DEVELOPMENTAL PSYCHOLOGY

His head was molded into a long melon shape and came to a point at the back . . . . He was covered with a thick greasy white material known as “vernix,” which made him slippery to hold and also allowed him to slip easily through the birth canal. In addition to a shock of black hair on his head, his body was covered with dark, fine hair known as “lanugo.” His ears, his back, his shoulders, and even his cheeks were furry. . . . His skin was wrinkled and quite loose, ready to scale in creased places such as his feet and hands. . . . His ears were pressed to his head in unusual positions—one ear was matted firmly forward on his cheek. His nose was flattened and pushed to one side by the squeeze as he came through the pelvis. (Brazelton, 1969.)

Called a **neonate**, a newborn arrives in the world in a form that hardly meets the standards of beauty against which we typically measure babies. Yet ask any parents: Nothing is more beautiful or exciting than the first glimpse of their newborn.

THE EXTRAORDINARY NEWBORN

The trip through the mother's birth canal may have squeezed the incompletely formed bones of the skull together and squashed the nose into the head. The skin secretes vernix, a white greasy covering, for protection before birth, and the baby may have lanugo, a soft fuzz, over the entire body for a similar purpose. The infant's eyelids may be puffy with an accumulation of fluids because of the upside-down position during birth.

REFLEXES

A neonate is born with a number of reflexes—unlearned, involuntary responses that occur automatically in the presence of certain stimuli. Critical for survival, many of those reflexes unfold naturally as part of an infant's ongoing maturation. **Sucking** reflex prompts infants to suck at things that touch their lips. Among other reflexes are a **gag reflex** (to clear the throat), the **startle reflex** (a series of movements in which an infant flings out the arms, fans the fingers, and arches the back in response to a sudden noise),

Although at birth a neonate can make only jerky, limited voluntary movements, during the first year of life the ability to move independently grows enormously. The ages indicate the time when 50% of children are able to perform each skill. Remember, however, that the time when each skill appears can vary considerably. For example, 25% of children are able to walk well at age 11 months; by 15 months 90% of children are walking well.

DEVELOPMENT OF THE SENSES: TAKING IN THE WORLD

Although their eyes have a limited capacity to focus on objects that are not within a 7- to 8-inch distance from the face, neonates can follow objects moving within their field of vision. They also show the beginnings of depth perception as they react by raising their hands when an object appears to be moving rapidly toward the face.

At birth, babies prefer patterns with contours and edges over less distinct patterns, indicating that they can respond to the configuration of stimuli. Furthermore, even newborns are aware of size constancy because they are apparently sensitive to the phenomenon by which objects stay the same size even though the image on the retina may change size as the distance between the object and the retina varies.

DEVELOPMENT OF THE SENSES: TAKING IN THE WORLD

Neonates can discriminate facial expressions—and even imitate them. Newborns can produce a good imitation of an adult's expressions. Even very young infants, then, can respond to the emotions and moods that their caregivers' facial expressions reveal. This capability provides the foundation for social interaction skills in children. Other visual abilities grow rapidly after birth. By the end of their first month, babies can distinguish some colors from others; after 4 months they can focus on near or far objects.

By the age of **4 or 5 months**, they are able to recognize two- and three-dimensional objects. Knowing if a parent or caregiver is happy or fearful, for example, can help an infant decide if a new object is something they should interact with. By the age of 7 months, neural systems related to the processing of information about facial expressions are highly sophisticated and cause babies to respond differently to specific facial expressions.

EMOTION RECOGNITION IN INFANCY

Overall, their perceptual abilities rapidly improve: Sensitivity to visual stimuli, for instance, becomes three to four times greater at 1 year of age than it was at birth. infants display other impressive sensory capabilities.

Newborns can distinguish different sounds to the point of being able to recognize their own mothers' voices at the age of 3 days. They can also make the subtle perceptual distinctions that underlie language abilities. At 2 days of age, infants can distinguish between their native tongue and foreign languages, and they can discriminate between such closely related sounds as *ba* and *pa* when they are 4 days old.

By 6 months of age, they can discriminate virtually any difference in sound that is relevant to the production of language. Moreover, they can recognize different tastes and smells at a very early age. There even seems to be something of a built-in sweet tooth: Neonates prefer liquids that have been sweetened with sugar over their unsweetened counterparts.

INFANCY THROUGH CHILDHOOD

PHYSICAL DEVELOPMENT

During the first year of life, children typically triple their birthweight, and their height increases by about half. This rapid growth slows down as the child gets older. From age 3 to the beginning of adolescence at around age 13, growth averages a gain of about 5 pounds and 3 inches a year.

INFANCY THROUGH CHILDHOOD

DEVELOPMENT OF SOCIAL BEHAVIOR: TAKING ON THE WORLD

Attachment, the positive emotional bond that develops between a child and a particular individual, is the most important form of social development that occurs during infancy. Lorenz focused on newborn goslings, which under normal circumstances instinctively follow their mother, the first moving object they perceive after birth. Lorenz found that goslings whose eggs were raised in an incubator and which viewed him immediately after hatching would follow his every movement as if he were their mother. He labeled this process **imprinting**, behavior that takes place during a critical period and involves attachment to the first moving object that is observed.

Harry Harlow, in a classic study, gave infant monkeys the choice of cuddling a wire “monkey” that provided milk or a soft, terry-cloth “monkey” that was warm but did not provide milk. Their choice was clear: They spent most of their time clinging to the warm cloth “monkey,” although they made occasional forays to the wire monkey to nurse. Obviously, the cloth monkey provided greater comfort to the infants; milk alone was insufficient to create attachment.

INFANCY THROUGH CHILDHOOD

Building on this pioneering work, developmental psychologists have suggested that human attachment grows through the responsiveness of infants' caregivers to signals, such as crying, smiling, reaching, and clinging.

The more that caregivers respond to signals that children give off regarding their emotions, the more likely it is that the child will become securely attached to the caregiver. Infants who respond positively to a caregiver produce more positive behavior on the caregiver's part, which, in turn, produces an even stronger degree of attachment in the child.

ASSESSING ATTACHMENT

Ainsworth strange situation consists of a sequence of events involving a child and (typically) his or her mother. Initially, the mother and baby enter an unfamiliar room, and the mother permits the baby to explore while she sits down. An adult stranger then enters the room; after this the mother leaves. The mother returns, and the stranger leaves. The mother once again leaves the baby alone, and the stranger returns. Finally, the stranger leaves, and the mother returns.

Babies' reactions to the experimental situation vary drastically, depending, according to Ainsworth, on their degree of attachment to the mother:

- **Securely attached children**. Children who are securely attached employ the mother as a kind of home base; they explore independently but return to her occasionally. When she leaves, they exhibit distress, and they go to her when she returns.
- **Avoidant children**. Avoidant children do not cry when the mother leaves, and they seem to avoid her when she returns as if they were indifferent to her.
- **Ambivalent children**. Ambivalent children display anxiety before they are separated and are upset when the mother leaves, but they may show ambivalent reactions to her return, such as seeking close contact but simultaneously hitting and kicking her.
- **Disorganized-disoriented children**. A fourth reaction is disorganized-disoriented; these children show inconsistent and often contradictory behavior. For example, they may approach their mother, but do so avoiding eye contact or otherwise acting in an inappropriate way.

The nature of attachment between children and their mothers has far-reaching consequences for later development. For example, children who are securely attached to their mothers tend to be **more socially and emotionally competent** than are their less securely attached peers, and others find them more cooperative, capable, and playful.

Furthermore, children who are securely attached at age 1 show fewer psychological difficulties when they grow older compared with avoidant and ambivalent youngsters. As adults, children who are securely attached tend to have more successful romantic relationships. On the other hand, being securely attached at an early age does not guarantee good adjustment later; conversely, children who lack secure attachment do not always have difficulties later in life

THE FATHER'S ROLE

When fathers interact with their children, their play often differs from mothers' play. Fathers engage in more physical, rough-and-tumble sorts of activities, whereas mothers play more verbal and traditional games, such as peekaboo. Despite such behavioral differences, the nature of attachment between fathers and children compared with that between mothers and children can be similar. In fact, children can form multiple attachments simultaneously

SOCIAL RELATIONSHIPS WITH PEERS

By the time they are 2 years old, children become less dependent on their parents, more self-reliant, and increasingly prefer to play with friends. Children actively interact, modify one another's behavior, and exchange roles during play. As children reach school age, their social interactions begin to follow set patterns and become more frequent.

They may engage in elaborate games involving teams and rigid rules. This play serves purposes other than mere enjoyment. It allows children to become increasingly competent in their social interactions with others. Through play they learn to take the perspective of other people and to infer others' thoughts and feelings, even when those thoughts and feelings are not directly expressed. social interaction helps children interpret the meaning of others' behavior and develop the capacity to respond appropriately.

SOCIAL RELATIONSHIPS WITH PEERS

children learn physical and emotional self-control: They learn to avoid hitting a playmate who beats them at a game. They learn to be polite and to control their emotional displays and facial expressions (e.g., smiling even when receiving a disappointing gift). Situations that provide children with opportunities for social interaction, then, may enhance their social development.

PARENTING STYLES AND SOCIAL DEVELOPMENT

- **Authoritarian parents** are rigid and punitive, and they value unquestioning obedience from their children. They have strict standards and discourage expressions of disagreement.
- **Permissive parents** give their children relaxed or inconsistent direction and, although they are warm, require little of them.
- **Authoritative parents** are firm and set limits for their children. As the children get older, these parents try to reason and explain things to them. They also set clear goals and encourage their children's independence.
- **Uninvolved parents** show little interest in their children. Emotionally detached, they view parenting as nothing more than providing food, clothing, and shelter for children. At their most extreme, uninvolved parents are guilty of neglect, a form of child abuse

SOCIAL RELATIONSHIPS WITH PEERS

Children of authoritarian parents tend to be unsociable, unfriendly, and relatively withdrawn. In contrast, permissive parents' children show immaturity, moodiness, dependence, and low self-control. The children of authoritative parents fare best: With high social skills, they are likable, self-reliant, independent, and cooperative. Worst off are the children of uninvolved parents; they feel unloved and emotionally detached, and their physical and cognitive development are impeded.

Children are born with a particular temperament—a basic, inborn characteristic way of responding and behavioral style. Some children are naturally easygoing and cheerful, whereas others are irritable and fussy or pensive and quiet. The kind of temperament a baby is born with may in part bring about specific kinds of parental child-rearing styles.

SOCIAL RELATIONSHIPS WITH PEERS

In addition, children vary considerably in their degree of **resilience**, the ability to overcome circumstances that place them at high risk for psychological or even physical harm. Highly resilient children have temperaments that evoke positive responses from caregivers. Such children display unusual social skills: outgoingness, intelligence, and a feeling that they have control over their lives. In a sense, resilient children try to shape their own environment rather than being victimized by it.

ERIKSON'S THEORY OF PSYCHOSOCIAL DEVELOPMENT

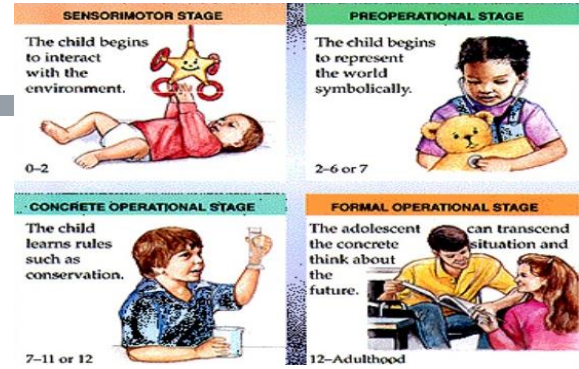
Psychosocial development involves changes in our interactions and understanding of one another as well as in our knowledge and understanding of ourselves as members of society. Erikson suggests that passage through each of the stages necessitates the resolution of a crisis or conflict.

1. **the trust-versus-mistrust stage** (ages birth to 1½ years), infants develop feelings of trust if their physical requirements and psychological needs for attachment are consistently met and their interactions with the world are generally positive. In contrast, inconsistent care and unpleasant interactions with others can lead to mistrust.
2. **the autonomy-versus-shame-and-doubt stage** (ages 1½ to 3 years), toddlers develop independence and autonomy if exploration and freedom are encouraged, or they experience shame, self-doubt, and unhappiness if they are overly restricted and protected. If parents are overly controlling, children cannot assert themselves and develop their own sense of control over their world; if parents provide too little control, children can become demanding and dictatorial.

ERIKSON'S THEORY OF PSYCHOSOCIAL DEVELOPMENT

3. **the initiative-versus-guilt stage** (ages 3 to 6). In this stage, children's desire to act independently conflicts with the guilt that comes from the unintended and unexpected consequences of such behavior. Children in this period come to understand that they are persons in their own right, and they begin to make decisions about their behavior. If parents react positively to children's attempts at independence, their children will develop skills in accomplishing tasks and overcoming challenges.

4. **the industry-versus-inferiority stage** (ages 6 to 12). During this period, increasing competency in all areas, whether social interactions or academic skills, characterizes successful psychosocial development. In contrast, difficulties in this stage lead to feelings of failure and inadequacy.



COGNITIVE DEVELOPMENT: CHILDREN'S THINKING ABOUT THE WORLD:

(PIAGET'S THEORY OF COGNITIVE DEVELOPMENT)

Cognitive development is the process by which a child's understanding of the world changes due to their age and experience. Swiss psychologist **Jean Piaget. Piaget (1970)** suggested that children around the world proceed through a series of four stages in a fixed order which differ not only in the quantity of information acquired at each stage but in the quality of knowledge and understanding as well. Piaget assumed that, without having such experiences, children cannot reach their highest level of cognitive growth.

1.Sensorimotor Stage: Birth to 2 Years. During the sensorimotor stage, children base their understanding of the world primarily on touching, sucking, chewing, shaking, and manipulating objects. Consequently, infants lack what Piaget calls **object permanence**, the awareness that objects—and people—continue to exist even if they are out of sight and is a critical development during the sensorimotor stage.

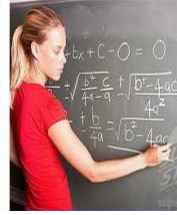
COGNITIVE DEVELOPMENT: CHILDREN'S THINKING ABOUT THE WORLD:

(PIAGET'S THEORY OF COGNITIVE DEVELOPMENT)

2.Preoperational Stage: 2 to 7 Years. During the preoperational stage, children develop the use of language. The internal representational systems they develop allows them to describe people, events, and feelings. They even use symbols in play, pretending, for example, that a book pushed across the floor is a car. A preoperational child uses egocentric thought, a way of thinking in which the child views the world entirely from his or her own perspective. Preoperational children think that everyone shares their perspective and knowledge. Thus, children's stories and explanations to adults can be maddeningly uninformative because they are delivered without any context.

The principle of conservation, which is the understanding that quantity is unrelated to the arrangement and physical appearance of objects. Children who can use the principle of conservation have awareness that important attributes of objects (such as amount or volume) do not change despite superficial changes.



COGNITIVE DEVELOPMENT: CHILDREN'S THINKING ABOUT THE WORLD:

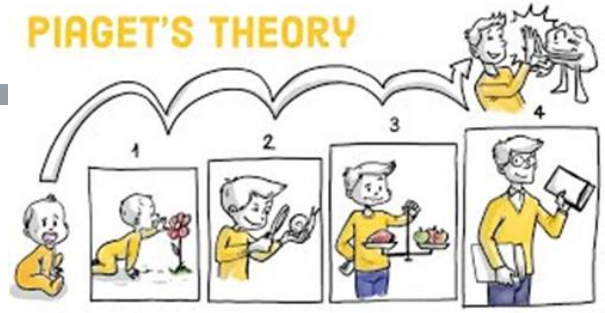
(PIAGET'S THEORY OF COGNITIVE DEVELOPMENT)

3. **Concrete Operational Stage**: 7 to 12 Years. children develop the ability to think in a more logical manner and begin to overcome some of the egocentrism characteristic of the preoperational period. One of the major principles children learn during this stage is **reversibility**, the idea that some changes can be undone by reversing an earlier action. They are largely bound to the concrete, physical reality of the world.

4. **Formal Operational Stage**: 12 Years to Adulthood. The formal operational stage produces a new kind of thinking that is abstract, formal, and logical. Thinking is no longer tied to events that individuals observe in the environment but makes use of logical techniques to resolve problems. Children in the concrete operational stage approach the problem haphazardly without a logical or rational plan of action. Children in the concrete operational stage approach the problem haphazardly without a logical or rational plan of action.

COGNITIVE DEVELOPMENT: CHILDREN'S THINKING ABOUT THE WORLD:

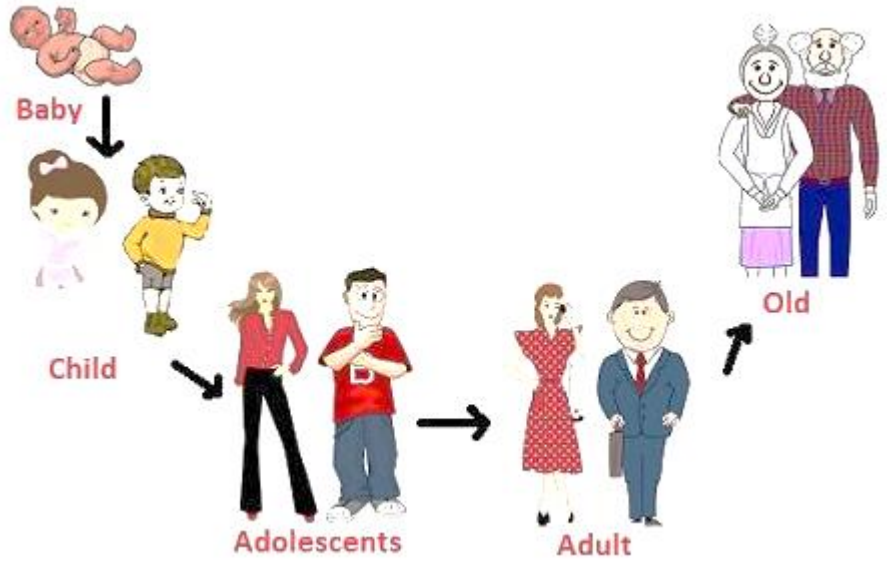
(PIAGET'S THEORY OF COGNITIVE DEVELOPMENT)

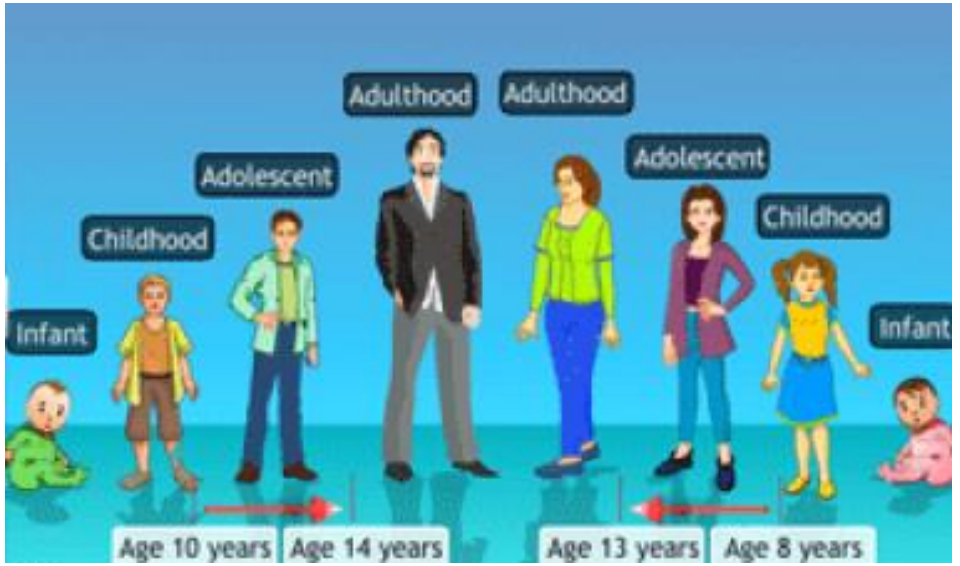


Although formal operational thought emerges during the teenage years, some individuals use this type of thinking only infrequently. Moreover, it appears that many individuals never reach this stage at all; most studies show that only 40% to 60% of college students and adults fully reach it, with some estimates running as low as 25% of the general population. In addition, in certain cultures—particularly those that are less technically oriented than Western societies—almost no one reaches the formal operational stage

ADOLESCENCE: BECOMING AN ADULT

Adolescence, the developmental stage between childhood and adulthood, is a crucial period. It is a time of profound changes and, occasionally, turmoil. Considerable biological change occurs as adolescents attain sexual and physical maturity. At the same time and rivaling these physiological changes, important social, emotional, and cognitive changes occur as adolescents strive for independence and move toward adulthood.





PHYSICAL DEVELOPMENT: THE CHANGING ADOLESCENT

A spurt in height, deepening voices in boys, the development of body hair, and intense sexual feelings cause curiosity, interest, and sometimes embarrassment for individuals entering adolescence. Beginning around age 10 for girls and age 12 for boys, a growth spurt leads to rapid increases in weight and height. The physical changes that occur at the start of adolescence result largely from a surge in levels of growth hormone, and they affect virtually every aspect of an adolescent's life.

Puberty, the period at which maturation of the sexual organs occurs, begins at about age 11 or 12 for girls and for boys, usually occurs around the age of 13. Early-maturing boys have a distinct advantage over later-maturing boys. They do better in athletics, are generally more popular with peers, and have more positive self-concepts. Late physical maturation may produce certain psychological difficulties for both boys and girls. Boys who are smaller and less coordinated than their more mature peers tend to feel ridiculed and less attractive.

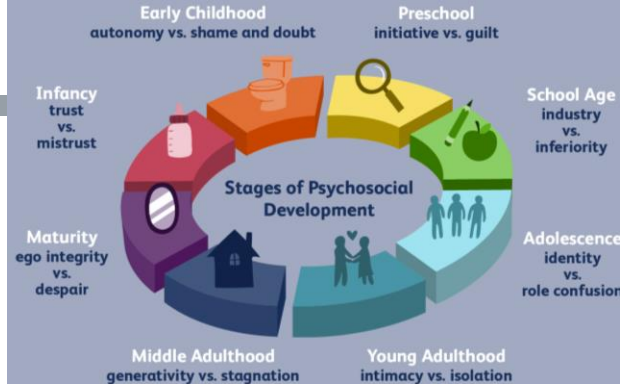
MORAL AND COGNITIVE DEVELOPMENT: DISTINGUISHING RIGHT FROM WRONG

KOHLBERG'S THEORY OF MORAL DEVELOPMENT

people pass through a series of stages in the evolution of their sense of justice and in the kind of reasoning they use to make moral judgments. In **preadolescent** children who reason at **Level 1** morality tend to think in terms of concrete, unvarying rules ("It is always wrong to steal" or "I'll be punished if I steal"). At **Level 2** morality, older children tend to focus on the rules of society ("Good people don't steal" or "What if everyone stole?"). Adolescents, however, however, can reason on a higher plane at **Level 3** and are able to comprehend that morality is not always black and white and that conflict can exist between two sets of socially accepted standards. Kohlberg's theory assumes that people move through the levels in a fixed order and that they cannot reach the highest level until about age 13—primarily because of limitations in cognitive development before that age. However, many people never reach the highest level of moral reasoning.

SOCIAL DEVELOPMENT: FINDING ONE'S SELF IN A SOCIAL WORLD

WHO AM I?" "HOW DO I FIT INTO THE WORLD?" "WHAT IS LIFE ALL ABOUT?"



ERIKSON'S THEORY OF PSYCHOSOCIAL DEVELOPMENT: THE SEARCH FOR IDENTITY

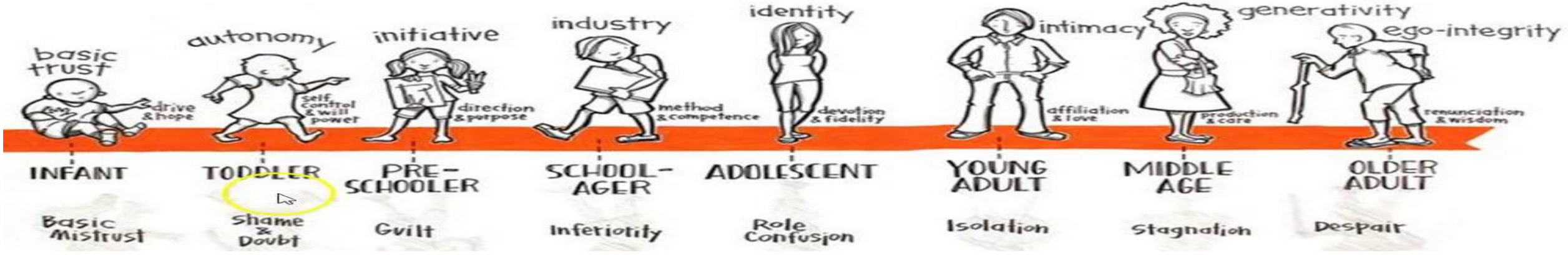
the identity-versus-role-confusion stage, encompasses adolescence. It is a time of major testing, people try to determine what is unique about themselves and discover who they are, what their strengths are, and what kinds of roles they are best suited to play for the rest of their lives—in short, their identity. A person confused about the most appropriate role to play in life may lack a stable identity, adopt an unacceptable role such as that of a social deviant, or have difficulty maintaining close personal relationships later in life.

An adolescent feels pressure to identify what to do with his or her life and they come at a time of major physical changes as well as important changes in what society expects of them. It is characterized by a shift toward using the peer group as a source of social judgments. The peer group becomes increasingly important, enabling adolescents to form close, adultlike relationships and helping them clarify their personal identities.

SOCIAL DEVELOPMENT: FINDING ONE'S SELF IN A SOCIAL WORLD

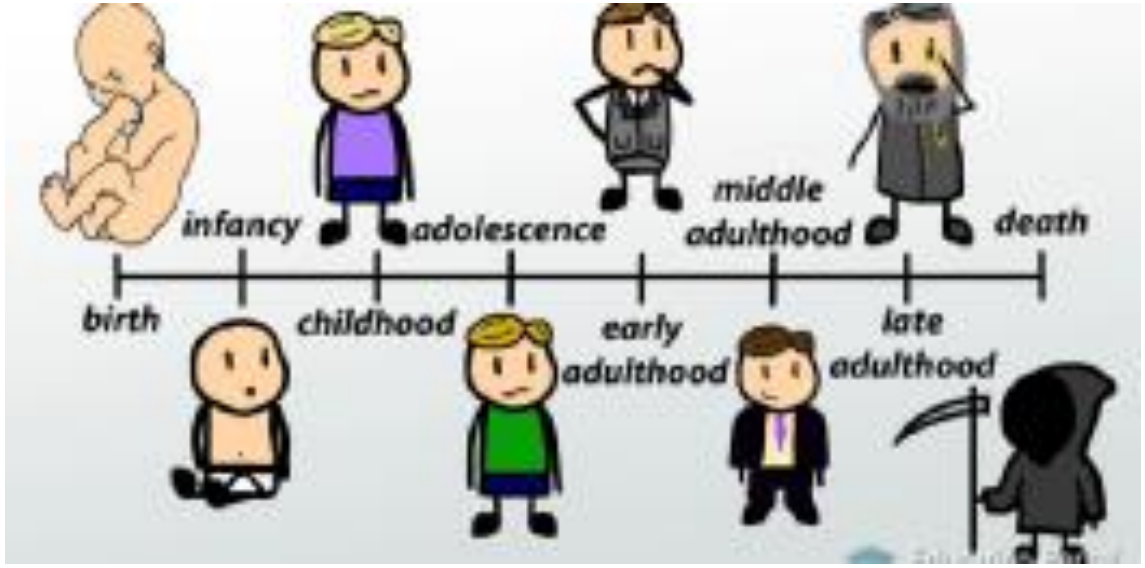
ERIKSON'S THEORY OF PSYCHOSOCIAL DEVELOPMENT: THE SEARCH FOR IDENTITY

During early adulthood, people enter the **intimacy-versus-isolation stage**. Till age 30 years, this stage focuses on developing close relationships with others. Difficulties during this stage result in feelings of loneliness and a fear of such relationships; successful resolution of the crises of this stage results in the possibility of forming relationships that are intimate on a physical, intellectual, and emotional level. Finally, the last stage of psychosocial development, the **ego-integrity versus-despair stage**, spans later adulthood and continues until death. People in this stage ask themselves if they have lived a meaningful life. If they see their lives positively, they feel a sense of accomplishment; if not, they feel regret over a misspent life.



ADULTHOOD

Psychologists generally agree that early adulthood begins around age 20 and lasts until about age 40 to 45 when middle adulthood begins and continues until around age 65. **Emerging adulthood** a period beginning in late teenage years and extending into the mid-20s in which people are still engaged in determining who they are and what their life and career paths should be. It is a time of uncertainty and instability, as well as self-discovery.



PHYSICAL DEVELOPMENT: THE PEAK OF HEALTH

From about 18 to 25 years of age, people's strength is greatest, their reflexes are quickest, and their chances of dying from disease are quite slim. Moreover, reproductive capabilities are at their highest level. During middle adulthood, people gradually become aware of changes in their bodies. They often experience weight gain and the sense organs gradually become less sensitive, and reactions to stimuli are slower. The major biological change that does occur during middle adulthood pertains to reproductive capabilities.

SOCIAL DEVELOPMENT: WORKING AT LIFE

People envision life goals and make career choices and lives often center on their careers, which form an important part of their identity. In their early 40s, however, people may begin to question their lives as they enter a period called the **midlife transition**. The idea that life will end at some point can become more influential in their thinking, which leads them to question their past accomplishments.

In **40's and 50's** people concentrate on the present; their involvement with their families, friends, and other social groups takes on new importance. A major developmental thrust of this period is coming to terms with one's circumstances. During the **last stages of adulthood**, people become more accepting of others and of their own lives and are less concerned about issues or problems that once bothered them. They come to accept the fact that death is inevitable, and they try to understand their accomplishments in terms of the broader meaning of life, many also develop a sense of wisdom and feel freer to enjoy life

PHYSICAL CHANGES IN LATE ADULTHOOD: THE AGING BODY

Napping, eating, walking, conversing represent the typical pastimes of late adulthood. Although the students cited more active pursuits—such as sailing and playing basketball—as their favorite activities, in actuality they engaged in such sports relatively infrequently and spent most of their free time napping, eating, walking, and conversing.

Genetic preprogramming theories of aging suggest that human cells have a built-in time limit to their reproduction. These theories suggest that after a certain time cells stop dividing or become harmful to the body—as if a kind of automatic self-destruct button had been pushed. In contrast, **wear-and-tear theories of aging** suggest that the mechanical functions of the body simply work less efficiently as people age. Waste byproducts of energy production eventually accumulate, and mistakes are made when cells divide. Eventually the body in effect wears out like an old automobile.

COGNITIVE CHANGES: THINKING ABOUT— AND DURING—LATE ADULTHOOD

Some declines in intellectual functioning during late adulthood do occur. Skills relating to **fluid intelligence** (which involves information-processing skills such as memory, calculations, and analogy solving) show declines in late adulthood. In contrast, skills relating to **crystallized intelligence** (intelligence based on the accumulation of information, skills, and strategies learned through experience) remain steady and in some cases actually improve.

Even when changes in intellectual functioning occur during later adulthood, people can still learn what they want to learn; it may just take more time. Furthermore, teaching older adults strategies for dealing with new problems can prevent declines in performance

MEMORY CHANGES IN LATE ADULTHOOD: ARE OLDER ADULTS FORGETFUL?

Most evidence suggests that memory change is not an inevitable part of the aging process. Declines in cognitive functioning in late adulthood are, for the most part, not inevitable. The key to maintaining cognitive skills may lie in intellectual stimulation. Like the rest of us, older adults need a stimulating environment in order to hone and maintain their skills

THE SOCIAL WORLD OF LATE ADULTHOOD: OLD BUT NOT ALONE

late adulthood brings significant challenges. People who have spent their adult lives working and then enter retirement bring about a major shift in the roles they play. Moreover, many people must face the death of their spouse. Especially if the marriage has been a long and good one, the death of a partner means the loss of a companion, confidante, and lover. It can also bring about changes in economic well-being.

According to the **disengagement theory of aging**, aging is characterized by a gradual withdrawal from the world. In this view, as people get older, they separate themselves from others on physical, psychological, and social levels. In this view, such disengagement is appropriate and even beneficial. The reason is that disengagement serves the purpose of providing an opportunity for increased reflectiveness and decreased emotional investment in others at a time of life when social relationships will inevitably be ended by death.

THE SOCIAL WORLD OF LATE ADULTHOOD: OLD BUT NOT ALONE

According to the **activity theory of aging**, people who age most successfully are those who maintain the interests, activities, and level of social interaction they experienced during their earlier periods of adulthood. Activity theory argues that people who are aging effectively show a continuation of the activities in which they participated during the earlier part of their lives.

Most engage in a **process of life review** in which they examine and evaluate their lives. Remembering and reconsidering what has occurred in the past, people in late adulthood often come to a better understanding of themselves. They sometimes resolve lingering problems and conflicts and face their lives with greater wisdom and serenity.