



Development And Change Of Humans Throughout Life

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Abstract

Development is a multidirectional and complicated process. There are various disciplines lying underneath the investigations about this process: Biopsychology, cognitive psychology, developmental psychology, social psychology, and clinical psychology are some of them. The roots of behavior and health goes back to the baby's mother's womb. Epigenetic mechanisms move into the process. Genetic mechanisms, environmental conditions, and interaction of the two play a key role during this development and change.

Early life experiences, the adversity, stress, traumatic events that have been lived, family and school and other social environments, family, and friend relationships, eating and sleeping habits affect a person's development and change.

When something happens, the effect of it can be seen so many years later. So, this means; if an illness has started in a body, in fact the trace of it has been started years before. However, one can change these effects by changing the lifestyle.

When a sperm enters the vagina, sperm cells go on to the fallopian tubes and meet the egg and get fertilized. The development starts here in the womb. Psychologists group the developmental periods as, beginning from the birth till 2 years, 2 to 5 years old, 5 to 12 years old, 12 to 18 years old, adulthood, middle age, and old age. The biological, cognitive, social, and emotional changes differ according to these periods and according to the sex as well. All these developments and changes affect each other.

Epigenetic changes that occurred because of the environmental conditions do not change the DNA sequence however they cause the genes to be active or passive. They influence gene expression and cause chemical changes. This knowledge gives hope that, if a proper life has been lived, problematic genes may not be activated. There is always the probability to change towards healing or towards a skillful life.



The last stage of the development is inevitably death. It is closely related to a person's and the society's culture and religious beliefs; so, the acceptance of death and approaches to death differ from culture to culture.

Keywords: *Development And Change, Development Of Humans, Change Of Human, Human Psychology Throughout the Life*

1. Introduction

When development and change in human behavior is the subject, it is known that the DNA has not been deciphered completely yet, however studies have been continuing. During the changing process, the genetic factor is the DNA, which is bent and shielded in the nucleus of the cell. The knowledge of everything that will be produced in the body is produced here. It is hard to distinguish among the genetic, environmental and the interaction of both, about which of these factors has been affected by a certain change.

For all these changes and developments, there is a certain range of age, for that development to take place properly. Otherwise, it is hard to compensate. The use of intelligence, progress of language, education, physical appearance, personal character, habits, and social attitudes, all of these can change according to the age range and, according to the historical time as well. The technological improvements, political events, and cultural developments influence the change.

Genetic factors cause change in thousands of years while an epigenetic factor may cause a change in a few generations. It is thought that if an epigenetic change causes a vital and important process for the survival of humans, it turns to be permanent.

For the genetic factors to be an influencer factor, they must be affected by the environmental conditions. The genetic is never a destiny. One must take responsibility for his habits, attitudes and make efforts. Mindful awareness is crucial for a person so that he can discern his responsibility for his own health and happiness.

Development and change in humans are affected in three ways: 1) Biological processes, 2) Environmental effect and 3) Reciprocated mutual influence of biological and environmental effect. Development and change throughout life can be grouped as: Physical development, cognitive development, social and emotional development. These development periods can be easily investigated in eight groups: Mother's womb, 0-2 years, 2-5 years, 5-12 years, 12-18 years, adulthood, middle age, old age.



2. Biological Processes

Recently it is acknowledged that the mother and father's physical and psychological condition is decisive even before the pregnancy has begun. When the sperm enters the vagina, it goes on from the cervix and uterus up to the fallopian tubes and looks for an egg. Before a sperm dies it has six days to meet an egg and gets fertilized. One cell (ooblast) coming from the mother, and the other coming from the father (sperm) a diploid cell is formed which is called a zygote (fertilized egg). From the moment of zygote period, the cells proliferate rapidly, and the zygote becomes an embryo at the end of three weeks. The two genetic sequences came from the mother and the father, unite, and form a new genetic code. The genetic knowledge that came from the sperm and the egg is coded in the chromosomes. (23 from the mother and twenty-three from the father.) Each of the chromosomes are made up of the DNA sequences which are wrapped together. Chromosomes are double-stranded molecules of DNA (deoxyribonucleic acid). Every chain in the double-stranded structure of the DNA is made up of nucleotides. Hydrogen is the element that bonds the strings together. Nucleotide sequences that are made of phosphate, five carbon sugar and nitrogenous organic base form the structure of the DNA. There are four of these organic bases, Adenine, Guanine, Cytosine, Thymine. Adenine and guanine connect to each other, and cytosine and thymine connect to each other. Genes are the DNA parts that are specialized in certain missions and define certain physical characteristics. DNA sequence consists of three billion sub-sequence of base pairs.

There are always two copies of the chromosomes in the living things that reproduce by sexual reproduction. One of the copies comes from the mother and the other comes from the father. So, the baby is a mix of the parents. The features that come from the parents are not even, however the number of the chromosomes are equal. Some of the genes are dominant over the others. The variety of the genes contribute to the evolution and the combination which is more concordant with the environment survives according to the 'Natural Selection.'

According to epigenetic science, environmental conditions and a person's lifestyle influence the epigenome. Genetic and epigenetic complete each other. Inheritance and the environmental conditions combine and change the gene. The sequence of the DNA does not change however, the expression of the gene changes. Especially if the new expression supports survival, the change may become permanent and may be transferred to the next generations.

3. Environmental Effect

Everything that happens and takes place in someone's life other than the genetic influence causes a change in his life. The environmental conditions begin affecting a person even before he enters his mother's womb. A wide variety of effects can be mentioned. The family in which a person grows up, The society in which he lives, the culture, the time, and socioeconomic state



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are some of them. The stress that a person is subjected to, his nutrition habits, traumatic events that he may have passed through, his sleep patterns, how active and sportive he is and all the adversities he encounters influence the person and cause a change in his life. All these factors change the processing of the body and affect the behavior.

Early life experiences such as exploitation of any kind, beating, corporal punishment, health problems, deprivation of love, lack of interest from loved ones, bullying and encountering violence... Any natural disaster such as earthquake, flood, fire, landslide, or avalanche as well as accidents are as well very influencing factors. Air pollution, water pollution, and ongoing wars also are very prominent factors that influence the change and the development of humans.

Environment in fact affects the person via learning by classical and operant conditioning. For example, once a person eats something disgusting in a restaurant, whenever he passes by it, he feels a disgusting feeling. He has classically conditioned. If a child is smiling at his mother and whenever he smiles, the mother is taking him in her arms, the smiling behavior increases. The child has been conditioned operantly.

Parents who are not educated and have less to teach to their children and educated parents who acknowledge the prominence of education and teach more likely to their children certainly influence the school success of their children in separate ways.

4. Interacting Biological And Environmental Effects

Biological processes and environmental conditions constantly and mutually affect each other, and they interact. The cognitive capacity and development determine to what extent a person will be influenced by the environment. A development exempt from the environment cannot be mentioned. Biological processes as well must be considered. Psychologists have different opinions on the interaction process.

According to Psychoanalytic development Freud emphasizes psychosexual development. He puts forward that there are two main powers at the base of the development: one. Sexual and aggressive urges 2. Behavior of the people around. The attitudes that have been gained throughout the first years are structured strongly and resistant to change.

Erikson accepts the levels of the development; however, he takes social development into consideration and puts it at the base of the development. His theory is called psychosocial theory. Ericson does not limit the learning process within the first years as Freud. Just the reverse, he claims that the learning process continues lifelong.



Piaget, on the other hand, acknowledges both the importance of learning and maturation equally. New environments and new experiences cause the person to progress to a new cognitive balance.

The psychologists who believe that a person can develop and renew himself throughout his life gives hope that our lives may change if we decide to take a step and move forward.

5. Before Birth

23 Chromosomes coming from the mother and twenty-three chromosomes coming from the father forms the basis of the new human cub with forty-six chromosomes. Biological clock starts working from the moment of fertilization. Fertilized sperm is called a zygote. Zygote starts its functioning of division and reproduction from the first moments. Mythos division continues for the first two weeks. After the first two weeks, cells start to divide into various kinds. The group of cells which have been developing are called an embryo after three weeks up to seven weeks. Between 8 and 40 weeks, the cell groups are called a fetus. The fetus gets its food from the placenta which is attached to the umbilical cord. The placenta filters out harmful substances while getting useful substances from the mother's blood. The organs of the baby become more evident during the last two months of the pregnancy. Nervous system is the last system that completes its development. This process is the same within most of the fetuses, independent from the environmental conditions. This maturation period manifests itself even within the mothers who have physiological and psychological disorders. Only some illnesses may prevent the development of the fetus.

If the mother gets inefficient food, especially less protein, decreased brain cells may be observed in the baby's brain. Unfortunately, even the death of the baby is a probability. The measles of the mother causes deafness, or sometimes heart diseases and other physical disorders. A leprosy mother usually gives birth to a subnormal baby or even a dead baby. If the mother is alcoholic, the baby cannot complete its development and is born with some bodily deficiencies. If the mother is a smoker, the baby is usually weaker physically and gets frequently ill all his life. If the mother is addicted to coffee and tea, and drinks them more than normal, the baby is born before its development is completed.

By the time the baby is born, he comes with some abilities, if everything is ok. He can focus his both eyes on an object and follow it, he can distinguish some colors, He can respond to a wide range of sounds. His smelling and tasting senses are quite developed. They can easily distinguish some taste and smell. A newborn baby can both learn through classical conditioning and operant conditioning as well. A baby comes with a sucking reflex and starts sucking his mom instantly.



6. First Two Years

a. Physical Development

When we mention physical development, we mean the development of the organs that make up the body, the increase in height and weight, increase of the muscles and the bones, and the development of the systems such as excretory system, nervous system, circulation system.

All the investigations made throughout the world prove that the order of the developmental stages in the children is universal, independent from the climate zone, nationality, or race. He may reach the stages at various times though. Baby can lift his chin up at the end of the first month, can lift his face up at the end of the second month, he lays and tries to reach an object at the end of the third month. He can sit with help at the end of the fourth month, he can sit on lap and try to hold an object at the end of the fifth month. At the end of the sixth month, he can sit in the children's chair and try to catch the rocking object in front of him. At the end of seven months, he can sit by himself. At the end of the eighth month, he can stand up with some help. He can stand up by holding onto furniture. At the end of the tenth month, he starts to crawl. He can walk when his hand is held at the end of the eleventh month. He can stand up by himself by holding onto the furniture at the end of the twelfth month. He can climb up the stairs at the end of the thirteenth month. At the end of the fourteenth month, he can stand up and walk by himself at the end of the fifteenth month.

b. Cognitive Development

Baby starts to investigate his environment starting the first moments he is born. After the simple movements such as touching, holding, and sucking, he starts to develop a cognitive system. His first discovery is object consistency. When an object is taken out of his sight, he thinks that the object does not exist, it has disappeared and will not come back. Approximately when he is one year old, he starts to discern that an object taken out of sight does not mean it is gone and will not come back. It is close somewhere so; he starts looking where it is, under the table or around somewhere. This internal representation causes him to improve his concept perception and use of language. These stages however are not happening with him by himself.

According to Piaget, these development processes occur because of his environmental interactions.

c. Social and Emotional Development

The first two years play a key role in the social and emotional development of the baby. According to Erikson the development of the child's confidence depends upon his relationship with his mother. During the first five months, the baby has not attached to anyone yet. He smiles at anyone, even strangers. His attachment to mother gradually develops. According to



some psychologists the attachment of the child to mother and father is a cause of the learning process. The baby's feeling good because of the feeding and caring processes of his parents creates a connotation of the parents being together with him. Some other psychologists take cognitive development as the basis. According to them, cognitive development is the basis of social relations.

For 2.5-10 months, the baby develops a special relationship with the caregiver, smiles at her more, becomes uneasy when the caregiver gets away. He sees her as the shelter he feels comfortable with.

For 10-24 months, a child develops attachment towards other people, however not as much as towards his mother or the caregiver. His attachment to the mother does not lose power. The children that do not develop a feeling of confidence during this stage always have problems with establishing friendship and have difficulty in playing together with other children. They also have less interest in their lessons than the other children.

So, we can decide that the first years of the social and emotional development of the child forms the basis of the child's social and emotional life throughout his life. Both the cognitive and the social and the emotional development of the child influence each other and cannot be thought apart. Both are in correlation and influence each other. If a child is brought up in a socially rich environment, he can develop cognitively as well. The reverse is valid as well, the cognitive basis causes him to improve socially.

1.) 2-5 Years

i.) Physical Development

A Child at this age has the capacity of an adult, however his brain continues to develop. A child's brain at age two is 75 % of the adult brain and reaches to 90% at the age of five. The change in the brain is mostly explained by the increasing connections of the neurons. The myelin layer also increases as the age progresses. An increase in the kind and the number of movements of 2–5-year-old children is observed. They can walk on their toes and can ride on a three wheeled bicycle. their height growth rate decreases. The rate which was 30% during the babyhood decreases to 5 % after 2 years old. Afterwards during adolescence, it increases again.



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By age 2, most children can walk upstairs one at a time, kick a ball, and draw simple strokes with a pencil. By age 5, most can dress and undress themselves and write some lowercase and capital letters

ii.) Cognitive Development

Piaget names this stage as a pre-operational stage. Internal representation processes that have been gained before start to become more complicated and multidirectional. The child starts to conceive the relation between the symbol and the symbol of the object. so, he starts to discover the new world opened in front of him and brings new richness into his life. He plays imitation roles, invents, and creates new imaginary friends. Thanks to these symbolic and imaginary adventures, he is gradually prepared for real life. Now he has gained the capacity to categorize the objects according to their properties.

When the child reaches the age of five, he does not see the object as an independent object, moreover he accepts the object as the representative of the class that the object expresses. He distinguishes a sphere and a cube.

At the age two the child uses some words however the development of the language enhances highly during 2-5. He begins to use the verbs in their correct tenses. At the age of five children use their language correctly according to the grammar rules. Some psychologists believe that the basis of thinking symbolically is language development however Piaget defends the reverse. According to him, at the basis of word use lies the capacity of using symbols. Words are just one of the symbol kinds that the child uses. This means that there is cognitive development at the base of language development.

"A child this age makes great strides in being able to think and reason." ("Growth and Development, Ages 2 to 5 Years | Kaiser Permanente") In these years, children learn their letters, counting, and colors.

iii.) Social and Emotional Development

Between the ages of 2 and 5, children gradually learn how to manage their feelings. By age 5, friends become important. At this stage, the child tries to succeed by his own attempts independent of the others. He begins to choose what to wear, what to do and tries to do things by himself. His physical capacity and language possibilities give



him the opportunities to establish more independent relations with his environment. At this stage parents must try to establish a balance between dominating him and leaving him free completely. At this age the child is independent yet, he runs immediately to his parents when he gets into trouble.

He is affected by the dilemma of being an independent person and the necessity of parental support. He becomes open to cooperation during play at this stage. All the children play a different role in the play. Some children are observed to cooperate better than the others. Holmberg puts forth that the children who developed confidence when they were babies, establish good relations with their friends. This claim is compatible with Erikson's opinion as well.

9) 5-12 Years

b.) Physical Development

The main characteristic of the six-year-old is being continually active. There is constant wriggling, kicking objects, falling off chairs and fiddling with pencils. When not in a situation where they must sit and concentrate, six-year-old are constantly rushing about practicing their gross motor skills - running, skipping, hopping, dancing, climbing, riding bikes, swimming. They are also improving their fine motor skills - writing, drawing, sewing, cutting, and spreading.

The development in the school age follows a slow rate. The child is now able to succeed with more complicated movements. He has an increase in his physical strength. These changes are gradual and do not attract attention. The most specific behavior that he has learned during this stage may be his learning to ride on a bicycle of two wheels. Most children are now skilled in both fine and gross motor skills and develop these skills to become expert at them.

c.) Cognitive Development

Children start to calm down when they reach seven. They become very absorbed in what they are doing, and they do not like interruptions. This is the age at which children learn to screen out distractions and focus on one thing. They have not yet developed a proper sense of humor and so think that people are laughing at them. They are becoming aware of 'fairness' and 'luck' and from this age for several years will say 'It's not fair.' Children who are unable to do this may have or develop learning difficulties.

Piaget calls this stage, the concrete operational stage. According to him the child gains extremely efficient cognitive capacity. The child at five cannot operate mental processes over the symbols and concepts however when he approaches seven, he begins operating cognitive



processes such as addition and subtraction. You must put the pencils on the table and show a five-year-old how to subtract from ten to five, however a seven-year-old can do this in his mind and find the answer mentally. According to Piaget, at the basis of a child's mental development lies his constant interaction with his environment.

At this stage, a child begins seeing an event from someone else's eyes. Piaget's conservation of the object concept gains importance during the *concrete operational* stage. At the deep bottom of the immutability concept lies the *reversibility* concept. Classification capacity of the child also increases at this stage. He separates the objects according to their categories and discerns if the object is a subset of another set. He knows that cats are a subset of the animal set. He can do the classifying process mentally without the necessity of touching.

A child at this stage has learned the stability of the sex roles. He differentiates between a man and a woman. He begins to grasp the difference between the real world and the imaginary world. He no longer believes in Santa Claus.

A child's cognitive success in this stage may be grouped in three categories:

- d.) *He begins to comprehend the interior features of the objects such as mass, volume, and the number. He conceives of place relations.*
- e.) *He gets rid of being ego-centric and begins seeing the world from another point of view.*
- f.) *He observes the relation between the classes.*

Cognitive development differs from child to child and manifests differently in gradually abstracting and becoming more complicated. At this age, children can work more independently and in general need less supervision. They also have an increased capacity for prolonged periods of factual learning because of their increase in conceptual ability. Children of this age often have great enthusiasm for things they like, and a great hatred for those they do not.

Social and Emotional Development

At this stage, the child is getting prepared to go to school. He is expected to gain configuration and reach some mental and social abilities. He is aware of these expectations and classifies himself as successful if his success is compatible with the expectations. Erikson defines this two-pronged stage as *industry* and *inferiority*. He claims that if a child is brought up in an environment in which the relations are in harmony, he gains his confidence; so, he confronts new learning stages that the school provides him. At this stage of learning and gaining new abilities, the child also becomes more social. He prefers playing with a child of his sex. Girls



play in a girl's group and boys play in the boys group. Freud explains this behavior as *latent sexual impulse*.

At the age of seven children are beginning to be capable of sustained group activity and are learning to lose at games. They are overly sensitive about receiving criticism, especially in front of others. Eight-year-olds express a deepening interest in life and life processes. They begin to see conclusions, contexts, and implications that they did not see before. They are also developing a sense of humor and love riddles but hate it when others know the answer.

Friendship among the children at this age comes into prominence. This prominence goes on increasing during adolescence as well. The effect of the peer groups overcomes the effect of the family.

Children of twelve are less insistent, more reasonable, and companionable. They try to win the approval of others. Although the peer group is increasingly important to them, they are less competitive than they were at eleven. They are more able now to deal with others and can be dealt with through humor. There is an increasing interest in the other sex, although this varies due to the wide difference in the rate of development between the sexes, and from individual to individual.

http://resources.hwb.wales.gov.uk/VTC/ngfl/nln_materials/nln_health_and_social_care/Child_Development_5_12_year_olds/access/reference.html

1.) 12–18-Year-Old, Puberty

a.) Physical Development

Adolescence is the stage where a lot of physical and psychological changes take place. While the high school students live this stage, it cannot be said that the university students are far away from this stage. The change in this stage starts by sexual glands leaving a lot of secretion to the blood. Testosterone in boys and estrogen in girls are produced in copious amounts by the stimulation of the pituitary gland in the brain. Breasts of the girls start to develop at the age of eleven. Heights of the girls at this age grow rapidly then at the age of thirteen, it slows down. Growing height in boys starts two years later than the girls. The eggs and penises of the boys start developing at the age of 12-13 and reach adult size at the age of 15-16. There may be individual differences among them.

Hands and feet are the first organs that grow, then come arms and legs. During the physical development growth of the muscles of the boys runs away from the growth of the muscles of the girls. In a woman's body there is fatter and in a man's body there is more muscle. A man's liver and heart are bigger than a woman's liver and heart.



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Both Boys and Girls voices lower, with the Boys voices lower much more. Girls experience their first menstrual cycle (typically around the same time as their mother experiences her's) body hair grows. Sweat glands become more active. Hormonal changes may cause acne.

At eighteen facial hair begins to appear. Girls are usually at full development. Girls are overly concerned with the way they look. More than 50% of high school girls are dieting. (<https://www.thewholechild.org/parent-resources/age-13-18/signs-of-normal-development-stages-ages-13-18/>)

b.) Cognitive Development

At this stage mental development passes to formal operations from concrete operations. This person now is ready to enter to communicate with the adult world. While formal operations develop, the character structure of the person develops as well. Some changes in his ethical views and in the way perceiving himself take place.

Child at the stage before operation, changes the order of the objects and puts them in a certain order. Child at the concrete operational stage, can make the arrangement symbolically in his mind. During the formal operational stage however, a child can pass from symbolic concept onto another level and now can reach the thinking stage.

To solve a problem of his own he develops some hypotheses and tries them one by one. Regularity, formal structure, and reasoning predominate the thought and the approach of the problem of the child. He is now able to think over the probabilities. Induction system of thinking in the smaller children expands and the deduction system is also added to their way of thinking.

Every person might not be able to improve his formal operations. It is thought that only 60 % of people can think in this way. In some underdeveloped countries in which technology and science are lagging, people can less likely think through formal operations.

Piaget puts forth that a person passes onto the next stage when the previous stage is not sufficient for him and to get in tune with the society.

Piaget accepts this as a mutual relative situation. If the person is ready for the formal operations and is encouraged by the environment in this way, he can complete his development easily, whereas the social environment does not approve of this development and the person feels isolated from the others, with this type of thinking, he gets away from this kind of thinking.

At the age of seventeen and eighteen, people are better at solving problems than younger teens, but are inconsistent .They tend to make rash decisions even though they weigh the



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consequences first. Organizational skills improve and are better at balancing school, activities, social life, and work. Attempt to answer the questions, Who am I? and What will I be? by exploring job and college options, religion, social and political issues. Frequently question and challenge rules. (<https://www.thewholechild.org/parent-resources/age-13-18/signs-of-normal-development-stages-ages-13-18/>)

At this stage, ethical thinking develops parallel to cognitive development. The child perceives human relations and the cognitive development in this field makes up the basis of his moral thinking and beliefs. Kohlberg attributes his seven staged ethical thought development theory to Piaget's theory.

- a. *Punishment and Obedience orientation: His behavior is supervised completely from outside. The direction of the behavior is defined by the commands, punishments and rewards that come from outside. The behavior that is punished is bad, the behavior that is rewarded is good. Everything that the authority which holds the power in hand says is always true.*
- b. *Individualism, Instrumental exchange: Everything meeting the needs of the person is correct. Agreement and contracts are valuable.*
- c. *Orientation of a good child: The moves that are made to make others happy, especially family members are correct. The truest way of acting is doing what is expected from him.*
- d. *Law and Order Orientation. The perception of the child has exceeded the family borders and reached to cover the whole society. It is seen as an ethical behavior for the child to do his missions, submit the laws and the authority.*
- e. *Social Contract Orientation: At this stage, the laws are seen as contracts that can be changed when wanted. There is no problem in changing the rules when they do not serve us anymore. The other possibilities may be easily considered.*
- f. *Universally Ethical Principles: At this stage basic ethical rules define the person's behavior. Because usually there is no contradiction among ethical rules and the law, the person who obeys the ethical rules is obeying the laws as well. If there is a contradiction, the person is expected to obey the ethical rules.*
- g. *The ethical concept that takes its source from sacredness: At this stage, the person tries to establish a universal order that surpasses himself, the society he lives in and humans. Deep at the source of this kind of thought lies the unconditional love towards the creator. The person heads for living in harmony with everything as a piece of the whole.*

According to Kohlberg these stages are universal, and come one after the other, however for every person, all the stages might not develop. The ethical development of a person depends upon his social and cultural environment. There are many factors that influence the ethical behavior of the person.



1. Social and Emotional Development

At the age of 13-14 a child begins to spend more time with friends and less time with family, starts to form an identity, through hobbies, friends, school activities, clothes, hairstyles, music. Moodiness is common throughout the search for an identity. He often pushes the limits of adults to assert their independence. He has mixed feelings about breaking away from parents. Daughters might want nothing to do with you one day, & never leave your side the next. Spending a lot of time on the phone is normal, and a way of developing social skills for adolescents. (<https://www.thewholechild.org/parent-resources/age-13-18/signs-of-normal-development-stages-ages-13-18/>)

Identification and friendship are the two directions of socialization at this age group. Identification signifies an adolescent finding his identity and defining his identity. For an adolescent, identification achievement is the first step for him to establish to form his ego.

James Marcia (1980) evaluates identification by taking Ericson's theory as the basis. He puts forth that identification is internal, dynamic, structured by the person himself and covers a person's abilities, beliefs and all the other fields of his life. If the structure improves, the person better sees strong and weak sides of himself and reaches a more realistic self-perception.

He also puts forth a four-step identity status however accepts that some people may not complete all the steps and may get stuck at some step. 1) The first step is *moratorium*. The person at this step has not yet looked through the possibilities to make up his identification. He has not yet connected to a type of identification. 2) *Foreclosure* is the second step. The person is blindfolded to the opinions and values of his parents. He defends these opinions and values as if he experienced and acquired them and as if they are his own opinions and values. 3) Third step is *diffusion*. The person is in the middle of the identification crisis. At this stage, the person feels at suspense. Everything is in the air for him because he has not yet bound to any kind of values or opinions. 4) At the fourth stage *identification achievement* is succeeded. The person has reviewed all the opinions and values and has connected to some of them he has found compatible for himself. He has devoted himself to these values and opinions. Identification is comprehensive and multidimensional. General lifestyle and career goals of the person are included in it.

Research show that identification realization is succeeded between the ages of 18-24. However, Ericson claimed that the identification process operated in earlier ages, research results prove that the development of identification lasts longer, and it changes from one person to another. The people who reach the formal operational stage can achieve the identification process more easily. Research proves that a person at age 12-18 completes the most prominent developments such as identification, ethical development, and cognitive development.



Piaget claims that in order that the development begins for a child, first the child must feel a disequilibrium, When he discerns the insufficiency, he becomes aware of the need of equilibrium. Age of 12-18 is the age at which a person contradicts with his parents and with the environment, so he is the most in quest. At this age, a person intensively feels an imbalance with society.

At age 15-18 a child is self-assured and thus is better at resisting peer pressure, spends even less time with family and makes close friends. He wants control over more aspects of their lives. He is excited, but also overwhelmed about the future about college, workforce, military, moving away from home, marriage, and things like that. He begins to have strong sexual urges and may become sexually active. He becomes aware of sexual orientation. (<https://www.thewholechild.org/parent-resources/age-13-18/signs-of-normal-development-stages-ages-13-18/>)

This age is a period for a young person that manifests cognitive and emotional change the most. The most important confidence support for him is friendship. The influence of friendship at this age is equal to or much more than the family support. It depends on the family structure, culture, and the relationship with the parents. If the young person is at a complicated identification stage and has poor self-confidence, the influence of the friends on him is much more effective. A person who has passed on to the formal operational stage and reached certain principles ethically may become independent of the friend's influence. It is seen that emotional development, cognitive development, ethical development, and social development are hand in hand and they define all his development in correlation.

2. Adulthood

a. Physical condition

The stage of adulthood differs from culture to culture. In some cultures, an 18-year-old may be accepted as an adult already however in some other cultures a 21-year-old may be accepted as an adult. Early adulthood is between 20 and 40 years old. At this age, a person is at the climax of his health. He is strong physically.

"Biological factors such as molecular and cellular changes are called *primary aging*, while aging that occurs due to controllable factors, such as lack of physical exercise and poor diet, is called *secondary aging*." ("Early and Middle Adulthood | Boundless Psychology - Course Hero") In early adulthood physical abilities are at their peak, including muscle strength, reaction time, sensory abilities, and cardiac functioning. "The aging process also begins during early adulthood and is characterized by changes in skin, vision, and reproductive capability." ("Early and Middle Adulthood | PDF | Developmental Psychology ... - Scribd")



[\(https://www.coursehero.com/study-guides/boundless-psychology/early-and-middle-adulthood/\)](https://www.coursehero.com/study-guides/boundless-psychology/early-and-middle-adulthood/)

This stage has its own rewards and adversity. He begins to take care of his own health. He takes the responsibility of his meal plan. He himself is responsible for his healthy nutrition, not his parents anymore. He is ready to reproduce, to establish a sexual or emotional relation.

He is ready to improve himself academically. He is ready to take control of his life. However, if he cannot improve himself and he cannot achieve a lifestyle that he wants, he may have low self-esteem, stress, tension problems, paralysis, and other physical problems.

b. Cognitive Development and Change

At this age, a person may still live with his family, may live alone, or may live with a partner. Anyway, he is responsible for his relations. His thinking capacity is enhanced and became more qualified. He might have developed some ideals. The situations that seemed white or black at the adolescence period have now transferred to a more relative mind-set. His world view of his own is developed. Now the answers for the questions may not have some specific answers, in place the answers might change according to the situation for him. What is correct may change for him according to his own cognitive, mental, and spiritual development. He is at his best capacity as memory, processing speed, spatial ability, and abstract reasoning. Environmental conditions affect adults as well as children. If he can reach rich sources that can support him cognitively, he attains better cognitive development.

c. Social and Emotional Development and Change

At this stage, an early adult has begun his discovery and experience period. He is socially more active, has more friends and has more time spending with his friends. He got rid of the parental observation. He has more freedom and more responsibility.

He takes care of his own health. He goes on a university program or may start to work and earn his own money. He may get married, live with a partner, or live on his own. If everything goes well, he feels free and takes pleasure in living, however if he has problems, he feels isolated, depressed, or unhappy. In this condition he needs family support again. Intensive work burden, hard lessons and hard exam burden may cause an early adult to feel hopeless and tense. To establish a life for himself may be hard as it may be exciting. Environmental conditions affect adults as well as children. If he lives in a better social and cultural society, he obtains better facilities to reach knowledge, job opportunities and family and friends that can motivate him.



3. Middle Age (40-70)

a. Physical Condition

Aging becomes after 30. All cells experience changes with aging. They become larger and are less able to divide and multiply. ("Aging changes in organs, tissue and cells - MedlinePlus") Among other changes, there is an increase in pigments and fatty substances inside the cell. "Many cells lose their ability to function, or they begin to function abnormally." ("Aging changes in organs, tissue and cells - MedlinePlus") This is not a process that operates the same for all the people. Every person has his own aging process.

At this aged women experience menopause and men experience andropause. During menopause, menstrual bleeding and fertility end up for women, however for men fertility goes on decreasingly during andropause. Both menopause and andropause have some symptoms. Because life span has grown longer, these periods gained importance. In order to come through this period healthily people may need support. Menopause starts with perimenopause and it lasts approximately 10 years including postmenopausal. Menopause and andropause age depend upon geographic conditions and race.

Estrogen amount decreases in women and testosterone amount decreases in men during this period. Irritability, exhaustion, anxiety, and depression may be observed in women and men. focusing and deciding gets harder. They may experience sleeping and sweating problems. They may have hypertension and heart attack risk, together with insulin and cholesterol level increasing risk.

Person's cognitive condition, social and emotional condition interact with each other. If a person is highly educated, he is aware of the prominence of taking care of his body. He takes his precautions. He lives his life accordingly. He gives special attention

to his nutrition, he does sports, takes care of his body. Spiritual development also influences a person's physical condition. They are all in correlation with each other. If he is conscious of the importance of health, he periodically visits the doctor, has his controls, and takes any precaution needed to keep healthy. If his cognitive capacity is low, he cannot control his life as he must. He neglects his body care, his health, and his physical condition. At this age, a person may be responsible for some other family members as well. He or she may have a spouse, have children and he may have some other family member that he is responsible for.

This stage is critical to establish a good life plan. The person is starting to reach the middle age and up to now he must have realized some of his dreams and ideals. He must have reached an advantageous position at his work and obtained an elevated position in his career. The



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examined environmental factors potentially impact the quality of his life such as overall satisfaction with living space facilities, residents, interactions with neighbors, behavior of neighbors, nuisance of any kind like vandalism, crime, social insecurity, neighborhood, and noise.

c.) Cognitive Condition

If the person at this age has the proper conditions to improve himself, he continues to renew himself and goes on developing cognitively. If he has occasions at his work, he goes on learning. With his new experiences he piles up new skills on top of the other ones and goes on climbing the success stairs. If he has peers that he can discuss subjects with, has materials to read and learn and he has the option of attending to new courses to improve himself, all these possibilities enrich his cognitive capacity. Besides now he has experience and more wisdom compared to a new adult. It is known that the people who are the most successful and won prizes the most are between the ages 60-70. So, this stage group is at the peak of his cognitive condition. Although the number of brain cells may decline, the connections between them, the synapses among neurons increase and function better if the person takes care of his mental health.

If a person is active physically, he has less lack of cells and he is good in cognitive position. Also, if a person is mentally active, he will lose less brain cells compared to a person who is not active cognitively.

d.) Social and Emotional Condition

A person at this age must have learned to manage life more easily. He must have established solid friendships, strict family relationships and good peer support at work. He or she may be married, may be single or may be living with a companion. If he has a good marriage his or her life will be supported, and the burden of life will be shared. If he is alone and this is not his choice, he may be in a little stress. He may have support psychologically; he may be strong spiritually or he may have religious beliefs that give him support morally. If a person longs to a certain social group, he deals with life more easily. People when they pass through menopause and andropause may need psychological support because of their changeable moods and their inability to enjoy life.

The physical condition of the person affects his social and emotional condition. If he is not healthy, he chooses to get away from society and his friends.

4. Old Age (70 +)



a. Physical Condition

As the age gets older some structural, psychological, biological, and anatomical changes occur in the body. Body starts to lose its liveliness. The protein synthesis that is the main function of the cells, slow down. Proteins constitute the hormones which regulate functioning of the organs, antibodies that struggle with the illnesses and the enzymes that accelerate body functions. Because of these essential functions, cells are vital for the body.

Thousands of various proteins are produced according to the codes, by different lineups of the amino acids that take place in the DNA. DNA can only be copied by some enzymes in the protein structure. The production of these enzymes however can only be realized through the records in DNA. Therefore, Protein and the DNA are dependent on each other. For the DNA to be copied, both DNA and the protein must be present. The genetic information from the DNA is transferred to the RNA and then to the protein.

Transcription (RNA synthesis) begins in the cell. The genetic information from the double stripped DNA must be transferred via the single stripped RNA. Translation, on the other hand, is realized in the cytoplasm of the cell. The genetic information in the RNA is transferred to the protein. Any mishap that may occur at any stage of the production makes the continuation of life difficult. Some of the mishaps may be as follows

1. *The transformation of the genetic information to the RNA may be blocked.*
2. *RNA cycles may not be realized, the cell loses liveliness and functions regress.*
3. *After every division, DNA molecules lose the tips.*
- 4.

The errors in the cell DNA and the errors that occur during the DNA replication cause the cell to wear out and get old. DNA gets damaged by the toxins, radiation, and the UV. As the person gets older, the properties of the cell change. DNA struggles to fix the damages, however this causes the genes to get indecisive. As a result, cancer and aging occurs.

The frontal and hippocampal parts of the brain lose their functions. Neuron numbers decrease. Melatonin Hormone whose function is to fight with free radicals lose functions. (chrome-extension://efaidnbnmnnibpcajpcgclclefindmkaj/<https://dergipark.org.tr/tr/download>)

1. Cognitive Condition

The loss of cognitive functions may be based on one. The faults of the blood circulation and blood not going to the brain. 2.) The person living in isolation socially and mentally. The



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cognitive condition of the people who live an active life, who are in constant relation with other people, who are reading and learning constantly keep their cognitive capacity.

Cognitive activity motivates neuroplasticity, prevents the decline of the functions of the brain and just the reverse the current cognitive condition is kept. Because of neuroplasticity, it is always possible to enhance cognitive functions. A person may easily be exempt from degenerative age-related illnesses such as Alzheimer's disease and dementia. A person always can elevate his reasoning capacity and computing ability. Because of epigenetics science it is recently proved that an old person's lifestyle causes the decline in perceptual speed and concentration.

Storing information, storing, and recalling processes make up a person's mental functions. Audio-visual memory, attention, visual and spatial ability, and his reasoning functions are prominent for a person at this age for him not to break off from his activities and life scheme. If he can use his cognitive capacity efficiently his life quality enhances. He can maintain his social relations and be satisfied emotionally.

A person must wish to attach to life, to make efforts, to intend to keep young at every age. Getting old may be a physiological process however it is in a person's hand to delay it as much as possible. He must have the urge to adapt to the technological changes and other changes that might have taken place environmentally. He must be open enough in life to adapt to the cultural and psychological changes. He must make efforts to keep up with time. He has experience at this age, and he must be ready to share his knowledge and his experiences to contribute to other's lives. He has always to be ready to learn new things, to improve himself spiritually and intellectually.

2.) Social and Emotional Condition

First, currently at this age, it is not said 'old' to a person easily. He may feel and live much younger than the young ones. He may still be active, full of life joy. He may be taking diligent care of his health. Maybe doing sports, traveling the world, still working, and earning money. He may even be winning Nobel Prizes or Oscars.

The ability to live alone by himself gives freedom to the old person. His life quality and pleasure of life enhance depending upon many environmental and physical factors. If his loved ones are close to him however, he can maintain his life by himself, he will enjoy life better. The lifestyle of an old person depends upon many factors.

If he lives in a village or in a small town his life may be much different from a person who lives in a crowded city. If he has grandchildren he may enjoy their presence, their proximity, and their love. People living in the crowded metropolis may have some small advantages



however, on the other hand, they may be a little lonelier and away from their family members. If they are away from their loved ones, they may feel depression and need psychological support. The culture, the educational background, the economical state, and the spiritual stamina are incredibly significant factors that affect the emotional condition of the people at this age. The physical, cognitive, social, and emotional conditions are very intricate, and they extremely influence each other. Physical and economic efficiency, psychological and spiritual power keep a person vigorous. Productivity causes a person to enjoy life at every age.

If a person feels that he realized most of his dreams, still has many dreams however, if he feels that he achieved a lot of his goals, he gave and took love, that he lived a satisfactory life, then he feels peaceful at this age. If he had a life in adversities, had many disappointments and could not achieve his goals he feels more depressed. If a person lives in a nursing home and he has health problems, he needs more support psychologically.

A person at this age is now wiser, calmer, experienced and completed the hard missions in his life. The disadvantage of this age is that a person might think that he is getting closer to death, he might have the feeling that it is the end of everything, he might feel depression and boredom. If he has the spiritual power to get over depressive feelings and approach life from a positive point of view, he may enjoy this period that should be lived more peacefully.

5. Death

Death is inevitable, every living thing will experience it one day. At birth everybody gets happy while death comes everybody feels sorry. However, a baby cries when it is born, but a person goes beyond with a smile on his face. It is absolutely death that renders life so precious.

When death comes tissues lose their liveliness, blood is not pumped and reaches the heart. The person loses his reflexes and vitality. At the first second Oxygen depletes, the activity among neurons stops. The activity of the brain continues for a few more minutes however it stops to give hormones to the body. Cerebral cortex (the cognitive thinking part) goes on igniting waves for 20 more seconds. Gene expression continues to exist for four more days. Death comes degradingly step by step.

The evolutionary goal of life is to transfer the genes to the next generation and reproduce. The spiritual and philosophical goals differ from society to society, from culture to culture. For the ones who lose their loved ones, death is something extremely hard to confront. Especially if they lost a young loved one out of turn, they might need psychological support.

The death perspective of a person depends upon many factors such as religious and spiritual beliefs, his educational and social status, his culture, socio-economical state, and the society he lives in. Way of handling death also depends upon the person's family relations. For example



, if he has close relationships and if he has support from these people, he can manage a loved one's death easier.

In some cultures, death is a taboo and never mentioned about it. In some cultures, it is not a taboo however it is never a good thing and can never be ready for death. However, in some cultures as a person gets old, he gets used to the idea of death gradually. He takes it as a natural phenomenon and does not consider death as the end of everything. Just the contrary, some people spiritually and religiously consider death as a new beginning. When a person believes the soul does not die and passes to another realm, it is easier to manage death.

A person must live enjoy all the earthly blessings in the world, while enhancing his soul spiritually and getting prepared for death.

6. Conclusion

Human beings are born, develop and change in many ways before they complete their life span. Their development and change must be visioned from the biological, environmental, social, and emotional point of view. Psychologists approach developing processes from different perspectives. Biologically this development period is mentioned as maturation. According to some psychologists, biological development is the most important aspect of development.

The second approach to the development process is the environmental view and learning. The psychologists that defend this approach put forth that at the basis of the learning process lies the environmental processes. Among these psychologists some believe that the classical conditioning is the main type of learning, the others claim that the operant conditioning has more significance. The third approach acknowledges that both the biological and the environmental processes have even weight over development and change of humans. According to these psychologists, biological and environmental processes interact and influence humans' development intricately.

Freud's psychoanalytic theory accepts psychosexual development as the basis of the development. Erikson's psychosocial theory however manages the development process from a different point of view. Erikson puts forward that the basis of the development depends upon the balance of the person's independence effort and the society trying to keep him under control.

According to Piaget on the other hand, the cognitive development that makes up the perception and reasoning processes of the child is the basis of the development process. According to him cognitive development takes shape through biological and environmental interactions.



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All the stages of the development before birth are under control of the maturation governance. The format and the order of the development is the same for all the fetuses and the embryos. It hardly gets outside influence in very random situations. The most significant factors that affect the development is mother's nutrition and illnesses if there ever were.

The first years of the social and emotional development of the child forms the basis of the child's social and emotional life throughout his life. This is the sensory-motor period. During this period, a child has learned object consistency and internal representations.

Age 2-5 is the preoperational period. A child at this age sees an object as a representative of a class. He sees words as symbols and he has learned letters, counting and colors. Language development is especially important at this age because at the basis of cognitive development there is language development. At the age two the child uses some words however the development of the language enhances highly during 2-5. He begins to use the verbs in their correct tenses.

Age 5-12 the concrete operational stage. According to him the child gains extremely efficient cognitive capacity. The child at five cannot operate mental processes over the symbols and concepts however when he approaches seven, he begins operating cognitive processes such as addition and subtraction.

Age 12-18 is the adolescence stage where a lot of physical and psychological changes take place. A child at this age tries to win the approval of others. Although the peer group is increasingly important to him, he is less competitive than he is at eleven and passes to the formal operational stage from the concrete operational stage.

Adulthood has its own advantages and disadvantages. An adult now has more freedom however more responsibility at the same time. Now he takes the responsibility of his own steps and choices. He goes on developing physically, mentally, and spiritually.

The middle age has its own intrinsic significance. At this age if a person achieves his goals and his ideals, he feels satisfied. At this age, a person has a lot of responsibilities such as raising children and taking care of the older family members. He must be working to attain a good salary and to reach as good a position as possible because he is getting older, he wants to guarantee his future. On the other hand, he may be confronting middle age crises such as menopause and andropause.

Old is the most critical age, because the person is aware that he is coming to the end of his life span. Some biological mishaps may have begun. However, if he takes diligent care of himself up to old age and goes on doing the same, he may be in a good biological, cognitive, social, and emotional condition. If a person is economically, socially, mentally, and biologically in advantageous position he may enjoy life the most at this period of his life span. He may catch



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on the age, adapt to the changes in every way and take pleasure in the time by enjoying his loved ones and continuing to produce.

Death is inevitable. However, handling death differs from person to person and from culture to culture. If a person feels he has lived a good life and feels ready for death, he confronts and takes death naturally. Sometimes people feel more comfortable when they approach death. Especially if they are close to their loved ones at home while giving their last breath, they feel the relief of having completed life as peacefully as possible.

7. Resources

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