# 1.1 Big Ideas in Development

## What are the big ideas in development?

### Learning Objectives

* Differentiate between theories and hypotheses
* Differentiate between stage and non-stage theories
* Describe normative versus idiographic approaches in development
* Describe how nature and nurture influence development
* Describe Baltes’ lifespan perspective with its key principles about development
* Explain what is meant by development being lifelong, multidimensional, multidirectional, and plastic
* Explain contextual influences on development

## Understanding Theories

In lifespan development, we need to rely on a systematic approach to understanding behavior, based on observable events and the scientific method. There are so many different observations about childhood, adulthood, and development in general that we use theories to help organize all of the different observable events or variables. A theory is a simplified explanation of the world that attempts to explain how variables interact with each other. It can take complex, interconnected issues and narrow them down to the essentials. This enables developmental theorists and researchers to analyze the problem in greater depth.

Two key concepts in the scientific approach are theory and hypothesis. A **theory** is a well-developed set of ideas that propose an explanation for observed phenomena that can be used to make predictions about future observations. A **hypothesis** is a testable prediction that is arrived at logically from a theory. It is often worded as an if-then statement (e.g., if I study all night, I will get a passing grade on the test). The hypothesis is extremely important because it bridges the gap between the realm of ideas and the real world. As specific hypotheses are tested, theories are modified and refined to reflect and incorporate the result of these tests. In essence, lifespan theories explain observable events in a meaningful way. They are not as specific as hypotheses, which are so specific that we use them to make predictions in research. Theories offer more general explanations about behavior and events.

Think of theories are guidelines much like directions that come with an appliance or other object that required assembly. The instructions can help one piece together smaller parts more easily than if trial and error are used.

Theories can be developed using induction, in which a number of single cases are observed and after patterns or similarities are noted, the theorist develops ideas based on these examples. Established theories are then tested through research; however, not all theories are equally suited to scientific investigation.  Some theories are difficult to test but are still useful in stimulating debate or providing concepts that have practical application. Keep in mind that theories are not facts; they are guidelines for investigation and practice, and they gain credibility through research that fails to disprove them.

People who study lifespan development approach it from different perspectives. Each perspective encompasses one or more theories—the broad, organized explanations and predictions concerning phenomena of interest. Theories of development provide a framework for thinking about human growth, development, and learning. If you have ever wondered about what motivates human thought and behavior, understanding these theories can provide useful insight into individuals and society.

Throughout psychological history and still in the present day, three key issues remain among which developmental theorists often disagree. Particularly oft-disputed is the role of early experiences on later development in opposition to current behavior reflecting present experiences–namely the passive versus active issue. Likewise, whether or not development is best viewed as occurring in stages or rather as a gradual and cumulative process of change has traditionally been up for debate – a question of continuity versus discontinuity. Further, the role of heredity and the environment in shaping human development is a much-contested topic of discussion – also referred to as the nature/nurture debate.

### Is Development Continuous or Discontinuous?

**Continuous development** (or **non-stage theories**) view development as a cumulative process, gradually improving on existing skills (Figure 3). With this type of development, there is a gradual change. Consider, for example, a child’s physical growth: adding inches to their height year by year. In contrast, theorists who view development as **discontinuous** (or **stage theories**) believe that development takes place in unique stages and that it occurs at specific times or ages. With this type of development, the change is more sudden, such as an infant’s ability to demonstrate awareness of object permanence (which is a cognitive skill that develops toward the end of infancy, according to Piaget’s cognitive theory—more on that theory in the next module).

### Is There One Course of Development or Many?

Is development essentially the same, or universal, for all children (i.e., there is one course of development) or does development follow a different course for each child, depending on the child’s specific genetics and environment (i.e., there are many courses of development)? Another way of summarizing this debate is focusing on typical patterns of change (**normative development**) versus individual differences (**idiographic development**). Do people across the world share more similarities or more differences in their development? How much do culture and genetics influence a child’s behavior?

Stage theories hold that the sequence of development is universal. For example, in cross-cultural studies of language development, children from around the world reach language milestones in a similar sequence (Gleitman & Newport, 1995). Infants in all cultures coo before they babble. They begin babbling at about the same age and utter their first word around 12 months old. Yet we live in diverse contexts that have a unique effect on each of us. For example, researchers once believed that motor development followed one course for all children regardless of culture. However, childcare practices vary by culture, and different practices have been found to accelerate or inhibit the achievement of developmental milestones such as sitting, crawling, and walking (Karasik, Adolph, Tamis-LeMonda, & Bornstein, 2010).

For instance, let’s look at the Aché society in Paraguay. They spend a significant amount of time foraging in forests. While foraging, Aché mothers carry their young children, rarely putting them down in order to protect them from getting hurt in the forest. Consequently, their children walk much later: They walk around 23–25 months old, in comparison to infants in Western cultures who begin to walk around 12 months old. However, as Aché children become older, they are allowed more freedom to move about, and by about age 9, their motor skills surpass those of U.S. children of the same age: Aché children are able to climb trees up to 25 feet tall and use machetes to chop their way through the forest (Kaplan & Dove, 1987). As you can see, our development is influenced by multiple contexts, so the timing of basic motor functions may vary across cultures, which is more consistent with **non-stage theories**. However, the functions are present in all societies.

### How Do Nature and Nurture Influence Development?

Are we who we are because of **nature** (biology and genetics), or are we who we are because of **nurture** (our environment and culture)? This longstanding question is known in psychology as the nature versus nurture debate. It seeks to understand how our personalities and traits are the product of our genetic makeup and biological factors, and how they are shaped by our environment, including our parents, peers, and culture. For instance, why do biological children sometimes act like their parents—is it because of genetics or because of early childhood environment and what the child has learned from their parents? What about children who are adopted—are they more like their biological families or more like their adoptive families? And how can siblings from the same family be so different?

We are all born with specific genetic traits inherited from our parents, such as eye color, height, and certain personality traits. Beyond our basic genotype, however, there is a deep interaction between our genes and our environment. Our unique experiences in our environment influence whether and how particular traits are expressed, and at the same time, our genes influence how we interact with our environment (Diamond, 2009; Lobo, 2008). The modern study of **epigenetics** explores how environmental influences shape genetic expression. There is a reciprocal interaction between nature and nurture as they both shape who we become, but the debate continues as to the relative contributions of each. Developmentalists are also interested in **differential susceptibility**–how some people, either because of differences in genes or environmental experiences, are impacted differently by environmental events (Belsky & Pleuss, 2009). For example, why are some people relatively unscathed in the face of trauma while others are debilitated? We’ll explore these issues throughout the lifespan.

## The Lifespan Perspective



Lifespan development involves the exploration of biological, cognitive, and psychosocial changes and constancies that occur throughout the entire course of life. It has been presented as a theoretical perspective, proposing several fundamental, theoretical, and methodological principles about the nature of human development. An attempt by researchers has been made to examine whether research on the nature of development suggests a specific metatheoretical worldview. Several beliefs, taken together, form the “family of perspectives” that contribute to this particular view.

German psychologist Paul Baltes, a leading expert on lifespan development and aging, developed one of the approaches to studying development called the **lifespan perspective**. This approach is based on several key principles:

* Development occurs across one’s entire life or is lifelong.
* Development is multidimensional, meaning it involves the dynamic interaction of factors like physical, emotional, and psychosocial development
* Development is multidirectional and results in gains and losses throughout life
* Development is plastic, meaning that characteristics are malleable or changeable.
* Development is influenced by contextual and socio-cultural influences.
* Development is multidisciplinary.

### Development is lifelong

Lifelong development means that development is not completed in infancy or childhood or at any specific age; it encompasses the entire lifespan, from conception to death. The study of development traditionally focused almost exclusively on the changes occurring from conception to adolescence and the gradual decline in old age; it was believed that the five or six decades after adolescence yielded little to no developmental change at all. The current view reflects the possibility that specific changes in development can occur later in life, without having been established at birth. The early events of one’s childhood can be transformed by later events in one’s life. This belief clearly emphasizes that all stages of the lifespan contribute to the regulation of the nature of human development.

Many diverse patterns of change, such as direction, timing, and order, can vary among individuals and affect the ways in which they develop. For example, the developmental timing of events can affect individuals in different ways because of their current level of maturity and understanding. As individuals move through life, they are faced with many challenges, opportunities, and situations that impact their development. Remembering that development is a lifelong process helps us gain a wider perspective on the meaning and impact of each event.

### Development is multidimensional

By multidimensionality, Baltes is referring to the fact that a complex interplay of factors influence development across the lifespan, including biological, cognitive, and socioemotional changes. Baltes argues that a dynamic interaction of these factors is what influences an individual’s development.

For example, in adolescence, puberty consists of physiological and physical changes with changes in hormone levels, the development of primary and secondary sex characteristics, alterations in height and weight, and several other bodily changes. But these are not the only types of changes taking place; there are also cognitive changes, including the development of advanced cognitive faculties such as the ability to think abstractly. There are also emotional and social changes involving regulating emotions, interacting with peers, and possibly dating. The fact that the term puberty encompasses such a broad range of domains illustrates the multidimensionality component of development (think back to the physical, cognitive, and psychosocial domains of human development we discussed earlier in this module).

### Development is multidirectional

Baltes states that the development of a particular domain does not occur in a strictly linear fashion but that the development of certain traits can be characterized as having the capacity for both an increase and decrease in efficacy over the course of an individual’s life.

If we use the example of puberty again, we can see that certain domains may improve or decline in effectiveness during this time. For example, self-regulation is one domain of puberty that undergoes profound multidirectional changes during the adolescent period. During childhood, individuals have difficulty effectively regulating their actions and impulsive behaviors. Scholars have noted that this lack of effective regulation often results in children engaging in behaviors without fully considering the consequences of their actions. Over the course of puberty, neuronal changes modify this unregulated behavior by increasing the ability to regulate emotions and impulses. Inversely, the ability for adolescents to engage in spontaneous activity and creativity, both domains commonly associated with impulse behavior, decrease over the adolescent period in response to changes in cognition. Neuronal changes to the limbic system and prefrontal cortex of the brain, which begin in puberty lead to the development of self-regulation, and the ability to consider the consequences of one’s actions (though recent brain research reveals that this connection will continue to develop into early adulthood).

Extending on the premise of multidirectionality, Baltes also argued that development is influenced by the “joint expression of features of growth (gain) and decline (loss)”. This relation between developmental gains and losses occurs in a direction to selectively optimize particular capacities. This requires the sacrificing of other functions, a process known as selective optimization with compensation. According to the process of selective optimization, individuals prioritize particular functions above others, reducing the adaptive capacity of particulars for specialization and improved efficacy of other modalities.

The acquisition of effective self-regulation in adolescents illustrates this gain/loss concept. As adolescents gain the ability to effectively regulate their actions, they may be forced to sacrifice other features to selectively optimize their reactions. For example, individuals may sacrifice their capacity to be spontaneous or creative if they are constantly required to make thoughtful decisions and regulate their emotions. Adolescents may also be forced to sacrifice their fast reaction times toward processing stimuli in favor of being able to fully consider the consequences of their actions.

### Development is plastic

Plasticity denotes intrapersonal variability and focuses heavily on the potentials and limits of the nature of human development. The notion of plasticity emphasizes that there are many possible developmental outcomes and that the nature of human development is much more open and pluralistic than originally implied by traditional views; there is no single pathway that must be taken in an individual’s development across the lifespan. Plasticity is imperative to current research because the potential for intervention is derived from the notion of plasticity in development. Undesired development or behaviors could potentially be prevented or changed.

As an example, recently researchers have been analyzing how other senses compensate for the loss of vision in blind individuals. Without visual input, blind humans have demonstrated that tactile and auditory functions still fully develop and they can use tactile and auditory cues to perceive the world around them. One experiment designed by Röder and colleagues (1999) compared the auditory localization skills of people who are blind with people who are sighted by having participants locate sounds presented either centrally or peripherally (lateral) to them. Both congenitally blind adults and sighted adults could locate a sound presented in front of them with precision but people who are blind were clearly superior in locating sounds presented laterally. Currently, brain-imaging studies have revealed that the sensory cortices in the brain are reorganized after visual deprivation. These findings suggest that when vision is absent in development, the auditory cortices in the brain recruit areas that are normally devoted to vision, thus becoming further refined.

A significant aspect of the aging process is cognitive decline. The dimensions of cognitive decline are partially reversible, however, because the brain retains the lifelong capacity for plasticity and reorganization of cortical tissue. Mahncke and colleagues developed a brain plasticity-based training program that induced learning in mature adults experiencing an age-related decline. This training program focused intensively on aural language reception accuracy and cognitively demanding exercises that have been proven to partially reverse the age-related losses in memory. It included highly rewarding novel tasks that required attention control and became progressively more difficult to perform. In comparison to the control group, who received no training and showed no significant change in memory function, the experimental training group displayed a marked enhancement in memory that was sustained at the 3-month follow-up period. These findings suggest that cognitive function, particularly memory, can be significantly improved in mature adults with age-related cognitive decline by using brain plasticity-based training methods.

### Development is contextual

In Baltes’ theory, the paradigm of contextualism refers to the idea that three systems of biological and environmental influences work together to influence development. Development occurs in context and varies from person to person, depending on factors such as a person’s biology, family, school, church, profession, nationality, and ethnicity. Baltes identified three types of influences that operate throughout the life course: normative age-graded influences, normative history-graded influences, and nonnormative influences. Baltes wrote that these three influences operate throughout the life course, their effects accumulate with time, and, as a dynamic package, they are responsible for how lives develop.

**Normative age-graded influences** are those biological and environmental factors that have a strong correlation with chronological age, such as puberty or menopause, or age-based social practices such as beginning school or entering retirement. **Normative history-graded influences** are associated with a specific time period that defines the broader environmental and cultural context in which an individual develops. For example, development and identity are influenced by historical events of the people who experience them, such as the Great Depression, WWII, Vietnam, the Cold War, the War on Terror, or advances in technology.

This has been exemplified in numerous studies, including Nesselroade and Baltes’, showing that the level and direction of change in adolescent personality development was influenced as strongly by the socio-cultural settings at the time (in this case, the Vietnam War) as age-related factors. The study involved individuals of four different adolescent age groups who all showed significant personality development in the same direction (a tendency to occupy themselves with ethical, moral, and political issues rather than cognitive achievement). Similarly, Elder showed that the Great Depression was a setting that significantly affected the development of adolescents and their corresponding adult personalities, by showing a similar common personality development across age groups. Baltes’ theory also states that the historical socio-cultural setting had an effect on the development of an individual’s intelligence. The areas of influence that Baltes thought most important to the development of intelligence were health, education, and work. The first two areas, health and education, significantly affect adolescent development because healthy children who are educated effectively will tend to develop a higher level of intelligence. The environmental factors, health and education, have been suggested by Neiss and Rowe to have as much effect on intelligence as inherited intelligence.

**Nonnormative influences** are unpredictable and not tied to a certain developmental time in a person’s development or to a historical period. They are the unique experiences of an individual, whether biological or environmental, that shape the development process. These could include milestones like earning a master’s degree or getting a certain job offer or other events like going through a divorce or coping with the death of a child.

The most important aspect of contextualism as a paradigm is that the three systems of influence work together to affect development. Concerning adolescent development, the age-graded influences would help to explain the similarities within a cohort, the history-graded influences would help to explain the differences between cohorts, and the nonnormative influences would explain the idiosyncrasies of each adolescent’s individual development. When all influences are considered together, it provides a broader explanation of an adolescent’s development.

#### Cohort, Socioeconomic Status, and Culture

What is meant by the word “context”? It means that we are influenced by when and where we live. Our actions, beliefs, and values are a response to the circumstances surrounding us. Sternberg describes contextual intelligence as the ability to understand what is called for in a situation (Sternberg, 1996). The key here is to understand that behaviors, motivations, emotions, and choices are all part of a bigger picture. Our concerns are such because of who we are socially, where we live, and when we live; they are part of a social climate and set of realities that surround us. Important social factors include cohort, social class, gender, race, ethnicity, and age. Let’s begin by exploring two of these: cohort and social class.

A **cohort** is a group of people who are born at roughly the same time period in a particular society. Cohorts share histories and contexts for living. Members of a cohort have experienced the same historical events and cultural climates which have an impact on the values, priorities, and goals that may guide their lives.

Another context that influences our lives is our social standing, **socioeconomic status (SES)**, or social class. Socioeconomic status is a way to identify families and households based on their shared levels of education, income, and occupation. While there is certainly individual variation, members of a social class tend to share similar lifestyles, patterns of consumption, parenting styles, stressors, religious preferences, and other aspects of daily life.

**Culture** is often referred to as a blueprint or guideline shared by a group of people that specifies how to live. It includes ideas about what is right and wrong, what to strive for, what to eat, how to speak, what is valued, as well as what kinds of emotions are called for in certain situations. Culture teaches us how to live in a society and allows us to advance because each new generation can benefit from the solutions found and passed down from previous generations.

Culture is learned from parents, schools, churches, media, friends, and others throughout a lifetime. The kinds of traditions and values that evolve in a particular culture serve to help members function in their own society and to value their own society. We tend to believe that our own culture’s practices and expectations are the right ones. This belief that our own culture is superior is called ethnocentrism and is a normal by-product of growing up in a culture. It becomes a roadblock, however, when it inhibits understanding of cultural practices from other societies. Cultural relativity is an appreciation for cultural differences and the understanding that cultural practices are best understood from the standpoint of that particular culture.

Culture is an extremely important context for human development and understanding development requires being able to identify which features of development are culturally based. This understanding is somewhat new and still being explored. So much of what developmental theorists have described in the past has been culturally bound and difficult to apply to various cultural contexts. For example, Erikson’s theory that teenagers struggle with identity assumes that all teenagers live in a society in which they have many options and must make an individual choice about their future. In many parts of the world, one’s identity is determined by family status or society’s dictates. In other words, there is no choice to make.

Even the most biological events can be viewed in cultural contexts that are extremely varied. Consider two very different cultural responses to menstruation in young girls. In the United States, girls in public school often receive information on menstruation around 5th grade, get a kit containing feminine hygiene products, and receive some sort of education about sexual health. Contrast this with some developing countries where menstruation is not publicly addressed, or where girls on their period are forced to miss school due to limited access to feminine products or unjust attitudes about menstruation.

### Development is Multidisciplinary

Any single discipline’s account of development across the lifespan would not be able to express all aspects of this theoretical framework. That is why it is suggested explicitly by lifespan researchers that a combination of disciplines is necessary to understand development. Psychologists, sociologists, neuroscientists, anthropologists, educators, economists, historians, medical researchers, and others may all be interested and involved in research related to the normative age-graded, normative history-graded, and nonnormative influences that help shape development. Many disciplines are able to contribute important concepts that integrate knowledge, which may ultimately result in the formation of a new and enriched understanding of development across the lifespan.

### Think It Over

* Consider your cohort. Can you identify it? Does it have a name and if so, what does the name imply? To what extent does your cohort shape your values, thoughts, and aspirations? (Some cohort labels popularized in the media for generations in the United States include Baby Boomers, Generation X, Millennials, and Generation Z.)
* Think of other ways culture may have affected your development. How might cultural differences influence interactions between teachers and students, nurses and patients, or other relationships?

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