common.

Other psychologists have shown a more radical reaction to the debate about the traditional scientific approach. They reject the idea that human thought and behaviour can ever be studied objectively. This is because they argue that there is no single objective reality; rather, each one of us constructs our own understandings and interpretations of 'reality', which are embedded in the context of our interactions with others. 'Reality' is therefore highly individualised and subjective. These psychologists argue that it is the interactions between people that should be the focus for psychological research. The aim is to describe the subjective experience of participants and understand individuality in order to build 'local theories' that apply to the specific social context of an event. Unlike 'scientific' theories, they are not concerned with generating predictions as much as making sense of phenomena. These are some of the key features of what is referred to as a qualitative approach, and sometimes called 'new paradigm' research. The difference between this and the traditional approach is illustrated by Grieg and Taylor's (1999) suggestion that, in the positivist approach, children are determined, knowable, objective and measurable, whereas in the qualitative approach they are subjective, contextual, self-determining and dynamic. It is important to recognise that there is some overlap between these differing approaches. Many researchers use a variety of methods and seek to gain both quantitative and qualitative data.

Key figures in developmental psychology

There are a number of key figures in developmental psychology. These are the theorists whose ideas and research have changed the way we think about human development. The aforementioned Granville Stanley Hall (1904, 1912, 1922), for example, is often called the 'father' of developmental psychology, as he carried out some of the first systematic studies of children. He also taught one of the first courses in child development and established scientific journals for the publication of child development research. His belief that children's development recapitulates

the evolution of the species has long since been discredited. However, he retains importance as a historical figure as he inspired a great deal of the work on human development upon which this book is based. The theories of those who followed in Hall's footsteps have also not always stood up to close scrutiny. However, there are some theorists whose work remains critical to our understanding of human development.

John B Watson (1878–1958)

Watson created the behaviourist approach to psychology at the beginning of the twentieth century (Watson, 1913). He believed that human behaviour can be understood in terms of experiences and learning. He rejected the introspective approach of late nineteenth-century theorists, which attempted to understand internal mental experiences based on self-reports. He called instead for the objective study of observable, measurable behaviours. In 1928, in his book *Psychological Care of the Infant and Child*, he presented his view that all behaviour is the product of environment and experience. Biological factors had no role, according to Watson. His theory was that all learning takes place through a process of association.

Watson believed that learning occurs through **operant conditioning**, when an association is made between a behaviour and the consequence of that behaviour. Consequences will either reinforce a behaviour, thus making it more likely to reoccur, or will be aversive, thus decreasing the likelihood of the behaviour reoccurring. A reinforcer is therefore any event that strengthens or increases the behaviour that it follows. There are two kinds of reinforcers.

- Positive reinforcers are favourable outcomes presented after the behaviour. In positive reinforcement, a response or behaviour is strengthened by the addition of something such as praise or a direct reward.
- Negative reinforcers involve the removal of an unfavourable outcome after the display of a behaviour. In negative reinforcement a response is strengthened by the removal of something considered unpleasant.

Conversely, punishment occurs when an adverse outcome causes a decrease in the behaviour it follows. There are two kinds of punishment.

- Positive punishment involves the presentation of an unfavourable outcome in order to weaken the response it follows.
- Negative punishment occurs when a favourable outcome is removed after a behaviour occurs.

Although we now believe development to be far more complex than behaviourism allows, modern application of many of the ideas presented in Watson's learning theory can still be found, most especially in **Applied Behavioural Analysis (ABA)** – an intervention programme often used with children with behavioural or learning difficulties.

Albert Bandura (1925–)

Bandura believes that behavioural learning theories are inadequate as a framework for understanding human development. He suggests that many human behaviours are learned from observing others. According to Bandura's social learning theory (1963), people learn through observing others' behaviour and attitudes, using this as a model for their own behaviour. However, there are certain conditions that are necessary if modelling is to be effective.

- Attention: in order for the behaviour to be learned, the observer must see the modelled behaviour.
- Retention: the observer must be able to remember the modelled behaviour.
- Reproduction: the observer must have the skills to reproduce the action.
- Motivation: the observer must be motivated to carry out the action they have observed and remembered, and must have the opportunity to do so. Motivation may include seeing the model's behaviour reinforced, while punishment may discourage repetition of the behaviour.

According to Bandura, the observer will imitate the model's behaviour only if the model possesses characteristics that the observer finds attractive or desirable. Therefore, we do not always imitate others' actions. We choose who to imitate – learning is not an automatic response but depends on internal processes as well as environmental ones. This is very different from Watson's view of learning, and social learning theory has sometimes been called a bridge between behaviourist and cognitive learning theories because it encompasses attention, memory and motivation.

Sigmund Freud (1856–1939)

Sigmund Freud is best known in developmental psychology for his model of psychosexual development (1905). This theory is in sharp contrast to the objective approach advocated by Watson. His is one of the best known, but also one of the most controversial theories of development. It was based on his own and his patients' recollections of their childhood. According to Freud, personality develops through a series of stages, during which the psychosexual energies of the *id* become focused on different areas of the body as the child grows to adulthood. This psychosexual energy, or **libido**, was described as the driving force behind behaviour. Freud proposed five stages of development (see Table 1.1). If each psychosexual stage is completed successfully, the result is a healthy personality. However, if certain issues are not resolved at the appropriate stage, fixation occurs. Until this issue or conflict is resolved, the individual remains stuck in this stage. For example, a person who is fixated at the oral stage may be overdependent on others and may seek oral stimulation through smoking, drinking or eating.

Table 1.1: Freud's five stages of psychosexual development.

| Stage | Age | Characteristics |
|----------------|-----------------|---|
| Oral | Birth to 1 year | An infant's primary interaction with the world is through the mouth. The mouth is vital for eating, and the infant derives pleasure from oral stimulation through gratifying activities such as tasting and sucking. If this need is not met, the child may develop an oral fixation later in life, examples of which include thumb-sucking, smoking, fingernail biting and overeating. |
| Anal | 1 to 3 years | Freud believed that the primary focus of the libido was on controlling bladder and bowel movements. Toilet training is a primary issue with children and parents. Too much pressure can result in an excessive need for order or cleanliness later in life, while too little pressure from parents can lead to messy or destructive behaviour later in life. |
| Phallic | 3 to 6 years | Freud suggested that the primary focus of the id's energy is on the genitals. According to Freud, boys experience an Oedipal complex and girls experience and Electra complex , both of which are an attraction to the opposite sex parent. To cope with this conflict, children adopt the values and characteristics of the same-sex parent, thus forming the superego. |
| Latent | 6 to 11 years | During this stage, the superego continues to develop, while the id's energies are suppressed. Children develop social skills, values and relationships with peers and adults outside the family. |
| Genital | 11 to 18 years | The onset of puberty causes the libido to become active once again. During this stage, people develop a strong interest in the opposite sex. If development has been successful to this point, the individual will continue to develop into a well-balanced person. |

Freud's model is an interactionist one, in which development is determined by both biology and the environment. Thus, the sequence and timing of the stages are biologically determined; however, successful personality development depends on the environmental experiences of the child at each stage. The details of Freud's developmental theory have been widely criticised, and few psychologists today accept his theory of development as accurate. One problem with his theory is that concepts such as the libido are impossible to measure, and therefore cannot be tested scientifically. Furthermore, Freud's theory is based on case studies and not empirical research. Freud based his theory on the recollections of his adult patients, not on actual **observation** and the study of children.