



## Human Development – Key Critical Aspects

### KEYWORDS

human development, maturation, learning, growth, developmental tasks

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**ABSTRACT** *The following article provides a comprehensive overview of human development as seen by developmental psychologists. It aims to provide the reader with the conceptual understanding of human development and how it unfolds. It provides the reader with a detailed understanding of the different processes that underlie human development. Human development is a continuous process that occurs over a period of time and there are developmental tasks that need to be carried out at every level and must be accomplished fully before one can move ahead to further developmental tasks. The concepts of maturation and learning with respect to human development are also discussed. This paper serves as a primer for those hoping to have a fundamental understanding into the basic processes of human development and growth.*

### INTRODUCTION TO HUMAN DEVELOPMENT

Developmental psychologists realize that an accurate picture of the developmental pattern is fundamental to an understanding of children. They also recognize that knowledge of what causes variations in development is essential to an understanding of each individual child.

Knowing what the developmental pattern is like has scientific as well as practical value. These values are: First, knowledge of the pattern of human development helps developmental psychologists to know what to expect of children, at approximately what ages to expect different patterns of behavior to appear, and when these patterns will normally be replaced by more mature patterns. This is important because if too much is expected at a given age, children are likely to develop feelings of inadequacy if they do not live up to the standards their parents and teachers set for them. If, on the other hand, too little is expected of them, they are deprived of incentives to develop their potentials. Equally serious, they often build up resentments toward those who underestimate their capacities.

Second, knowing what to expect enables developmental psychologists to set up guidelines in the form of height-weight scales, age-weight scales, age-height scales, mental-age scales, and social- or emotional-development scales. Since the pattern of development for all normal children is approximately the same, it is then possible to evaluate each child in terms of the norm for that child's age. If development is typical, it means that the child is making normal adjustments to social expectations. Should, on the other hand, there be deviations from the normal pattern, this may be regarded as a danger signal of poor personal, emotional, or social adjustments. Steps can then be taken to discover the cause of the deviation and to remedy it. Should the deviation be the result of lack of opportunities to learn, for example, the child can then be given learning opportunities and encouragement to use these opportunities.

Third, since successful development requires guidance, knowing the developmental pattern enables parents and teachers to guide the child's learning at appropriate times. A baby who is ready to learn to walk must be given opportunities to practice walking and encouragement to keep on trying until the walking skill has been mastered. Lack of

opportunity and encouragement may delay normal development.

Fourth, knowing what the normal developmental pattern is makes it possible for parents and teachers to prepare children ahead of time for the changes that will take place in their bodies—their interests, or their behavior. For example, children can be prepared for what will be expected of them when they enter school. While this psychological preparation will not eliminate all tensions that come from such a radical adjustment, it will go a long way toward minimizing them.

### DEVELOPMENT INVOLVES CHANGE

Many people use the terms "growth" and "development" interchangeably. In reality they are different, though they are inseparable; neither takes place alone. Growth refers to quantitative changes—increases in size and structure. Not only does the child become larger physically, but the size and structure of the internal organs and the brain increase. As a result of the growth of the brain, the child has a greater capacity for learning, for remembering, and for reasoning. The child grows mentally as well as physically. Development, by contrast, refers to qualitative and quantitative changes. It may be defined as a progressive series of orderly, coherent changes. "Progressive" signifies that the changes are directional, that they lead forward rather than backward. "Orderly" and "coherent" suggest that there is a definite relationship between the changes taking place and those that preceded or will follow them. Neugarten has explained how changes in development affect people as they grow older

"People change, whether for good or for bad, as a result of the accumulation of experience. As events are registered in the organism, individuals invariably abstract from the traces of those experiences and they create more encompassing as well as more refined categories for the interpretation of new events. The mental filing system not only grows larger, but it is reorganized over time, with infinitely more cross references. . . . Adults are not only much more complex than children, but they are more different one from the other, and increasingly different as they move from youth to extreme old age."

## THE GOAL OF DEVELOPMENTAL CHANGES

The goal of developmental changes is self-realization or the achievement of genetic potentials. This Maslow has labeled "self-actualization"—the striving to be the best person possible, both physically and mentally. It is the urge to do what one is fitted to do. To be happy and well-adjusted, a person must be given an opportunity to fulfill this urge.

However, whether the person will achieve this goal will depend on what obstacles are encountered and how successful the person is in overcoming these obstacles. Obstacles may be environmental, such as growing up in an environment where children are deprived of educational and cultural opportunities; or they may be from within the person, such as a fear of attempting to do what they are capable of doing because of social criticism. Many potentially creative children, for example, fail to achieve the creativity they are capable of because of early social criticism of their creative endeavors.

## TYPES OF CHANGE

### Changes in Size

These include physical changes in height, weight, circumference, and internal organs, and mental changes in memory, reasoning, perception, and creative imagination.

### Changes in proportions

Children are not miniature adults in their physical proportions. Nor are they mentally miniature adults. Their imaginative capacity is better developed than their reasoning capacity, while the reverse is true of adults.

### Disappearance of old features

When certain physical features, such as the thymus gland after puberty and baby hair and teeth, lose their usefulness, they gradually atrophy, as do some psychological and behavioral traits—babyish locomotion and speech and fantastic extensions of the imagination.

### Appearance of new features

Some new physical and mental features develop from maturation and some develop from learning and experience. New physical features include second teeth and primary and secondary sex characteristics; new mental features include interest in sex, moral standards, and religious beliefs.

## ATTITUDES TOWARDS CHANGE

Whether the individual child's attitudes toward "change are generally favorable or unfavorable depends upon many factors. First, children's awareness of the change. As babies become more autonomous, they begin to resent being waited on. Pubescent children, aware of the awkwardness that normally accompanies rapid growth, feel self-conscious and embarrassed instead of self-confident as they were earlier when slow growth enabled them to have better control over bodily movements.

Second, how the change affects their behavior. If the change enables children to be more independent of adult help or if it gives them added strength and speed so that they can take part in the play activities they associate with older children, they will welcome the change.

Third, social attitudes toward the change affect children just as they do adults. Most parents, for example, encourage their children to "grow up" as soon as possible. When children live up to parental expectations, they are praised; when they fall below these expectations, they are reproved

for not "acting their age."

Fourth, social attitudes are influenced, to some extent at least, by how the change affects the child's appearance. As a cuddly baby becomes a spindly pre-adolescent and as teeth fall out, giving the face a comical, if not homely look, the child may be less appealing to adults. If so, they are likely to show it in their treatment of the child.

Fifth, cultural attitudes affect the way people treat children as a result of changes in their appearance and behavior. Attitudes are, for the most part, more favorable toward babies and young children than toward older children. Just as "everyone loves a baby," so many people dread the prepubescent stage when children tend to become glum, moody, surly, and difficult to live or work with. Even peers may regard the prepubescent as a "pest" and old friendships often break as a result. Under such conditions, it is unlikely that children will have favorable attitudes toward many of the changes that puberty brings.

## Early Development Is More Critical

Long before scientific studies of children were made, it was an accepted fact that the early years are critical in the child's development. This was expressed in the old Chinese proverb, "As the twig is bent, so the tree's inclined." In a more poetic way, Milton expressed the same fact when he wrote, "The childhood shows the man, as morning shows the day."

The first important scientific clue of the significance of the early years came from Freud's studies of personality maladjustment. Such maladjustments, Freud found, could be traced to unfavorable childhood experiences. More recent studies have substantiated Freud. From clinical studies of children from birth to maturity, Erikson has concluded that "childhood is the scene of man's beginning as man, the place where our particular virtues and vices slowly but clearly develop and make themselves felt." He has further explained that babyhood is a time of "basic trust"—the individual learns to view the world as safe, reliable, and nurturing; or a time of "basic distrust"—the individual learns to view the world as full of threat, unpredictability, and treachery.

What the child will learn, Erikson explained, will depend on how parents gratify the child's needs for food, attention, and love. Once learned, these attitudes will color the individual's perceptions of people and situations throughout life.

The histories of maladjusted children from preschool years into high school or college have revealed that most of them were so poorly adjusted as young children that they never belonged to any group or had many friends. In addition, many suffered from speech, academic, and enuretic difficulties and were regarded by their families as "problem" children. From studies of the life histories of delinquents, Glueck concluded that potential delinquents could be identified as early as two or three years of age by their antisocial behavior.

## Why Early Foundations Are Important

As evidence piles up to show that early foundations tend to be persistent and to influence the child's attitudes and behavior throughout life, it becomes increasingly apparent why early foundations are important. There are four lines of evidence to substantiate this claim.

First, since learning and experience play increasingly dominant roles in development as children grow older, they can be directed into channels that will lead to good adjustment. Basically, this task must be handled by the family, though the larger social group can provide a culture in which children can fulfill their potentials.

Allowing children to grow up, doing what they want when they want, is obviously unfair to them. Children are too inexperienced to know what the social group expects of them. How, for example, can children know that mispronunciations and grammatical mistakes will create the impression that they are ignorant? How can they know that aggressive attacks on playmates will create more enemies than friends?

Guidance is most needed in the early stages of learning when the foundations are being laid. If children are put on the right track at first and encouraged to remain there until they become accustomed to it or realize why it is best, they will be less likely to get on the wrong track later.

Second, because early foundations quickly develop into habitual patterns, they will have a lifelong influence on children's personal and social adjustments. Many years ago James warned of this habituation when he said, "Could the young but realize how quickly they will become mere walking bundles of habits, they would give more heed to their conduct while still in the plastic stage".

Third, contrary to popular belief, children do not outgrow undesirable traits as they grow older. Instead, as was stressed earlier, patterns of attitudes and behavior, established early in life, tend to persist regardless of whether they are good or bad, beneficial or harmful to the child's adjustments.

Fourth, because it is sometimes desirable to make changes in what has been learned, the sooner the changes are made, the easier it is for children and, consequently, the more cooperative they are in making the changes.

In spite of the fact that early foundations are difficult to change, they can be, and often are, changed. There are three conditions that facilitate such change. First, when children receive guidance and help in making the changes, second, when the significant people in their lives treat them in a different way, and third, when the children themselves have a strong motivation to make the changes.

#### **Meaning of "Maturation"**

Intrinsic maturing—maturation—is the unfolding of characteristics potentially present in the individual that come from the individual's genetic endowment. In phylogenetic functions—functions common to the race—such as creeping, crawling, sitting, and walking, development comes from maturation. Training, per se, is of little advantage. Controlling the environment in such a way as to reduce opportunities to practice may, on the other hand, retard development.

By contrast, in ontogenetic functions—functions specific to the individual—such as swimming, ball throwing, riding bicycles or writing, training is essential. Without such training, development will not take place. No hereditary tendency can mature fully, however, without environmental support.

#### **Meaning of Learning**

Learning is development that comes from exercise and effort. Through learning, children acquire competence in using their hereditary resources. They must, however, have opportunities to learn. A child with superior neuromuscular organization, for example, may have a high aptitude for musical performance. But, if deprived of opportunities for practice and systematic training, the child will not develop this hereditary potential.

Some learning comes from practice or the mere repetition of an act. This, in time, brings about a change in the person's behavior. Such learning may consist of imitation, in which the person consciously copies what others do. Or it may consist of identification, in which the person attempts to adopt the attitudes, values, motives, and behavior of admired and loved persons.

Learning may come from training—selected, directed, and purposive activity. In training, children are directed in their behavior by adults or older children who attempt to mold their behavior into patterns that will contribute to their welfare and be acceptable to the social group.

The different environmental influences children experience affect the pattern of their development. Were human development due to maturation alone, as in some animal species, individuality would be reduced to a minimum.

#### **SOME PREDICTABLE PATTERNS OF DEVELOPMENT**

From the many evidences of an orderly, predictable pattern in physical development, in both prenatal and postnatal life, have come two laws of the directional sequence of development: the cephalocaudal law and the proximodistal law. According to the cephalocaudal law, development spreads over the body from head to foot. This means that improvements in structure and function come first in the head region, then in the trunk, and last in the leg region. According to the proximodistal law, development proceeds from near to far—outward from the central axis of the body toward the extremities. In the fetus, the head and trunk are fairly well developed before the rudimentary limb buds appear. Gradually, the arm buds lengthen and then develop into the hands and fingers. Functionally, babies can use their arms before their hands and can use their hands as a unit before they can control the movements of the fingers.

Longitudinal studies of intelligence have revealed that the pattern of mental development is as predictable as the pattern of physical development. The results of several longitudinal studies covering different segments of the lifespan from birth to 50 years show that the major part of mental growth comes when the body is developing most rapidly, during the first 16 to 18 years. There is also a predictable pattern for development of the different intellectual functions, such as memory and reasoning, that constitute general intelligence.

#### **Development Is Continuous**

Development is continuous from the moment of conception to death but it occurs at different rates—sometimes slowly and sometimes rapidly. As Piechowski has emphasized, "Development does not occur at an even pace. There are periods of great intensity and disequilibrium . . . and there are periods of equilibrium. Development achieves a plateau and this may occur at any level or between levels".

Furthermore, developmental changes do not always go forward in a straight line. They sometimes go backward, as when a jealous child regresses to babyish ways of doing things in the hopes of winning the parental attention enjoyed earlier. However, in the end, these changes lead forward.

Since development is continuous, what happens at one stage influences the following stage. Unhealthy attitudes about self or about relationships with others during the early years, for example, are rarely eliminated completely. They are reflected in the individual's outlook on life even in middle and old age. "Basic trust" or "basic distrust," developed during the babyhood years, Erikson found, persist throughout life and color the persons reactions to people and to life situations.

### There Are Individual Differences in Development

Although the pattern of development is similar for all children, all children follow the predictable pattern in their own way and at their own rate. Some children develop in a smooth, gradual, step-by-step fashion, while others move in spurts. Some show slight swings, while others show wide ones. All children do not, therefore, reach the same point of development at the same age.

### Causes of Differences

Dobzhansky has said, "Every person is indeed biologically and genetically different from every other". In addition, no two people have identical environmental influences, even identical twins. This means that individual differences are caused by both internal and external conditions. As a result, the pattern of development will be different for every child, even though it is similar in its major aspects to the pattern followed by other children.

Physical development, for example, depends partly on hereditary potentials and partly on such environmental factors as food, general health, sunlight, fresh air, climate, emotions, and physical exertion.

Intellectual development is affected by such factors as inherent capacity, the emotional climate, whether one is encouraged to pursue intellectual activities, whether one has a strong intellectual drive, and whether one has opportunities for experiences and learning. Personality development is influenced by genetic factors as well as by attitudes and social relationships, both in the home and outside.

There is evidence that physical and mental differences exist between the sexes and in children of different racial backgrounds. These differences are due in part to hereditary factors and, in part, to environmental factors. Of the two, there is evidence that the environmental factors play a more dominant role in producing the differences that do the hereditary factors.

### DEVELOPMENTAL TASKS

People of all ages are well aware of these "social expectations." Even young children know, from what people say to them and ask them to do, that certain things are expected of them. They soon realize, from the approval or disapproval of their behavior, that these social expectations largely determine the pattern of their learning.

Social expectations are known as "developmental tasks". Havighurst has defined a developmental task as a "task which arises at or about a certain period in the life of an individual, successful achievement of which leads to his

happiness and success with later tasks, while failure leads to unhappiness in the individual, disapproval by society, and difficulty with later tasks." Some developmental tasks arise mainly as a result of physical maturation (learning to walk); others are developed mainly from the cultural pressures of society (learning to read or learning appropriate sex roles); still others grow out of the personal values and aspirations of the individual (choosing and preparing for a vocation). Most developmental tasks arise from all three of these forces working together.

In a culture that is relatively static, developmental tasks remain much the same one generation after another. In a changing culture, however, the new generation must perform new developmental tasks, while some of the old tasks will become less important or be eliminated. In a culture that changes from hand labor to machine labor, for example, learning hand skills becomes less important than learning to operate machines.

Developmental tasks serve three very useful purposes. First, they act as guidelines to help parents and teachers to know what children should learn at a given age. If, for example, children are to make good adjustments to school, they must have mastered the tasks needed to be independent of teacher help, such as putting on or taking off outer garments, and they must know how to play the games other children in the neighborhood play.

Second, developmental tasks serve as motivating forces for children to learn what the social group expects them to learn at that age. Children quickly learn that social acceptance depends on their being able to do what their age-mates do. The stronger their desire for social acceptance, the greater will be their motivation to learn to do what their age-mates do.

Third, developmental tasks tell parents and teachers what will be expected of children in the immediate and remote future. As such, they alert them to the necessity of preparing children to meet these new expectations. When children begin to play with their age-mates, it alerts parents, for example, to the importance of teaching them how to play the games and sports that are popular among the older children of the neighborhood so that their children will be ready to play them when playing with age-mates becomes an important play activity for their children.

### SUMMARY

- Knowledge of the developmental pattern is important for scientific reasons because it helps developmental psychologists to know at approximately what ages to expect different patterns of behavior and to use these to set up guidelines. For practical reasons it is important because it emphasizes the necessity for guidance and stimulation if the child's full potentials are to be reached and it enables parents and teachers to prepare children ahead for what will be expected of them at given ages.
- Research studies have provided evidence for 10 fundamental facts about principles of development during the childhood years. As research continues, more principles may emerge.
- The first principle of development is that development involves changes, the goal of which is self-realization or the achievement of hereditary potentials.
- Children's attitudes toward change are influenced by

their awareness of these changes, how they affect children's behavior, social attitudes toward these changes, how they affect children's appearance, and how the social group reacts to children when these changes occur.

- The second principle of development is that early development is more critical than later development. Because early foundations are greatly influenced by learning and experience, if they are harmful to a child's personal and social adjustments, they can be changed before they settle into habitual patterns.
- The third principle of development emphasizes the fact that development comes from the interaction of maturation and learning, with maturation setting limits to the development.
- The fourth principle of development is that the pattern of development is predictable, though this predictable pattern can be delayed or accelerated by conditions within the prenatal and postnatal environments.
- The fifth principle of development is that the developmental pattern has certain predictable characteristics, the most important of which are that there is similarity in the developmental pattern for all children; development proceeds from general to specific responses; development is continuous; different areas develop at different rates; and there is correlation in development.
- The sixth principle of development is that there are individual differences in development due partly to hereditary influences and partly to environmental conditions. This is true both for physical and psychological development.
- The practical significance of knowing that there are individual differences in development is that it emphasizes the importance of training children according to their individual needs and of not expecting the same behavior in all children.
- The seventh principle of development is that there are periods in the developmental pattern which are labeled the prenatal period, infancy, babyhood, early childhood, late childhood, and puberty. Within these periods there are times of equilibrium and disequilibrium and behavior patterns that are normal and those that are carry-overs from an earlier period— usually called “problem” behavior.
- The eighth principle of development is that there are social expectations for every developmental period. These social expectations are in the form of developmental tasks which enable parents and teachers to know at what ages children are capable of mastering the different patterns of behavior necessary to make good adjustments.
- The ninth principle of development is that every area of development has potential hazards—physical and psychological—which may alter the pattern of development.
- The tenth principle of development is that happiness varies at different periods in the developmental pattern. The first year of life is usually the happiest and puberty is usually worrisome.

## REFERENCE

1. Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology* (52), 1-26.
2. Bentz, V. M., & Shapiro, J. J. (1998). *Mindful inquiry in social research*. Thousand Oaks: Sage Publications, Inc.
3. Berk, L. E. (2007). *Development through the lifespan* (4th ed.): Pearson Education, Inc.
4. Cox, R. (1987). The rich harvest of Abraham Maslow. In R. Cox (Ed.), *Motivation and personality* (3rd ed., pp. 293): Addison-Wesley Educational Publishers Inc.
5. Crick, F. (1994). The Astonishing Hypothesis: The scientific search for the soul. New York: Charles Scribner's Sons.
6. DuBrin, A. J. (2000). *Applying psychology: Individual and organizational effectiveness* (5th ed.). New Jersey: Prentice Hall, Inc.
7. Fischer, K. W. (1980). A theory of cognitive development: the control and construction of hierarchies of skills. *Psychological Review*, 87(6), 477-531.
8. Fischer, K. W. (2007, in press). Dynamic cycles of cognitive and brain development: Measuring growth in mind, brain, and education. In A. M. Battro, K. W. Fischer & P. J. Léna (Eds.), *The educated brain*. Cambridge, U.K.: Cambridge University Press.
9. Goldhaber, D. E. (2000). *Theories of human development: Integrative perspectives*. Mountain View: Mayfield Publishing Company.
10. Goldstein, K. (1938). *The organism*. In *Theories of personality*. New York: American Book Company.
11. Hall, C. S., & Lindzey, G. (1959). Organismic theory. In *Theories of personality* (pp. 296-335). Hoboken: John Wiley & Sons, Inc.
12. Hunt, R. R., & Ellis, H. C. (2004). *Fundamentals of cognitive psychology* (7 ed.). New York: McGraw-Hill Higher Education.
13. John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*, 31(3/4), 16.
14. Lerner, R. M. (2002). *Concepts and theories of human development* (3 ed.). Mahwah: Lawrence Erlbaum Associates, Inc., Publishers.
15. Maslow, A. H. (1968). *Toward a psychology of being* (2nd ed.). New York: Von Nostrand Reinhold Company Inc.
16. Maslow, A. H. (1971). *Eupsychian management*. Homewood: Richard D. Irwin, Inc.
17. Maslow, A. H. (1987). *Motivation and personality* (3rd ed.): Addison-Wesley Educational Publishers Inc.
18. Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in adulthood* (3rd ed.). San Francisco: Jossey-Bass.
19. Piaget, J., & Inhelder, B. (2000). *The psychology of the child* (H. Weaver, Trans.): Basic Books.
20. Rogers, C. R. (1995). *On becoming a person*. New York: Houghton Mifflin Company.
21. Skinner, B. F. (1955). *Freedom and the control of men*. *The American Scholar*, 2, 543-552.
22. Wade, C., & Tavis, C. (2008). *Psychology* (9th ed.). Saddle River: Pearson Education.
23. Watson, M. W. (2002). *Theories of human development* (Vol. 1). Virginia: The Teaching Company.
24. Yan, Z., & Fischer, K. (2002). Always under construction: Dynamic variations in adult cognitive microdevelopment. *Human Development*, 45, 141-160.