

PSY203 INTRODUCTION TO HUMAN DEVELOPMENT

Week 1 Tutorial: The Study of Human Development – Rachel Sharman

- A child is not a young adult. The adult brain is complete and formed.
- Childrens brains are very malleable in contrast to the adult brain.
- Brain development - Babies are born with a number of neurons and then we have an explosion of the number of neurons in the first couple of years of life. After this point we start to prune; the pathways that we use a lot stay and the ones we do not use wither away. If you do not use it you lose it and we in turn end up with less neurons than what we had as children.
- Our ability to adapt in any environment (wire our brains to any environments in which we find ourselves having to adapt).

Fundamental issues of development

1. Nature vs nurture
2. Continuity vs change
3. Universal vs context specific

4 Basic forces of human development – interaction between these 4 dynamic forces

1. Biological (genetic/health related)
2. Psychological (perceptions, cognitions, affective and personality traits)
3. Sociocultural (interpersonal, societal, cultural and ethnic)
4. Life-cycle forces (effect of where person is in their own life cycle)

2.1 Developmental Theories

What is a theory?

- An organised set of ideas that are designed to explain development
- Something that is integral to developing predictions about behaviour
- Predictions result in research that helps to support or clarify the theory
- There are truly no comprehensive theories of human development

5 prominent developmental perspectives

1. Psychodynamic (e.g., Erikson and psychosocial development)
2. Learning theory (e.g., Bandura's social learning theory and self-efficacy)
3. Cognitive-developmental theory (Piaget, information processing and Vygotsky)
4. Ecological and systems approach (e.g., Bronfenbrenner, competency-environmental press).
5. Life-span perspective (e.g., Baltes and selection optimisation and compensation (i.e., how losses are managed) and the life course perspective (i.e., generational experiences)

Nature/Nurture is not necessarily a debate as they constantly interact.

Types of measurement

- Systematic observation (naturalistic or structured), sampling behaviour using tasks, self-reports and physiological measures.
- How and what you are measuring: reliability and validity of the measurement and populations.

Designs in general

- Correlational studies
- Experimental studies
- Qualitative studies
- When is it most appropriate to use these?

WEEK 1 THE STUDY OF HUMAN DEVELOPMENT

- Human Development is defined as the multidisciplinary study of how people change and how they remain the same overtime. It composes many questions including: will you be the same or different later in life? How do you influence other people's lives? How do they influence yours? How do the various roles you play throughout your life shape your development (child, teenager, partner, spouse, parent, worker and grandparent) ? How do you deal with the thought of your own death and the death of others?
- Human development as a science is firmly grounded in theory and research as it seeks to understand human behaviour.
- Jeanne Calment lived to a record 122 years of age. Jeanne's immediate family also exceeded the average lifespan.
- Recent and expected developments are likely to result in the human species living for extended amounts of time. National geographic has estimated humans will live to 120 and Time magazine has predicted humans may live until 142. Whilst science may allow for this to occur it is integral that we ask ourselves whether we would like to live for this long. Living for such extended periods of time would raise many ethical and moral questions, such as how to define a full and purposeful life, especially regarding how we should handle the end of life. For these answers, it is highly likely many people would turn to religious leaders for guidance. This would result in a multitude of varying perspectives... are extended lifespans a measure of avoiding inevitable death?
- Views regarding extended lifespans result from interpreting both individual and collective experiences that are influenced by various biological, psychological and sociological forces.

1.1 Thinking about development

Recurring issues in Human Development

- Factors that may shape us include genetic heritage; family or neighbourhood; the suddenness of some of the changes in life and the gradualness of others; and culture(s) in which we grew up in or may live. It is also noticeable that we are very similar to some people we know or are class too, however extremely different to others. This leads us to the conclusion that everyone's life is shaped by a complex set of factors.
- Human development consists of three fundamental characteristics: (1.) nature and nurture; (2.) continuity and discontinuity (characteristics that stay the same throughout life and characteristics that change); and universal and context-specific development.

Nature vs Nurture

- Development is shaped by both nature and nurture and these are mutually interactive influences.
- A major aim of human development research is to understand how heredity and environment jointly determine development.

Continuity and discontinuity

- *Are we still as friendly as we were at age 5?* If the answer is yes this is an example of continuity. If not this is an example of discontinuity. From this perspective once we head down a particular developmental path we tend to stay on that path throughout life, other things being equal. The other view is that development is not always continuous. In this view, people can change from one developmental path to another and perhaps several times in their lives.
- The continuity–discontinuity issue concerns whether a particular developmental phenomenon represents a smooth progression throughout the life span (continuity) or a series of abrupt shifts (discontinuity). Of course, on a day-to-day basis, behaviours often look nearly identical, or continuous. But when viewed over the course of many months or years, the same behaviours may have changed dramatically, reflecting discontinuous change. For example, your face may look nearly identical in “selfies” taken on successive days (continuity) but change dramatically in photos taken years apart (discontinuity).

Universal and Context-Specific Development

- In many native and indigenous cultures, mathematical concepts are mastered by young children not through formal education about numbers but through everyday tasks such as picking berries and selling goods in street markets. In contrast, children in the United States are formally taught at home or school to identify numbers and to perform the abstract arithmetic operations needed to handle these tasks. *Can one theory explain development in both groups of children?* The universal and context-specific development issue concerns whether there is one path of development or several.
- Some theorists argue that despite what look like differences in development, there is only one fundamental developmental process for everyone. According to this view, differences in development are simply variations on the same fundamental process.
- The alternative view is that differences among people are not simply variations on a theme. Advocates of this view argue that human development is inextricably intertwined with the context within which it occurs. A person’s development is a product of complex interaction with their environment, and that interaction is not fundamentally the same in all environments. Rather, each environment has its own set of unique procedures that shape development.
- As is the case for the nature–nurture and continuity–discontinuity issues, the result is a blend; individual development reflects both universal and context-specific influences. For example, the order of development of physical skills in infancy is essentially the same in all cultures. But how those skills are focused or encouraged in daily life differs.
- Putting all three issues together and using personality to illustrate, we can ask how the development of personality is shaped by interactions between heredity and environment, is continuous or discontinuous, and develops in much the same way around the world. To answer these kinds of questions, we need to look at the forces that combine to shape human development.

Basic Forces in Human Development: The Biopsychosocial Framework

When trying to explain why people develop as they do, scientists usually consider four interactive forces:

Biological forces: that include all genetic and health-related factors that affect development.

Psychological forces: that include all internal perceptual, cognitive, emotional, and personality factors that affect development.

Sociocultural forces: that include interpersonal, societal, cultural, and ethnic factors that affect development.

Life-cycle forces: that reflect differences in how the same event affects people of different ages.

- Each person is a unique combination of these forces.

Biopsychosocial Model

- One useful way to organize the biological, psychological, and sociocultural forces on human development is with the biopsychosocial framework. The biopsychosocial framework emphasizes that each of the forces interacts with the others to make up development.
- **Biological Forces:** Genetics and Health Prenatal development, brain maturation, puberty, and physical aging may occur to you as outcomes of biological forces. Indeed, major aspects of each process are determined by our genetic code. For example, many children resemble their parents, which shows biological influences on development. But biological forces are not only genetic; they also include the effects of such things as diet and exercise. Collectively, biological forces can be viewed as providing the raw material necessary and as setting the boundary conditions (in the case of genetics) for development.
- **Psychological Forces:** Known by Our Behaviour Psychological forces seem familiar because they are the ones used most often to describe the characteristics of a person. For example, think about how you describe yourself to others. Most of us say that we have a nice personality and are intelligent, honest, self-confident, or something similar. Concepts such as these reflect psychological forces. In general, psychological forces are all the internal cognitive, emotional, personality, perceptual, and related factors that help define us as individuals and that influence behaviour. Psychological forces have received the most attention of the three main developmental forces, and their impact is evident throughout this text. For example, we will see how the development of intelligence enables individuals to experience and think about their world in different ways. We'll also see how the emergence of self-esteem is related to the beliefs people have about their abilities, which in turn influence what they do.
- **Sociocultural Forces:** Race, Ethnicity, and Culture People develop in the world, not in a vacuum. To understand human development, we need to know how people and their environments interact and mutually influence each other. That is, we need to view an individual's development as part of a much larger system in which any individual part influences all other aspects of the system. This larger system includes one's parents, children, siblings, extended family, as well as important individuals outside the family, such as friends, teachers, and co-workers. The system also includes institutions that influence development, such as schools, media, and the workplace. At a broader level, the society in which a person grows up plays a key role. All these people and institutions fit together to form a person's culture: the knowledge, attitudes, and behaviour associated with a group of people. Culture can be linked to a particular country or people (e.g., French culture); to a specific point in time (e.g., popular culture of the 2010s); or to groups of individuals who maintain specific, identifiable cultural traditions (e.g., Native American tribes, Muslims).

Knowing the culture from which a person comes provides some general information about important influences that become manifest throughout the life span.

Neuroscience: A Window into Human Development

- Applied to human development, **neuroscience**: is the study of the brain and the nervous system, especially in terms of brain–behaviour relationships. Neuroscientists use several methods to do this, from molecular analyses of individual brain cells to sophisticated techniques that yield images of brain activity. Neuroscientific approaches are being applied to a wide range of issues in human development, especially those involving memory, reasoning, and emotion. For example, neuroscientists are unlocking relations between developmental changes in specific regions of the brain to explain well-known developmental phenomena such as adolescents' tendency to engage in risky behaviour and older adults' short-term memory problems.

1.2 Developmental Theories

Psychodynamic Theory

- Psychodynamic theories: hold that development is largely determined by how well people resolve conflicts they face at different ages. This perspective traces its roots to Sigmund Freud's theory that personality emerges from conflicts that children experience between what they want to do and what society wants them to do. Building on Sigmund Freud's ideas, Erik Erikson (1902–1994) proposed his psychosocial theory, the first comprehensive life-span view, which still remains an important theoretical framework.

Erikson's Theory

- In his psychosocial theory, Erikson proposed that personality development is determined by the interaction of an internal maturational plan and external societal demands. He proposed that the life cycle is composed of eight stages and that the order of the stages is biologically fixed. The name of each stage reflects the challenge people face at a particular age. For example, the challenge for young adults is to become involved in a loving relationship. Challenges are met through a combination of inner psychological influences and outer social influences. When challenges are met successfully, people are well prepared to meet the challenge of the next stage. The sequence of stages in Erikson's theory is based on the epigenetic principle, which means that each psychosocial strength has its own special period of particular importance. The eight stages represent the order of this ascendancy, and it takes a lifetime to acquire all of the psychosocial strengths. Moreover, Erikson realizes that present and future behaviour must have its roots in the past because later stages are built on the foundation laid in previous stages. The psychodynamic perspective emphasizes that the trek to adulthood is difficult because the path is strewn with challenges. Outcomes of development reflect the manner and ease (or difficulty) with which people surmount (or fail to overcome) life's barriers. When children easily overcome early obstacles, for example, they are better able to handle the later ones.

Learning Theory

Behaviourism

- Early in the 20th century, John Watson (1878–1958) believed that infants' minds were essentially "blank slates" and argued that learning alone determines what people will become. He assumed that with the correct techniques, almost anyone could learn anything. In Watson's view then, experience was about all that mattered in determining the course of development. Watson did little research to support his claims, but B. F. Skinner (1904–1990) filled this gap. Skinner studied operant conditioning, in which the consequences of a behaviour determine whether a behaviour is repeated in the future. Skinner showed that two kinds of consequences were especially influential. A reinforcement is a consequence that increases the likelihood of the behaviour that it follows. Positive reinforcement consists of giving a reward such as chocolate, gold stars, or pay checks to increase the likelihood of a behaviour. A punishment is a consequence that decreases the likelihood of the behaviour that it follows. Punishment suppresses a behaviour either by adding something aversive or by withholding a pleasant event. Skinner's research was done primarily with animals, but human development researchers showed that the principles of operant conditioning could be extended readily to people, too (Baer & Wolf, 1968). Applied properly, reinforcement and punishment are powerful influences on children, adolescents, and adults; however, compared with punishment, reinforcement tends to result in quicker and longer-lasting learning.

Social Learning Theory

- People sometimes learn without reinforcement or punishment. People learn much by simply watching those around them, which is known as imitation or observational learning. Imitation is the reason one toddler throws a toy after seeing a peer do so or when a school-age child offers to help an older adult carry their groceries because she's seen her parents do the same. People do not always imitate what they see around them. People are more likely to imitate if the person they see is important, popular, smart, or talented. They're also more likely to imitate when the behaviour they see is rewarded than when it is punished. Findings like these imply that imitation is more complex than sheer mimicry. People are not mechanically copying what they see and hear; instead, they look to others for information about appropriate behaviour. When peers are reinforced for behaving in a particular way, this encourages imitation. This is one explanation for why groups of friends tend to behave, talk, and think similarly. Albert Bandura (1925–) based his social cognitive theory on this more complex view of reward, punishment, and imitation. Bandura's theory is "cognitive" because he believes people actively try to understand what goes on in their world; the theory is "social" because, along with reinforcement and punishment, what other people do is an important source of information about the world. Bandura also argues that experience gives people a sense of self-efficacy, which refers to people's beliefs about their own abilities and talents. Self-efficacy beliefs help to determine when people will imitate others. Bandura's social cognitive theory is a far cry from Skinner's operant conditioning. The operant conditioned person who responds mechanically to reinforcement and punishment has been replaced by the social cognitive person who actively interprets these and other events. Nevertheless, Skinner, Bandura, and all learning theorists share the view that experience propels people along their developmental journeys.

Cognitive-Developmental Theory

Another way to approach development is to focus on thought processes and a person constructing knowledge actively. In cognitive-developmental theory, the key is how people think and how thinking changes over time. Three distinct approaches have developed. One approach postulates that thinking develops in a universal sequence of stages; Piaget's theory of cognitive development (and its extensions) is the best-known example. The second approach proposes that people process information as computers do, becoming more efficient over much of the life span; information-processing theory is an example of this view. The third approach emphasizes the contributions of culture on thinking and cognitive growth.

Piaget's Theory

- The cognitive-developmental perspective began with a focus on how children construct knowledge and how their constructions change over time. Jean Piaget (1896–1980), the most influential child and adolescent developmental psychologist of the 20th century, proposed the best known of these theories. Piaget believed that children naturally try to make sense of their world. Throughout infancy, childhood, and adolescence, individuals want to understand the workings of both the physical and social world. For example, infants want to know about objects: “What happens when I push this toy off the table?” And they want to know about people: “Who is this person who feeds and cares for me?” As children try to comprehend their world, Piaget believed that they act like scientists, creating theories about the physical and social worlds. Children try to weave all that they know about objects and people into a complete theory, which is tested daily by experience because their theories lead children to expect certain things to happen. As with real scientific theories, when the predicted events do occur, a child's belief in her theory grows stronger. When the predicted events do not occur, the child must revise her theory. Imagine an infant whose theory of objects includes the idea that “Toys pushed off the table fall to the floor.” If the infant pushes some other object—a plate or an article of clothing—she finds that it, too, falls to the floor, and she can then make the theory more general: “Objects pushed off the table fall to the floor.” Piaget also believed that children begin to construct knowledge in new ways at a few critical points in development. When this happens, they revise their theories radically. These changes are so fundamental that the revised theory is, in many respects, brand-new. Piaget claimed that these changes occur first at about age 2 years, again at about age 7, and a third time just before adolescence. These changes mean that children go through four distinct stages in cognitive development. Each stage represents a fundamental change in how children understand and organize their environment, and each stage is characterized by more sophisticated types of reasoning. For example, the first or sensorimotor stage begins at birth and lasts until about 2 years of age. As the name implies, sensorimotor thinking refers to an infant's constructing knowledge through sensory and motor skills. Piaget's theory has had an enormous influence on how developmentalists and practitioners think about cognitive development during childhood and adolescence. The theory has been applied in many ways—from the creation of discovery learning toys to the ways teachers plan lessons.

Information-Processing Theory

- Lev Vygotsky (1896–1934) was one of the first theorists to emphasize that children's thinking is influenced by the sociocultural context in which they grow up. A Russian psychologist, Vygotsky believed that because all societies aim to help children acquire essential cultural values and skills, every aspect of a child's development must be considered against this backdrop. For example, most parents in the United

States want their children to work hard in school and go to college because earning a degree is a key to finding a good job. However, in Mali (an African country), Bambara parents want their children to learn to farm, herd animals such as cattle and goats, gather food such as honey, and hunt because these skills are key to survival in their environment. Vygotsky's key insight was to view development as an apprenticeship in which children develop as they work with skilled adults, including teachers and parents, to learn what is valued in their culture. For Piaget, information-processing theorists, and Vygotsky, children's thinking becomes more sophisticated as they develop. Piaget explained this change as resulting from the more sophisticated knowledge that children actively construct; information processing psychologists attribute it to improved mental hardware and mental software; Vygotsky claimed learning and thinking developed as a result of and as part of cultural context.

The Ecological and Systems Approach

- Most developmentalists agree that the environment is an important force in many aspects of development. However, only ecological theories (which get their name from the branch of biology dealing with the relation of living things to their environment and to each other) have focused on the complexities of environments and their links to development. In ecological theory, human development is inseparable from the environmental contexts in which a person develops. The ecological approach proposes that all aspects of development are interconnected, much like the threads of a spider's web, so that no aspect of development can be isolated from others and understood independently. An ecological theorist would emphasize that to understand why adolescents behave as they do, we need to consider the many different systems that influence them, including parents, peers, teachers, media, the neighbourhood, and social policy.

Bronfenbrenner's Theory

- The best-known advocate of the ecological approach was Urie Bronfenbrenner (1917– 2005), who proposed that the developing person is embedded in a series of complex and interactive systems. Bronfenbrenner (1995) divided the environment into the four levels shown the microsystem, the mesosystem, the exosystem, and the macrosystem. The microsystem consists of the people and objects in an individual's immediate environment. These are the people closest to a person, such as parents or siblings. Some people may have more than one microsystem. For example, a young child might have the microsystems of the family and of the day-care setting. A retired adult might have the microsystems of a spouse and close friends. As you can imagine, microsystems strongly influence development. Microsystems themselves are connected to create the mesosystem. The mesosystem provides connections across microsystems because what happens in one microsystem is likely to influence others. Perhaps you've found that if you have a stressful day at work or school, you're often grouchy at home. This indicates that your mesosystem is alive and well; your microsystems of home and work are interconnected emotionally for you. The exosystem refers to social settings that a person may not experience first-hand but that still influence development. For example, changes in government policy regarding welfare may mean that economically disadvantaged children have fewer opportunities for enriched preschool experiences. Although the influence of the exosystem is indirect, its effects on human development can be quite strong. The broadest environmental context is the macrosystem, the cultures and subcultures in which the microsystem, mesosystem, and exosystem are embedded. A mother, her

workplace, her child, and the child's school are part of a larger cultural setting, such as Chinese Americans living in San Francisco or Italian Americans living in Brooklyn. Members of these cultural groups share a common identity, a common heritage, and common values. The macrosystem evolves over time; each successive generation may develop in a unique macrosystem. Bronfenbrenner's ecological theory emphasizes the many levels of influence on human development. People are affected directly by family members and friends and indirectly by social systems such as neighbourhoods and religious institutions—which, in turn, are affected by the beliefs and heritage of one's culture.

Competence–Environmental Press Theory

- Another view of the influence of environments on human development comes from Lawton and Nahemow's (1973) competence–environmental press theory. According to this theory, people adapt most effectively when their competence, or abilities, match the environmental press, or the demands put on them by the environment. This theory was originally proposed to account for the ways in which older adults function in their environment, but it applies throughout the life span. For example, the match between an adult's social skills and her work group's demands can determine whether she is accepted by the group. As with Bronfenbrenner's theory, competence–environmental press theory emphasizes that to understand people's functioning, it is essential to understand the systems in which they live. Ecological theorists would agree with learning theorists in telling Betty that the environment has been pivotal in her son's amiable disposition and his academic achievements. However, the ecological theorist would insist that environment means much more than the reinforcements, punishments, and observations that are central to learning theory; such a theorist would emphasize the different levels of environmental influence on Marcus. Betty's ability to balance home (microsystem) and work (mesosystem) so skilfully (which meant that she was usually in a good mood herself) contributed positively to Marcus's development, as did Betty's membership in a cultural group (exosystem) that emphasized the value of doing well in school. Marcus was also competent enough to handle the external demands (environmental press) put on him.

Life-Span Perspective, Selective Optimisation with Compensation, and Life Course Perspective

- Most of the theories of human development that we have considered so far pay little attention to the adult years of the life span (Erikson's theory is the main exception). Historically, adulthood was downplayed, owing to the belief that it was a time when abilities had reached a plateau (rather than continuing to develop) and that adulthood was followed by inevitable decline in old age. However, modern perspectives emphasize the importance of viewing human development as a lifelong process. These perspectives view development in terms of where a person has been and where he or she is heading.

Life-Span Perspective and Selective Optimization with Compensation

- We can only understand adults' experiences by understanding their childhood and adolescence. Placing adults' lives in this broader context is what the life-span perspective does. According to the life-span perspective, human development is multiply determined and cannot be understood within the scope of a single framework. The basic premise of the life-span perspective is that aging is a lifelong

process of growing up and growing old, beginning with conception and ending with death. No single period of a person's life (such as childhood, adolescence, or middle age) can be understood apart from its origins and its consequences. To understand a specific period, we must know what came before and what is likely to come afterward (Riley, 1979). In addition, how one's life is played out is affected by social, environmental, and historical change. Thus, the experiences of one generation may not be the same as those of another. Paul Baltes (1939–2006) and colleagues provide many of the main approaches to human development from a life-span perspective in a model that has influenced a wide range of research, especially on adult development and aging. They identify four key features of the life-span perspective as follows:

- **Multidirectionality:** development involves both growth and decline; as people grow in one area, they may lose in another. For example, people's vocabulary tends to increase throughout life, but their memory skills weaken.
- **Plasticity:** one's capacity is not predetermined or carved in stone. Many skills can be learned or improved with practice, even in late life. For example, people can learn better ways to remember information, which may help them deal with declining memory. There are limits to the degree of potential improvement, though, as described in later chapters.
- **Historical context:** Each of us develops within a particular set of circumstances determined by the historical time in which we are born and the culture in which we grow up. For example, living in a middle-class suburb in 1980s Atlanta has little in common with living in a poor Latino neighborhood in 2000s Texas.
- **Multiple causation:** development reflects the biological, psychological, sociocultural, and life-cycle forces that we mentioned previously. For example, children's success in school will depend on their heredity, their cognitive skills, their culture's emphasis on achievement, and whether their parents are teenagers, young adults, or middle aged.
- Taken together, the principles of the life-span perspective describe and explain the successful adaptation of people to the changes that occur with aging by proposing an interaction between three processes: selection, compensation, and optimization. Selection processes serve to choose goals, life domains, and life tasks, whereas optimization and compensation concern maintaining or enhancing chosen goals. The basic assumption of the selective optimization with compensation (SOC) model is that the three processes form a system of behavioural action that generates and regulates development and aging. As people mature and grow old, they select from a range of possibilities or opportunities. This selection occurs for two main reasons. Elective selection occurs when people reduce their involvement to fewer domains as a result of new demands or tasks, such as when a college student drops out of some organizations because of the amount of work required in the courses he is taking that term. Loss-based selection occurs when real or anticipated losses in personal or environmental resources cause people to reduce their involvement, such as when an older person stops going to church because he can no longer drive. In either case, selection sometimes means continuing previous goals on a lesser scale or substituting with new goals. Compensation occurs when people's skills have decreased so they no longer function well in a particular domain. When people compensate, they search for an alternate way to accomplish the goal. For example, if an older adult can no longer drive because she has a broken leg, she might compensate by taking the bus. Sometimes, compensation requires learning a new skill; for example, an older adult experiencing short-term memory problems might compensate by learning to use a smartphone app for lists. Thus, compensation

differs from selection in that the task or goal is maintained but achieved through other means. Optimization involves minimizing losses and maximizing gains. The main idea is to find the best match possible between one's resources (biological, psychological, and sociocultural) and one's desired goals. Because people cannot achieve optimal outcomes in everything, development becomes a dynamic process of selecting the right goals and compensating when possible, to help maximize the odds of achieving them. One can see the SOC model at work in many situations. For example, aging musicians who want to continue to play concerts may reduce the number of pieces they play (selection), rehearse them more often (optimization), and sing them in a lower key (compensation). A college athlete who excels at ice hockey and baseball may decide to concentrate on hockey (selection), work on training all year (optimization), and develop a wicked wrist shot to make up for a mediocre slap shot (compensation). The life-span perspective and the SOC model have provided important approaches to the contemporary study of human development. The emphasis on the need for a using multidisciplinary approach and for recognizing many interactive forces will be developed throughout this text.

Life-Course Perspective

- Adults often describe their lives as a story that includes several key life events and transitions (e.g., going to school, getting a first job, getting married, having children). Such stories show how people move through their lives and experience unique interactions of the four forces of development.
- The life-course perspective describes the ways in which various generations experience the biological, psychological, and sociocultural forces of development in their respective historical contexts. Specifically, it lets researchers examine the effects of historical time on how people create their lives. A key feature of the life-course perspective is the dynamic interplay between the individual and society. This interplay creates three major dimensions, all involving timing and underlying the life-course perspective:
 - **The individual timing of life events in relation to external historical events:** This dimension addresses the question: How do people time and sequence their lives (e.g., getting a first job, having their first child, entering retirement) in the context of changing historical conditions (e.g., economic good times or recession)?
 - **The synchronization of individual transitions with collective familial ones:** This dimension addresses the question: How do people balance their own lives (e.g., work obligations) with those of their family (e.g., children's soccer games)?
 - **The impact of earlier life events, as shaped by historical events, on subsequent ones:** This dimension addresses the question: How does experiencing an event earlier in life (e.g., a male turning 18 years old) at a particular point in history (e.g., when there is a military draft) affect one's subsequent life (e.g., choosing a particular career)?
- Research from the life-course perspective has shown that major life transitions such as marriage, childbearing, starting and ending a career, and completing one's education occur at many different ages across people and generations. These differences first appear after adolescence, when people begin to have more control over the course of their lives. Research has also shown that life transitions are more continuous and multidirectional than previously thought. For example, completing an education was relegated to early adulthood in traditional models, yet current realities of returning adult students and lifelong learning make this view obsolete. Finally, research shows that the various domains of people's lives are highly interdependent; for example, the decision to have a child is often made in the context of where one is

in one's career and education. The emphasis in the life-course perspective on interrelations between the individual and society with reference to historical time has made it a dominant view in the social sciences. In particular, this approach is useful in helping researchers understand how the various aspects of people's experiences (work, family, education) interact to create unique lives. Overall, life-span and life-cycle theories have greatly enhanced developmental theory by drawing attention to the role of aging in the broader context of human development (Gilleard & Higgs, 2016).

Table 1.3

Theoretical Perspectives on Human Development

PERSPECTIVE	EXAMPLES	MAIN IDEA	EMPHASES IN BIOPSYCHOSOCIAL FRAMEWORK	POSITIONS ON DEVELOPMENTAL ISSUES
Psychodynamic	Erikson's psychosocial theory	Personality develops through sequence of stages	Psychological, social, and life-cycle forces crucial; less emphasis on biological	Nature–nurture interaction, discontinuity, universal sequence but individual differences in rate
Learning	Behaviorism (Watson, Skinner)	Environment controls behavior	In all theories, some emphasis on biological and psychological, major focus on social, little recognition of life cycle	In all theories, strongly nurture, continuity, and universal principles of learning
	Social learning theory (Bandura)	People learn through modeling and observing		
Cognitive	Piaget's theory (and extensions)	Thinking develops in a sequence of stages	Main emphasis on biological and social forces, less on psychological, little on life cycle	Strongly nature, discontinuity, and universal sequence of stages
	Information-processing theory	Thought develops by increases in efficiency at handling information	Emphasis on biological and psychological, less on social and life cycle	Nature–nurture interaction, continuity, individual differences in universal structures
	Vygotsky's theory	Development influenced by culture	Emphasis on psychological and social forces	Nature–nurture interaction, continuity, individual differences

Theoretical Perspectives on Human Development (Continued)

PERSPECTIVE	EXAMPLES	MAIN IDEA	EMPHASES IN BIOPSYCHOSOCIAL FRAMEWORK	POSITIONS ON DEVELOPMENTAL ISSUES
Ecological and Systems	Bronfenbrenner's theory	Developing person embedded in a series of interacting systems	Low emphasis on biological, moderate on psychological and life cycle, heavy on social	Nature–nurture interaction, continuity, context-specific
	Competence–environmental press (Lawton and Nahemow)	Adaptation is optimal when ability and demands are in balance	Strong emphasis on biological, psychological, and social, moderate on life cycle	Nature–nurture interaction, continuity, context-specific
Life-Span Perspective/SOC	Baltes's life-span perspective and selective optimization with compensation (SOC)	Development is multiply determined; optimization of goals	Strong emphasis on the interactions of all four forces; cannot consider any in isolation	Nature–nurture interaction, continuity and discontinuity, context-specific
Life-Course Perspective	Life-course theory	Life-course transitions decreasingly tied to age; increased continuity over time; specific life paths across domains are interdependent	Strong emphasis on psychological, sociocultural, life cycle; less on biological	Nature–nurture interaction, continuity and discontinuity, context-specific

1.3 Doing Developmental Research

Measurement in Human Development Research

- The first step in doing developmental research is deciding how to measure the topic or behaviour of interest. So the first step toward answering Leah and Joan's question would be to decide how to measure friendships. Human development researchers use one of four approaches: observing systematically, using tasks to sample behaviour, asking people for self-reports, and taking physiological measures.

Systematic Observation

- As the name implies, systematic observation involves watching people and carefully recording what they do or say. Two forms of systematic observation are common. In naturalistic observation, people are observed as they behave spontaneously in a real-life situation. There's a catch with observation, though. Researchers can't keep track of everything that someone does, so beforehand they must decide what specific variables to record. For example, researchers studying friendship might decide to observe children as they start their first year in middle school (chosen because this is a time when many children will be making new friends). They could decide to record where children sit in the lunchroom and who talks to whom. Structured observations differ from naturalistic observations in that the researcher creates a setting that is likely to bring out the behaviour of interest. Structured observations are particularly useful for studying behaviours that are difficult to observe naturally, such as how people respond to emergencies. An investigator relying on natural observations to study people's responses to emergencies would not make much progress with naturalistic observation because emergencies do not occur at predetermined times and locations. However, using a structured observation, an investigator might stage an emergency—perhaps cooperating with authorities to simulate an accident—to observe people's responses. Some behaviours are difficult for researchers to observe because they occur in private, not public, settings. For example, sexual activity tends to occur in private, where it is difficult for investigators to observe unobtrusively. However, researchers could ask couples to come to the researcher's laboratory, which might be furnished to resemble a typical bedroom. The researchers would then observe the friends' activity by watching from another room, watching through a one-way mirror, or videotaping them. Later in this book, we will consider findings from research such as this that has greatly helped us understand human behaviour, such as providing insights into how people provide consent for engaging in sexual activity. Structured observations are valuable in enabling researchers to observe behaviour(s) that would otherwise be difficult to study. But there are limits. For example, observing couples engaging in sexual activity in a mock bedroom has many artificial aspects to it: The couples are not in their rooms, they were told in general terms what to do, and they know they're being observed. Any of these factors may cause couples to behave differently than they would in the real world. Researchers must be careful that their method does not make the behaviour they are observing unnatural or unrealistic.

Sampling Behavioural with Tasks

- When investigators can't observe a behaviour directly, an alternative is to create tasks that are thought to sample the behaviour of interest. One task often used to measure older adults' memory is "digit span": Adults listen as a sequence of digits is presented aloud. After the last digit is presented, they try to repeat the digits in order.

To study the ability to recognize emotions, the child has been asked to look at the photographs and point to the face that looks happy. A child's answers on this sort of task are useful in determining his or her ability to recognize emotions. This approach is popular and convenient; however, a potential problem is that the task may not provide a realistic sample of the behaviour of interest. Self-reports represent a special case of using tasks to measure people's behaviour. Self-reports are people's answers to questions about the topic of interest. When questions are posed in written form, the self-report is a questionnaire; when questions are posed orally, the self-report is an interview. Either way, questions are created that probe different aspects of the topic of interest.

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Physiological Measurement

- One less common but potentially powerful form of measurement is measuring people's physiological responses. Earlier we saw that brain activity is used in neuroscience research to track certain behaviours, such as memory.
- Another measure is heart rate, which often slows down when people are paying close attention to something interesting. Consequently, researchers often measure heart rate to determine a person's degree of attention. As another example, the hormone cortisol is often secreted in response to stress. By measuring cortisol levels in saliva, scientists can determine when people are experiencing stress. Another measure is heart rate, which often slows down when people are paying close attention to something interesting. Consequently, researchers often measure heart rate to determine a person's degree of attention. As another example, the hormone cortisol is often secreted in response to stress. By measuring cortisol levels in saliva, scientists can determine when people are experiencing stress. They're often used with behaviourally oriented methods. A researcher studying stress might observe several people for overt signs of stress, ask parents/partners/friends to rate the target person's stress, and measure cortisol in the target person's saliva. If all three measures lead to the same conclusions about stress, then the researcher can be more confident about those conclusions. As we have discussed, there are strengths and weaknesses in each of the four approaches to measurement.

Reliability and Validity

- After researchers choose a method, they must show that it is both reliable and valid. The reliability of a measure is the extent to which it provides a consistent index of a characteristic. A measure of friendship, for example, is reliable if it consistently estimates a person's friendship network each time you administer it. Reliability of a measure is essential, but it isn't enough. A measure must also be valid to be useful. The validity of a measure refers to whether it actually measures what researchers think it measures. For example, a measure of friendship is valid if it actually measures friendship and not, for example, popularity. Validity is often established by showing that the measure in question is closely related to another measure known to be valid.

Representative Sampling

- Valid measures also depend on the people who are tested. Researchers are usually interested in broad groups of people called populations. Examples of populations are all American 7-year-olds or all African American grandparents. Virtually all studies include only a sample of people, which is a subset of the population. Researchers must take care that their sample represents the population of interest because an unrepresentative sample can lead to invalid conclusions. For example, if a study of friendship in older adults tested only people who had no siblings, you would probably decide that this sample is not representative of the population of older adults and question its validity. As you read on, you'll soon discover that much of the research we describe was conducted with samples that consist mostly of middle-class European American people. Are these samples representative of all people in the United States? Of all people in the world? No. To make samples more representative, some U.S. federal agencies now require researchers to include certain groups (e.g., ethnic minorities, women, children) or explain in detail why they are not, a policy that has resulted in a broader view of developmental processes. But until we have representative samples in all developmental research, we cannot know whether a particular phenomenon applies only to the group studied or to people more generally.

General Designs for Research

- Having selected a way to measure the topic or behaviour of interest, researchers embed this measure in a research design that yields useful, relevant results. Human development researchers rely on two primary designs in their work: correlational studies and experimental studies.

Correlational study

- In a correlational study, investigators look at relations between variables as they exist naturally in the world. Imagine a researcher who wants to test the idea that smart people have more friends. To find out, the researcher would measure two variables for each person—the number of friends the person has and the person's intelligence—and then see whether the two variables are related. The results of a correlational study are usually measured by calculating a correlation coefficient, which expresses the strength and direction of a relation between two variables. Correlations can range from -1.0 to 1.0 . The correlation coefficient reflects one of three possible relations between intelligence and the number of friends:
 - People's intelligence is unrelated to the number of friends they have, reflected in a correlation of 0.