Introduction to Child Development

Why you should read this chapter

This book focuses on the study of child development from birth to 8 years. From our own observations of children, we are all aware of the tremendous changes that take place during this period: in the space of a few years, not only do children grow in the physical sense, they also acquire skills in language and communication, the capacity to think and reason about the world, and skills in social interaction. The study of child development is not just fascinating in its own right; knowledge gained from studying development can also impact on many practical issues regarding the care, education and wellbeing of children. This book presents an overview of research and theory in various aspects of child development, but before we look at these, this chapter and Chapters 2 and 3 will aim to provide some basic context for the study of development as a whole. In this chapter we will look at some basic issues in child development and some of the broad theoretical approaches to understanding development.

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By the end of this chapter you should

- be aware of the various domains of development that are of interest to researchers in this field

- understand some basic issues in the study of development including the role of nature versus nurture, and whether development proceeds in a continuous or discontinuous manner

- be aware of the different theoretical approaches to development including psychoanalytic, learning theory, cognitive-developmental, ethological and evolutionary psychology, and bioecological approaches

- have a basic understanding of some specific theories from the various approaches.

The nature of development

Development can be seen as the way in which individuals grow and change over the course of their lifespan and this can take place in different domains: *biological*, which includes features such as physical growth and developments in motor skills; *cognitive*, which refers to changes in thought processes such as memory, reasoning and problem solving, imagination, and creativity and language; *emotional*, where the focus is on changes in emotional experience and understanding; and *social*, which refers to changes in our understanding of ourselves and other people and how we relate to others. While the division of development into different domains may be useful from the point of organising our own thinking about the nature of development, it is important also to recognise that development itself is a holistic process and each domain influences and is influenced by the others. For example, development in a child's motor skills, such as crawling and reaching and grasping (physical development), will allow them to explore both their environment and the objects in this environment, leading to a greater understanding of their surroundings (cognitive development).

A central issue in development is the **nature** versus **nurture** debate, in other words, the relative roles played by biological and genetic factors as opposed to environmental factors in shaping development. Nature refers to the role of biology and genetics and nurture to the role of experience and other environmental factors. Advocates of the nature position see development as a process of **maturation**, with physical and psychological change unfolding according to a genetically predetermined 'plan' inherited from our parents. The nurture viewpoint sees development occurring as a result of **learning**. Hall (1883) was a strong proponent of the role of nature in development, and very much influenced by evolutionary theory. This can be seen in

his theory of play, in which he argued that children's play emerged in a way that reflected the evolutionary history of the human species. For Hall, children's play was essentially acting out this history, for example an infant crawling reflected a point in human evolution when humans walked on all fours. On the other hand, Watson (1930) took the view that environmental experiences and learning were of most importance and claimed that he could use the environment to shape the development of any child:

> *Give me a dozen healthy infants, well-formed and my own specified world to bring them up in, and I'll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations and race of his ancestors.* (Watson, 1930: 104)

Watson's views on the role of the environment will be covered later in this book.

Today, most theorists do not take a rigid position on the role of nature and nurture and see development occurring through the interplay of both factors. For example, it is widely accepted that babies are born with different temperaments which can be classed as 'easy' or 'difficult', and there is likely to be an inherited basis for either. However, research by Thomas and Chess (1986) has also indicated that the nature of the parenting received by babies is also important in the long-term development of temperament and a difficult baby will not necessarily grow into a difficult child or adult. Sensitive caregiving can alter the temperament of the child. Another interesting issue is the extent to which abilities and behaviour are **canalised** (Waddington, 1975), in other words, are strongly influenced by genetic factors, or are amenable to environmental influences. The development of motor skills in infants would be an example of a strongly canalised process, as all infants will eventually roll over, reach for objects, sit up, crawl and walk, and it would take extreme circumstances to alter this pattern. On the other hand, personality characteristics such as temperament and intelligence, while having a genetic component, are seen as less strongly canalised and can be altered by the environment in which the infant is raised.

Another aspect of development that has been subject to debate is whether it proceeds in a **continuous** or **discontinuous** manner. Continuous development implies a gradual but smooth pattern of change over time. Essentially, babies and children are seen as having the same basic capacities as adults and changes take place in the efficiency and complexity of their abilities until they reach the mature, adult levels. Change is then essentially *quantitative* in nature. Just as children grow taller and can run faster as they get older, their psychological characteristics also change in the same way, for example they can remember more and their thought processes become more complex and sophisticated. The alternative discontinuous view is that development proceeds as a series of abrupt changes and with each change the child moves to a more advanced level of functioning. In this view, the child moves through a series of **developmental stages**, and with each new stage the child's behaviour, abilities or thought processes are *qualitatively* different to what they were in the preceding stage.

Theories of development

A theory is essentially a set of organised observations that are used to explain an interesting phenomenon. There are a number of broad theories of child development and some of these will be reviewed in this section. These will include *psychodynamic, learning, cognitive-developmental, ethology and evolutionary psychology*, and *bioecological* theories.

Psychodynamic theories

Psychodynamic theories have their roots in the work of Sigmund Freud whose views stemmed from his experiences of treating individuals suffering from a variety of neuroses. Freud concluded that human development is essentially driven by conflict. We have basic aggressive and sexual instincts that need to be satisfied, but we live in a society where such instincts have to be controlled and restrained. Development was therefore about seeking a balance between satisfying basic drives and adapting to the reality of our situation. Freud (1917) proposed that the human personality is made up of three components: the **id**, the **ego** and the **superego**. The id is present from birth and its sole purpose is the satisfaction of our basic urges. It operates according to the **pleasure principle** and seeks immediate gratification of our needs and Freud believed that the infant was dominated by it. However, as we develop, our instincts come into conflict with reality and we need to restrain the impulses of the id, and this leads to the emergence of the ego. The ego operates according to the **reality principle** in that it seeks to satisfy our basic drives but in a desirable and socially acceptable manner. The final component we develop is the superego and this occurs during the preschool years when children take on their parent's moral values as their own. The superego acts as the child's conscience and allows them to know when they have done wrong without the need to be told by an adult, thus they are enabled to feel guilt and shame over their unacceptable conduct. Freud viewed healthy development as achieving a balance between the three conflicting components of personality. The id communicates basic needs, the superego demands that we behave in a morally acceptable manner and the ego attempts to satisfy the demands of the id but in ways that are acceptable to the superego.

Based on his observation that many of his patients neurotic symptoms revolved around childhood sexual conflicts that they had repressed, Freud viewed sex as the most important instinct. This led him to propose his **psychosexual theory**, its basic premise being that development proceeded in a series of stages in which the sexual instinct shifted to different **erogenous zones** in the body. The first stage in Freud's theory was the **oral stage**, in which pleasure is centred on the mouth and behaviours such as sucking, chewing and biting were sources of pleasure. The next stage is the **anal phase** and this occurs around the second year of life and involves pleasure becoming focused on the processes of urination and defecation. A potential source of

conflict here is the desire to satisfy these bodily functions immediately, clashing with the parent's desire to toilet-train the infant. The child then moves on to the **phallic stage** when they are between 3 and 6 years old: it is around these ages that sexual pleasure becomes centred on the genitals. During this stage an important conflict occurs in which the child sexually desires the opposite-sex parent. This is accompanied by feelings of jealousy towards the same-sex parent and also a fear of punishment from them. In boys this conflict is called the **Oedipus complex** and in girls the **Electra complex**. The conflict is eventually resolved by the child identifying with the sex-role characteristics and moral standards of the same-sex parent. The next stage is the **latent stage** in which sexual impulses are suppressed and channelled into intellectual and social activity and this leads to further development of the superego. Finally during puberty, the child reaches the **genital stage** in which sexual desires reawaken and the adolescent must learn to express these in socially appropriate ways. If development is successful, sexual desires will be satisfied by seeking to form relationships with peers, leading to marriage and the raising of children.

Freud's theory has few followers today, and from a scientific point of view it is difficult to test empirically: how can one test the notion that healthy development is characterised by the ego successfully balancing the demands of the id and the superego? However, in terms of stressing the importance of early experiences for later development, the basic ideas of Freud are influential.

Erikson's psychosocial theory

Erikson (1963) was influenced by Freud but came to place less emphasis on sexual urges and more on the role of social and cultural factors. He saw development as involving the interaction between the individual's biological (somatic) processes, mental (ego) processes and wider societal influences arising from our membership of '...*groupings of geographical and historical coherence: family, class, community, nation*' (Erikson, 1963: 30).

Erikson, like Freud, proposed that development occurred in a series of stages, but unlike Freud, whose theory saw development as being complete by adolescence, he saw it as a lifelong process whereby its stages extend into adulthood and old age. He viewed these stages as occurring in a fixed, orderly sequence. At each stage of development, he argued that the individual is confronted with an age-related task or **psychosocial crisis** related to biological maturation and the social demands being faced by the individual at a particular point in their life. The successful resolution of each crisis led to healthy developmental outcomes.

The first stage in Erikson's theory lasts from birth to when the child is around 1 year old and is termed **basic trust versus mistrust.** In this stage, infants must learn to trust others to care for them. If they do not (possibly due to poor caregiving), then they may come to view people as being unreliable and untrustworthy and this may have implications for future relationships. The next stage occurs between the ages of approximately

1 and 3 and is called **autonomy versus doubt**. Here the child begins to use their emerging mental and motor skills to become more independent and autonomous, for example being able to dress and feed themselves. A child who fails to achieve this autonomy will begin to doubt their abilities and feel a sense of shame. **Initiative versus guilt**, the third stage, takes place when the child is around 3 to 6 years old and is when they start to develop a sense of initiative, a desire to master their environment but do so in a socially appropriate way. Sometimes their goals or activities conflict with those of the parents and other family members and these conflicts may result in feelings of guilt. Successful resolution of this crisis lies in striking a balance between the child's sense of initiative and the demands to behave appropriately. This stage is followed by **industry versus inferiority** (aged approximately 6 to 12) wherein the child seeks to master the various intellectual and social challenges that occur during this period of life, such as doing well at school and establishing good peer relationships. The industrious child will acquire the academic and social skills to feel self-assured and failure to acquire these will lead to feelings of inferiority and incompetence. The next stage, **identity versus role confusion**, occurs from around 12 to 20 years of age and the developmental task for the individual at this stage is to achieve a sense of their own identity. Adolescents who fail to achieve this or let others determine their identity will remain confused about who they are and their role in society. The years of young adulthood (approximately 20 to 40 years of age) are dominated by **intimacy versus isolation**. The challenge of this stage is to establish close friendships and a loving relationship with another person. The individual's success in resolving past crises (learning to trust others, developing social skills and making friends) will determine their success in resolving this crisis and failure to develop close friendships and form an intimate relationship will lead to feelings of isolation. During middle adulthood (aged around 40 to 65), individuals pass through the **generativity versus stagnation** stage. The main concern here is to be productive in work and/or family life. A failure or inability to express oneself in this way leads to feelings of stagnation and a lack of a sense of accomplishment. During old age, the adult enters the stage of **ego integrity versus despair**. In this stage, we look back at and assess our lives. The individual who has successfully resolved the previous psychosocial crises will see life as having been productive and meaningful, leading to a sense of integrity, while those who resolved the stages in a negative fashion will see life as a series of unfulfilled promises and missed goals leading to feelings of despair and gloom.

Erikson's theory has the strength of widening the scope of psychodynamic theories beyond a concern with basic biological urges and not seeing development as a process that ends during adolescence. However, it has been criticised for being vague about the causes of development such as the experiences that are necessary for resolving the various psychosocial conflicts. As with Freud, the theory is also difficult to test empirically. Erikson's theory can be seen as a largely descriptive theory of the role of maturation and social influences on development, without clearly specifying how or why this development takes place (Shaffer and Kipp, 2010).

Learning theories

Learning theories began with the work of John Watson who, as we saw earlier, was a strong proponent of the view that it is nurture rather than nature that is the strongest influence on development. Watson saw development as a process of learning and is regarded as the founder of an approach to psychology called **behaviourism**.

Watson's classical conditioning

Watson was concerned with creating an objective science of psychology that focused on directly observable events (behaviour) rather than unobservable, hypothetical constructs such as the id and the ego. He was strongly influenced by the work of the Russian physiologist Ivan Pavlov. While conducting research on the digestive systems of dogs, Pavlov noted that the mere appearance of a food bowl was sufficient for the dogs to start salivating, and decided to investigate if other stimuli could be used to elicit this response. He found that if he paired the presentation of food with an environmental stimulus such as a light, eventually the light on its own would be sufficient to elicit salivation. The light had changed from being a neutral stimulus to being a **conditioned stimulus** and salivation had become a **conditioned response** to the light. This is the basis of a form of learning called **classical conditioning** in which a particular stimulus becomes associated with a particular response. Watson applied these notions to human behaviour and rejected the notion of behaviour developing in stages, and instead saw it as a continuous process of change shaped by people's environmental circumstances.

Watson's most famous demonstration of this view is the case of 'little Albert' (Watson and Raynor, 1920), wherein a gentle white rat was presented to Albert, a 9-month-old boy who crawled towards the rat and played with it. At a later stage, Watson presented the rat to the boy and accompanied this with a loud, unpleasant noise and eventually the presence of the rat on its own was enough to elicit a fear response from the child, who had come to associate the rat with the unpleasant noise. On the basis of findings such as these, Watson concluded that the environment was the main factor in development, with children learning through making a wide variety of stimulus-response associations.

Skinner and operant conditioning

An important point about Watson's view of learning is that the child is essentially *passive* and when presented with a stimulus associates this with a particular response. However, Skinner, while accepting that it was the environment that was most important, saw learning as a more active process in which we act on or *operate* on our environments. Based on research with animals, Skinner (1953) argued that humans and animals repeat behaviours that lead to favourable outcomes and suppress those that lead to unfavourable ones. So a rat in a cage that receives food in response to

pressing a bar is likely to repeat this act. The food acts as a **reinforcer** and increases the likelihood that a particular behaviour will occur again. Sometimes behaviour will lead to a negative consequence; this acts as a **punisher** and will reduce the probability of a reoccurrence of the behaviour. Applied to child development, learning can be seen as the child making the connection between certain ways of behaving and certain desirable or undesirable outcomes and this is seen to apply to all areas of development. An infant who vocalises will be reinforced by praise and attention from parents, leading to a reoccurrence of this behaviour, and as vocalisations come closer to speech, the selective patterns of reinforcement received by the infant for this behaviour lead to the development of language. A child who behaves in a friendly and considerate manner will receive praise and encouragement and this will strengthen the child's tendency to repeat this behaviour. Reinforcers and punishers can be *positive* and *negative* in nature. Positive in this context means that a stimulus is presented and negative means that it is withdrawn. Examples of a **positive reinforcer** would be praise, social approval or rewards such as being given a toy or engaging in a fun activity. A **negative reinforcer** is the removal of an unpleasant stimulus in response to a desirable behaviour, such as the relief of pain following the taking of a painkiller. An example of a **positive punisher** would be a child receiving parental disapproval for misbehaving, or receiving a burn as a result of touching a hot object. A **negative punisher** involves the removal of something pleasant, such as the removal of a toy or being 'grounded' for misbehaviour.

Skinner argued that the totality of human development could be explained in terms of the association of behaviours and their consequences, but many will see this as an oversimplification. It does not take into account personal factors such as motivation. As we will see in Chapter 9, attempts to explain language development in these terms cannot account for the speed with which children acquire language and the complexity of this achievement. However, Skinner's views are useful in practical settings such as promoting positive behaviours and form the basis for interventions for problem behaviours in children through the process of **behaviour modification** (Martin and Pear, 2007).

Bandura's social learning theory

Bandura, another learning theorist, accepted Skinner's views on the importance of **operant conditioning** in development, but also noted that children and adults acquire many new skills in the absence of rewards and punishments simply by watching and imitating the behaviour of others (Bandura, 1977). His theory therefore stresses the role of **observational learning** or **modelling** in development. Bandura's work also allows for the role of thought processes or cognition. This means that in order to imitate a behaviour, we must *attend* to the behaviour of the model, *comprehend* that behaviour and *remember* it. One of Bandura's best known experiments demonstrated that pre-school children who were exposed to an adult

model engaging in acts of 'violence' against an inflatable bobo doll tended to imitate these actions in their play with the doll later, thus demonstrating the role of observational learning in aggressive behaviour (Bandura et al., 1963). Subsequent research has indicated that a variety of other behaviours such as prosocial acts and sex-roles can also be acquired in this manner. Bandura's later work (1989) has focused on the development of a sense of **self-efficacy**, or beliefs about one's ability to succeed in everyday situations, such as learning in school. He argues that a sense of self-efficacy is also learned by observing the behaviour and attitudes of a model. Children whose role models demonstrate positive qualities, such as persistence when faced with difficult tasks, are more likely to develop a strong sense of self-efficacy than children whose models who demonstrate less positive qualities, such as giving up easily in response to minor setbacks.

Can you think of any learning experiences from your own life that would be examples of classical or operant conditioning, or observational learning?

Cognitive-developmental theories

For learning theorists, the emphasis is placed on observable aspects of behaviour and the environmental factors that influence it, and the child's thought processes or cognition are largely irrelevant. An alternative view is that development is driven by the way a child thinks about the world and changes in the patterns of thinking are of prime importance. There are three influential cognitive-developmental theories – the stage theory of Piaget, Vygotsky's sociocultural theory and, more recently, information-processing theories. These will be covered in more detail in Chapter 4, but a brief summary is provided here.

Piaget's theory

Piaget's interest in child development originated when he worked in the laboratory of Alfred Binet who was interested in measuring intelligence in children. While administering various tasks to the children, Piaget became interested in the incorrect responses they gave and noted that children of the same age often gave similar incorrect answers. He concluded that it was not the case that the children lacked intelligence, but that their thinking was *qualitatively* different to those of adults. This led to his own detailed observations of children over many years and his influential theory of cognitive development. Piaget was influenced by the biological notion of **adaptation** – just as our bodies are adapted to fit with our environments, our minds also adapt to help us to function in our worlds. Essentially human intelligence was an adaptation that

enhanced our chances of survival (Piaget, 1950). Piaget noted that children's thinking was often at odds with the nature of the world and that they could not think beyond their own perspective. Their view of the world was often **egocentric** (Piaget and Inhelder, 1956), in other words, they were unable to see situations from any other viewpoint but their own, and **animistic** (Piaget, 1929), meaning that they often saw inanimate objects as having thoughts and feelings just like they did. For Piaget development was a process of change in which children, as a result of exploring their worlds, revise their knowledge so that it corresponds more closely with reality, and in so doing they achieve a state of *equilibrium* between their knowledge and the nature of the physical and social world.

Piaget saw development as passing through a series of distinct stages which he termed the *sensorimotor, preoperational, concrete operational* and *formal operational* stages. The sensorimotor stage spans the period from birth to around the age of 2, during which time infants gain a basic understanding of the world through use of their sensory and motor capabilities. The next stage of development, the preoperational stage, lasts until the child is about 7 years old, by which time they can now use basic mental representations such as images and language to represent the world, but their ability to think is very much limited to their own point of view. At around the age of 7, children move to the concrete operational stage of development wherein their thinking becomes increasingly logical. This stage lasts until they are between 11 and 12 years old. At this age, the child reaches the formal operational stage in which they gain the ability to think in more abstract and hypothetical ways and thinking is no longer tied to concrete reality.

Piaget's theory has strongly influenced the way we think about child development, and has also been applied in educational contexts. However, there have also been criticisms and in particular a tendency to underestimate the capabilities of the child. These issues will be considered in Chapter 4.

Vygotsky's sociocultural theory

Vygotsky shared Piaget's view of the child as an active explorer of their environment, but while Piaget saw children as lone explorers making discoveries on their own, Vygotsky (1978) saw development as a socially transmitted process in which children acquired knowledge and skills through their dialogues with more skilled and experienced members of their society. Vygotsky also noted that while children are unable to do many tasks on their own, they are able to do them with help and support from an adult. Vygotsky referred to this difference between the child's existing capabilities and what they can achieve with help from others as their **zone of proximal development**. Vygotsky also saw development as following a continous pattern in which the child moved from being able to do things with help from others to being able to do things on their own, in other words, development moved from the **social plane** to the **psychological plane**.

Information-processing accounts

A more recent approach to cognitive development is based on making an analogy between the human mind and the digital computer. Like computers, the human mind is seen as processing information based on a limited set of rules. Thought is seen as the flow of information through a system. We receive input from our senses, perform a series of operations on this input and transform it into some useful output, such as the answer to a question, the ability to recall a memory or the transformation of sound waves into meaningful speech. There are a variety of different **information-processing** models describing different aspects of cognition, for example memory (Atkinson and Shiffrin, 1968) and recognising printed words (Stuart, 2003). In general information-processing models see development as a continuous process in which basic abilities gradually improve as we mature. An example is the capacity of children's short-term memory (see Chapter 4) which gradually improves over the course of childhood so that by the age of around 10 it is the same as an adult's (Gathercole and Baddeley, 1993).

Ethology and evolutionary psychology

Ethology is concerned with ways in which behaviour can promote the survival of a species. It has its roots in the work of Charles Darwin, but modern ethology arose from the work of the zoologists Conrad Lorenz and Nico Tinbergen, whose observations of animal behaviour provided some important insights into the adaptive nature of some behaviours. The basic assumptions of ethology are that members of all animal species are born with a set of *biologically programmed* behaviours that are products of evolution and contribute to survival (Lorenz, 1981; Tinbergen, 1973). One of the best-known patterns of such behaviour that promotes survival is **imprinting**, an instinctual following response in birds that keeps the young close to the mother in order to be protected and fed. In birds this imprinting occurs during a restricted period of development called a **critical period**. This refers to a particular time when an animal is biologically prepared to acquire a certain pattern of behaviour. In studying geese, Lorenz noted that if the mother was not present during this period but an object resembling her features was, the baby geese would imprint on this object instead.

Ethological perspectives have been applied to various aspects of human behaviour. An example is **attachment**, or the formation of an affectionate, caring bond between the infant and primary caregiver. Bowlby (1969) argued that human infants are born with a set of behaviours that will lead them to seek close physical proximity to the mother who will in turn nurture and protect the infant from danger, and this tendency is a product of our evolutionary history. This issue will be considered further in Chapter 8.

An important issue when applying ethological perspectives to human development is the applicability of the notion of a critical period. Bornstein (1987) suggests that in the case of humans, the term **sensitive period** is more accurate. A sensitive period

is a point in development when the child is particularly 'ready' to acquire a new skill. An example is the case of learning a language, where there does appear to be a sensitive period in childhood (see Chapter 9). Learning a language appears to be relatively easy for children, but beyond childhood, language learning is more difficult, though not impossible. However, given that language learning is possible beyond childhood, even if it is more difficult, the notion of a sensitive rather than a critical period seems more applicable.

Darwin's theory of evolution has influenced psychology as well and recent years have seen the development of the discipline of **evolutionary psychology**, which makes the assumption that '*the human mind is the product of evolution just like any other bodily organ, and that we can better understand the mind by examining evolutionary pressures that shaped it*' (Workman and Reader, 2007: 1). In this way, the development of various psychological attributes can be seen in terms of how they may have promoted survival in our evolutionary past. Such explanations have been applied to various aspects of development such as being able to understand other people's mental states (having a 'theory of mind', see Chapter 8), the different types of play engaged in by boys and girls to name just two. Indeed the length of time it takes a human child to reach physical and psychological maturity (compared to other animals) can in itself be seen as an evolutionary adaptation. Given the complexity of human societies, a lengthy period of development during which the child is protected by relatives ensures that the child has time to acquire the physical and psychological skills needed to function in society (Bjorklund, 1997; Shaffer and Kipp, 2010).

The bioecological model

When psychologists study child development, they often conduct their studies in the context of the immediate surroundings of the children, such as the family and school environment. However, the American psychologist Bronfenbrenner (1979) advocated an approach to development that saw the environment in broader terms, in a way that extends beyond the child's immediate surroundings. He saw the environment as consisting of a series of interacting systems with the child at the centre. This approach has become known as the **bioecological model**.

The innermost layer of Bronfenbrenner's system is the **microsystem** and refers to the immediate surroundings of the child, such as the home or school. Children are influenced by people in the microsystem, such as parents, teachers or peers, and the children's own biological and social characteristics (such as their personalities and physical abilities) also have a bearing on development, influencing how they interact with others. The interactions between other people in the microsystem may also affect the child, such as a child being adversely affected by marital conflict between parents.

The **mesosystem** is Bronfenbrenner's term for the second layer of the model; it pertains to relationships between the different microsystems, such as between home

and school. An example would be the way in which the quality of a child's home life may affect performance at school or peer relationships.

The third layer is referred to as the **exosystem** and this relates to contexts or settings in which the child does not directly participate but which nevertheless can have an influence on them. An example of such an influence could be the work environment of the parent(s). Long working hours may restrict the parent's availability to the child, or a stressful working environment may have implications for the way in which the parent behaves towards them in the home environment.

At the outer layer of the model is the **macrosystem**. This refers to the broader social, cultural and political climate in which the child develops. Such influences can include broader attitudes to child-rearing, government policies, and so on.

Bronfenbrenner also included a temporal system called the **chronosystem** because he recognised that changes in the individual or the environment over time can also influence development. These can include historical events such as the effects of growing up during a time of conflict or economic difficulty, but can also apply to events having an effect related to the time of the child's life in which they occur. For example, the way in which a child reacts to parental divorce may depend on the age of the child at the time of the separation of the parents.

The bioecological model certainly provides a much broader definition of the environment that will make sense to many people and it allows us to consider how changes in one system can influence the others – for example, legislation requiring employers to pay a minimum wage (macrosystem influence) will cause changes in the parent's working life (more pay). In other words, it will affect the exosystem and improved financial circumstances may have an effect on the child's home life (the microsystem).

> Can you think of any examples from your own life that might reflect the interactions of the various systems as set out in Bronfenbrenner's model?

Chapter summary

- Development can be seen as the ways in which an individual changes over the lifespan.
- Different domains of development can be defined including biological, cognitive, social and emotional. It is important, however, to recognise that development is a holistic process in which the different domains influence and are influenced by each other.

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- Researchers in child development differ over the role of nature and nurture in development.
- Some researchers argue that development proceeds in a continuous manner marked by quantitative changes in functioning. Other researchers argue that development proceeds as a series of abrupt changes in a stage-like manner, with each new stage showing qualitative differences in functioning.
- There are different theoretical approaches to development including psychoanalytic, learning theory, cognitive-developmental, ethological and evolutionary psychology, and bioecological approaches.

Further reading

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A detailed account of theories of child development.

Workman, L. and Reader, W. (2007) *Evolutionary Psychology*. Cambridge: Cambridge University Press.
A comprehensive but very readable introduction to this field and includes evolutionary perspectives on various aspects of development.

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