

## Psychological Development during Childhood

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Childhood is a time of tremendous psychological development. Our personalities, cognitive capabilities, and emotions expand and transform us from infants to adolescents. In some ways we exhibit continuous development, while others are more accurately described as stages. The following pages present some of these significant changes that occur during early and middle childhood.

### **Early Childhood: Cognitive Development**

During the preschool years, the worlds of make believe and real life are loosely intertwined as one. Inanimate objects are believed to be alive. Dolls may be considered little people with feelings, thoughts, and needs. Cars and trucks may also be personified with imaginative embellishments. The creativity and imagination at this stage of development prepare preschoolers for cognitive advances that are depicted in the major cognitive theories: Jean Piaget's Theory of Development, Lev Vygotsky's Zone of Proximal Development, and information processing.

### **Jean Piaget's Theory of Development: Preoperational Stage**

According to Piaget, cognitive changes or growth occur through assimilation which is adding new information or experiences into existing or current schemes, and accommodation which alters schemes to input new information and experiences (Piaget & Inhelder, 1969). This

belief is addressed in Piaget's first stage of development, the sensorimotor stage, which spans roughly the first two years of life. It continues in Piaget's second stage, which is the preoperational stage that approximately ranges from 2 to 7 years of age.

The basic principles of the preoperational stage are the formation of cognitive world representations through illustrations, language, and pictures, establishment of concepts, and the initiation of mental reasoning. In this stage, preoperational thinking is egocentric (self-centered) and lacks awareness of others' perspectives as well as the ability to decenter from their personal psychological processes (Flavell, 1963; Piaget & Inhelder, 1969). Also, many children illustrate Piaget's assimilation concept via animism and artificialism. In the concept animism, children believe that inanimate objects are alive, and consequently magical belief or thinking is constructed (Flavell, 1963). In a related notion, children in the preoperational range believe in artificialism which states that human beings are the creator of nature.

The preoperational stage is the precursor to performing mental operations instead of needing to represent the world physically. Preoperational thought involves reconstructing in thought the actions of behavior (Piaget & Inhelder, 1969). Therefore, children are instigating the ability to form mental images and make connections with objects that are not visible. The preoperational stage is composed of two sub-stages: symbolic function (preconceptual) and intuitive thought.

#### *Symbolic function or preconceptual sub-stage*

In the sensorimotor stage, the development of object permanence is an accomplishment for infants. In the preoperational stage, children begin to ascend beyond object permanence into the symbolic function or preconceptual sub-stage. Between 2 to 4 years of age, children start to

mentally represent, recognize, remember, and reproduce an absent object or prior event. This sub-stage is marked with important gains in mental process, yet, limited by a child's egocentrism, animism, and artificialism (Flavell, 1963; Piaget & Inhelder, 1969).

### *Intuitive thought sub-stage*

The intuitive thought sub-stage (between 4 and 7 years of age) is distinguished by a child's simplistic use of mental reasoning and the abundant use of the word "why" along with many other questions (Flavell, 1963). Children become aware of their vast knowledge, but lack insight into how they possess it.

## **Lev Vygotsky's Sociocultural Cognitive Theory**

Lev Vygotsky, Russian psychologist, reasoned that children developed their cognitive abilities through cultural and social interactions. Social Cognitive Theory asserts that cognitive development involves utilizing societal innovations such as language, mathematics, and memory techniques (Gauvain & Perez, 2015). Vygotsky (1962) hypothesized that the zone of proximal development (ZPD) is the area where learning occurs.

### *Zone of Proximal Development*

Vygotsky's ZPD represents his belief that social interactions can guide changes in cognitive development. ZPD is the range between a child's actual problem solving ability while working alone and the potential for achievement with assistance from a more knowledgeable teacher or peer (Vygotsky, 1962). Improved emotional regulation, secure attachment between the child and caregiver, a compliant child, and a mother without depression are factors that researchers have discovered to increase the effectiveness of ZPD (Gauvain, 2013; Gauvain & Perez, 2015).

### *Scaffolding*

Scaffolding is varied instruction to meet the needs of a child's ZPD. When a task is newly introduced, a child may require concentrated direct instruction (2005). But as the child develops skills, the level of instruction decreases to meet the needs of the child. This concept has been very successful in the classroom. Peer tutoring is based on the premise of scaffolding a child at her or his ZPD, as a more skilled child gives support, guidance, and instruction to a peer.

### *Evaluating Vygotsky*

Although Vygotsky's theory is not comprehensive, it is embraced by many educators and seem to be incorporated in classrooms daily. Teachers often use the ZPD as a guide for classroom instruction and adjusting the level of scaffolding. The social context is valued by educators as they encourage more-skilled peers to assist with classroom instruction.

### **Information-Processing Approach**

The information-processing approach to cognitive development focuses on attention, storage, and retrieval of information. What device functions similarly to this approach to cognition? Yes, a computer! A computer analogy is often used to explain the information-processing perspective. The computer is composed of hardware that manipulates and stores data like the brain. Just as the computer is limited by hardware, software, and speed capacity, so is the brain (Lindsay & Norman, 1972). Cognitive development is achieved as children use techniques to rise above processing restrictions.

### *Memory*

Information moves through stages to become a memory. Memory is the mind's capacity for storage and retrieval of information. The stages involved in memory are encoding, storage, and retrieval (Luckner, 1990). The journey begins with encoding which is the arrival of stimuli in the form of images, sounds, or semantics converted into meaningful information. Working memory is the ability to sustain and direct information to complete another task (Baddeley & Hitch, 1994). This is the entryway where all the material is conveyed into awareness at once. Then, the information is stored to be recalled later or lost. Last, the stored information is retrieved from memory.

### *Attention*

Information that is received can be filtered or distributed differently from person to person due to attention (Pashler, 1998). Attention is selectively attending to a specific aspect of an experience or information. Only a limited amount of information can be processed at one time, so children as well as adults use attention to concentrate on a particular aspect of an experience. For example, you and I both could attend the same musical concert, but notice different things. You may attend to the vocalists with particular interest in the lyrics being sung, but I may focus on the melody and actions of the band. We are both experiencing the concert, but the focus of our attention would be different.

Children distribute their attention in four ways: selective attention, divided attention, sustained attention, and executive attention. Selective attention is the ability focus on one particular aspect of experience while overlooking others (Wilding et al., 2001). Divided attention is the ability to concentrate on two or more events at the same time (Savage et al., 2006). Sustained attention involves concentrating on a specific stimulus for an extended time period (Wilding et al., 2001). Executive attention involves planning, dividing attention targets,

recognizing and counteracting errors, examining task progression, and managing new or challenging situations (Santrock, 2014).

As comprehension and language develop, executive and sustained attention in early childhood improve (Garstein, 2008). Therefore, the ability to better understand and appreciate the environment allows for the ability to sustain attention for longer time periods. However, Swing and colleagues (2010) discovered that playing video games and watching television are associated with attention issues.

### **Attention-Deficit/Hyperactivity Disorder**

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental disorder defined by inattentiveness, impulsivity, and/or hyperactivity (American Psychiatric Association, 2013). ADHD impacts every aspect of a child's life from difficulty performing routines at home to staying on task at school. Over 11 percent of school age children in the United States are diagnosed with ADHD, which is approximately 1 in 10 children (CDC, n. d.). There are many hypotheses, but the exact cause of ADHD is still unknown.

There are three major types of ADHD: predominately inattentive presentation, predominantly hyperactive-impulsive presentation, and combined presentation (American Psychiatric Association, 2013). The predominately inattentive presentation symptoms include difficulty organizing and completing assignments, following directions or conversations, paying attention to details, keeping up with objects needed for tasks, and remembering daily routines. The predominately hyperactive-impulsive presentation is characterized by excessive talking, blurting out answers, interrupting others, fidgeting, difficulty sitting or waiting his or her turn, and often runs or climbs in inappropriate situations. The combined presentation includes both

inattentive and hyperactive-impulsive presentations symptoms (American Psychiatric Association, 2013).

Currently, there is no cure, but ADHD is manageable. The American Academy of Pediatrics (AAP) recommends a tailored program for each child (AAP, n.d.). The most effective evidence based ADHD treatment for school aged children includes behavior therapy combined with medication. Caregivers and teachers need to work together to develop, implement, and evaluate targeted goals and outcomes for behavior therapy.

### **Thinking**

There are two opposing thoughts on the nature of thinking: content of thinking and skills and strategies of thinking. The content of thinking emphasizes improving thinking by focusing on the way one thinks as oppose to directly teaching how to think. The skills and strategies perspective on thinking presumes “that content and intellectual processes are mutually reinforcing, and interrelationships between knowledge structure and cognitive processes determine the kinds of thinking skills” (Yildirim, 1994, p. 28) to be taught. Thinking is a very unique construct to describe, even though we all engage in the activity on a daily basis.

Thinking is a cognitive process closely related to language that involves managing and altering information in memory (Florea & Hurjui, 2015; Santrock, 2014). Executive function, critical thinking, scientific thinking, and problem solving are the four major types of thinking. Executive functioning is responsible for higher-order cognitive processing such as management of concurrent tasks, planning, executive attention, self- control, and working memory (Schneider et al., 2005). Critical thinking involves knowledge updating, analyzing alterations, scrutinizing cause and effect relationships, examining ideas, and evaluating evidence (Florea & Hurjui, 2015). Scientific thinking involves purposefully seeking to understand the environment using

experimentation (Osterhaus et al., 2017). Problem solving incorporates the process of finding solutions to complications or puzzles. Thinking involves cognitive processes linked to learning which can be improved with memory techniques, study strategies, and instruction.

### **Early Childhood Language**

In infancy, single word holophrases such as “dada” progress to become telegraphic speech such as “All gone.” In early childhood, the comprehension and use of language is a major milestone in psychological development. It marks the end of infancy and the ascent into childhood.

#### *Language and Thought*

Vygotsky is also well known for his views on language acquisition in children, which once again differs from Piaget’s. Piaget believed that language was based on thought. According to Vygotsky (1962), language and thought are separate systems that merge at approximately three years old. Inner speech or private speech is the internal dialogue an individual engages in with her or his self. As a toddler, private speech is a result of social interactions, but takes place in silence. During early childhood, inner speech is verbalized for guidance and self-direction through difficult cognitive tasks.

#### *Language Development*

Language is a system of communication within a community through speech, written words, or signing. Language is essential to our daily life because it enables us to interact with others. Language is based on five basic components: phonology, morphology, syntax, semantics, and pragmatics.

Phonology is the system of sounds that consists of the sounds units that provide meaning, called phonemes, and the rules for how they can be combined (Leow et al., 2009). As an infant, they usually repeat word sounds such as *ma* which become *mama*. By age 3, they are able to combine phonemes, but may have trouble pronouncing words with multiple syllables. During elementary school, they are better able to speak.

The study of how words are constructed and related in a language is morphology. Morphemes are the basic unit of meaning. Morphemes can be single words, prefixes, or endings. The organization of morphemes to construct a word is based on morphology (Leow et al., 2009). As a child becomes older, their average number of morphemes, that is, length of utterances, increases from two words at age 2 to five words by age 4. Morphemes can be single words, prefixes or endings. The organization of morphemes to construct a word is based on morphology.

Syntax is the organization of words and phrases to create grammatically correct sentences, which are generally developed by the end of early childhood (Leow et al., 2009). Children generally learn syntax through social interactions particularly listening, therefore, it is important to engage in constant communication with your child for language acquisition. Young children often mix up the order of words or use the wrong tense, but usually by the start of school these problems are corrected.

Semantics is the system of language that includes the meaning of words, phrases, and sentences. Vocabulary is the essential component of semantics (Leow et al., 2009). Throughout the entire lifespan, vocabulary is learned and assimilated into existing schemas to create grammatically correct sentences.

Pragmatics refers to the proper use of language in various social contexts such as conversations and script organizations, as well as the approach people use to construct and comprehend meaning (Leow et al., 2009). Pragmatics is very complex and encompasses many aspects of language. It affects how you speak in a conversation with different people like your friends or teachers. It also influences how you structure written words differently for a text message intended for friends as opposed to an essay for a teacher. Pragmatics also varies from culture to culture because rules are culture specific. For example, in some American schools, teachers are addressed by their first name without titles, but students in Asian countries such as Japan and China would find it quite difficult not to use a title like Professor along with their teachers' last name.

### **Communication Disorders**

Any condition that interferes with the comprehension, detection, or application of language and speech to communicate effectively with others is a communication disorder (American Psychiatric Association, 2013). In early childhood, there are communication problems that can affect learning such as speech and language delays, stuttering, articulation errors, and receptive/expressive language deficits. Speech and language impairments can impact the academic success of a child and his or her social relationships. Many schools provide speech and language services to students with communication disorders that impact the school environment by employing speech-language pathologists (SLPs) (Quach & Pei-Tzu, 2017). SLPs are highly trained professionals who evaluate, diagnose, and provide prevention/intervention techniques for communication disorders.

### **Middle Childhood: Cognitive Development**

Middle childhood is characterized by gaining the ability to think in a more logical manner with regards to physical objects, but not the comprehension of abstract thinking. Children are able to decipher reality from fantasy, and focus more on others rather than self. In addition, we will look at the information processing perspective from the vantage point of middle childhood.

### **Jean Piaget's Theory of Development: Concrete Operational Stage**

The concrete operational stage is Piaget's third stage of development, occurring approximately between 7 to 11 years of age. During this stage, most children become less self-centered and more aware of the outside world. Yet, many children are not quite prepared to think abstractly, hypothetically, or practically. The major developmental milestone achieved is the ability to execute concrete operations or logical thinking such as centration, conservation, classification, reversibility, seriation, and transitivity (Flavell, 1963).

Conservation is the understanding that the amount of a given material stays the same even with the change in shape or form. The concept of conservation relies on the child's ability to demonstrate centration and reversibility. Centration is the ability to concentrate only on one factor with the exclusion of all others, while reversibility involves returning to the original state by going backwards (Flavell, 1963; Piaget & Inhelder, 1969). Conservation of numbers is understood before, mass, and finally, volume.

Piaget's most famous conservation task demonstrated the conservation of volume. Two beakers were presented to the child with an equal amount of liquid. The child would be asked if the amount of liquid in both beakers were the same, generally the answer would be "yes." Then, the liquid in one of the beakers would be poured into a taller, slender beaker. The child is questioned about the equality of the liquid again, but the answer generally varied between children younger than 7 and older. Children younger than 7 years of age usually say "no"

because they are unable to recognize that a liquid retains its properties despite the shape of the container due to their centration on the beaker's height. Children approximately 7 years of age and older are able to understand that a liquid retains its properties regardless of container, and they are able to trace the actions back to the original beaker (Piaget & Inhelder, 1969).

Another limitation of preoperational thought during Piaget's second stage of development is classification. Classification is the ability to organize objects according to multiple categories at the same time, which includes class inclusion (Flavell, 1963). A child demonstrates this ability to classify objects during this stage by recognizing the various dimensions an object may have and grouping them accordingly. For example, a concrete operational child can organize Legos according to color, shape, length, and height. The idea of class inclusion can be depicted by demonstrating the red Legos or blue Legos are still Legos regardless of color differences.

### *Evaluating Piaget*

There are many criticisms of Piaget's theory of development. One criticism is that many younger children are capable of concrete operational thought with teaching which according to Piaget is achieved between middle and late childhood (Maynard & Greenfield, 2003; Belsky, 2017). Belsky (2017) contends that Piaget overstated young children's egocentrism, while understating the approximate age for discarding animism.

### **Information-Processing Approach: Rehearsal, Selective Attention, and Inhibition**

As a child enters into middle childhood, executive functioning improves. Rehearsal, selective attention, and inhibition are three abilities that are significantly enhanced. Rehearsal is a learning strategy that uses repetition of information to input it into memory (Luckner, 1990). During early childhood, children may not understand the need for rehearsal, while older children

recognize the need to rehearse, and therefore use it. For example, you are tasked with remembering a phone number on a billboard until you are able to retrieve your cell phone from your backpack. In an effort to remember, you may repeat the numbers over and over, or sing a little song with the numbers in order to remember. By repeating the numbers, you are keeping the information in your working memory and, therefore, aiding the retrieval process.

The ability to regulate attention is an important advancement during middle childhood. At this stage, children are able to selectively attend to relevant information to complete a task due to interest, instead of attending to any interesting stimuli presented as in early childhood (Wilding et. al, 2001). Therefore, a child is able to regulate impulsivity and ponder more, which results in better decision-making skills.

Inhibition begins to improve during the preschool years, and continues to improve with age. Inhibition is the ability to ignore the desire to do something you may wish to do (Savage et al, 2006) such as resisting the temptation to watch TV, listen to your iPod, or check Instagram while reading this passage. As children become older, they are better able to resist desires to remain on task, but it still seems to be challenging just as it is for many adults.

### **Middle Childhood: Language**

During early childhood, language development has an emphasis on learning how to speak, alphabet recognition, phonics, and basic reading. Children in middle childhood focus more on vocabulary expansion, reading comprehension, and writing.

#### *Vocabulary and Grammar*

Children's vocabulary and grammar skills increase rapidly from early childhood to middle childhood. Children progress from speaking approximately 50 words at age 2 to approximately 40,000 by 11 years of age (AAP, n.d.; Santrock, 2014). The rate of language

development varies from child to child, but the greatest disparity in vocabulary acquisition is social economic status (SES). Individuals from lower SES usually have fewer books in the home and socialize with their children less, which affects language and reading skills.

The basic rules of grammar are learned by listening and practicing talking with caregivers (AAP, n.d.), but the formal instruction begins in school and continues throughout grade school. In elementary school, children are taught how to create grammatically correct sentences and building to paragraphs, followed by essays. Generally, children are able to demonstrate grammar skills orally before written communication (Santrock, 2014).

### *Reading*

During early childhood, children are beginning to learn to read. There are two approaches typically used in reading instruction: phonics and whole-language. Phonic involves teaching letter sounds to pronounce words. Whole-language emphasizes learning whole word and reading to children. Most schools use a combination of the two approaches by teaching phonics and sight words, while encouraging parents to read with their children (Fox & Alexander, 2011).

Reading comprehension and reading fluency are two key components to being a successful reader. Reading comprehension is influenced greatly by vocabulary development. As a child learns the meaning of more words, the easier she or he understands what is being read. Reading fluency is the ability to read accurately, expressively, and speedily. Fluency is based on the ability to recognize words automatically, which is important for comprehension (Tankersley, 2003).

### *Writing*

Children begin to scribble during early childhood, but their fine motor skills gradually increase to writing letters and words. Writing begins to become increasingly important as

elementary school emphasizes spelling and vocabulary. Many children's writings include letter reversals and creative spelling of words, which should not be of concern to parents and educators. In middle childhood, children are given many more opportunities to write and their skills increase with writing instruction (Wang, 2014). Just like any other skill, writing improves with practice and proper instruction.

## **Intelligence**

What is intelligence? How to measure it? Is there only one or multiple intelligences? What are extremes of intelligence? There are many questions about intelligence, since most psychologists and educators tend to disagree on some aspects of the topic.

The definition of intelligence is perhaps the most debated concept. Some psychologists define intelligence as the capability to obtain and utilize information and skills, while others define it as "adaptation to the environment" (Sternberg, 2003, p. 139).

### *General Intelligence*

Charles Spearman's theory generally extends the definition of intelligence by proposing that there is a general factor of intelligence called the *g factor*. Using statistics, Spearman developed the general intelligence theory which purported that intelligence is mental energy that can be measured and expressed numerically (Cianciolo & Sternberg, 2004).

The Cattell-Horn-Carroll (CHC) theory of intelligence expands the *g factor* into two major categories: crystallized (*Gc*) and fluid (*Gf*) intelligence (Kranzler & Floyd, 2013). Crystallized intelligence is acquired knowledge, which is information that can be learned such as vocabulary and reading comprehension. Fluid intelligence is the ability to solve new problems

using inductive and deductive reasoning, such as abstract reasoning and problem solving. CHC theory is considered one of the most well developed theories of intelligence.

### *Sternberg's Triarchic Theory of Successful Intelligence*

Robert Sternberg's (2003) theory consists of three types of intelligence: analytical, creative and practical. *Analytical intelligence* is logical reasoning for problem solving. *Creative intelligence* is the ability to design, invent, or create. *Practical intelligence* is "common sense" or everyday knowledge necessary for application and implementation. In order for an individual to exhibit successful intelligence, all three forms of intelligence must be balanced.

### *Multiple Intelligences*

Howard Gardner (2011) contends that intelligence is more than the intelligence quotient (IQ). The IQ is a numerical score of general aptitude or cognitive ability for learning. Gardner proposed that intelligence is more reflective of specific talents or unique gifts. The Multiple Intelligences theory is comprised of eight to nine categories:

- Verbal- use of language to understand concepts and express meaning
- Logical/Mathematical- calculating and reasoning
- Spatial- physical space awareness
- Bodily/Kinesthetic- ability to use the body skillfully and manipulate objects
- Musical- sensitivity to rhythm and sound
- Intrapersonal- understanding oneself
- Interpersonal- understanding others
- Naturalistic- interacting with nature: animals and plants
- Existential/Spiritual- sensitivity to human existence such as finding meaning in life

## *Measuring Intelligence*

Many professionals (e.g. educators, psychologists, and physicians) are interested in measuring intelligence to detect differences in intellectual ability between individuals and/or observe changes in one person (Cianciolo & Sternberg, 2004). As a result, the French psychologist, Alfred Binet, with his colleague, Theophile Simon, developed the first intelligence test for the French Ministry of Education, to determine placement in special education for children who were considered not capable of learning. In 1904, the original instrument consisted of 30 items, but it has been revised many times to include updated intelligence theories and concepts (MacIntosh, 2011). The Binet-Simon intelligence test is now the Stanford-Binet Intelligence Scales. and is still widely used today.

Intelligence tests measure the intelligence quotient (IQ) with an average score of 100. The IQ is calculated by mental age (MA), an individual's mental development relative to others, divided by chronological age (CA), multiplied by 100. The deviation IQ, which replaced the traditional IQ, reflects performance that is relative to others of the same age (Cianciolo & Sternberg, 2004).

Today, there are many intelligence assessments based on the various intelligence theories and concepts with a variety of formats. The *Stanford-Binet Intelligence Scales* and the *Weschler Scales* are perhaps the most widely used intelligence assessments. Both scales emphasize verbal and nonverbal cognitive abilities in ages 2 to approximately 90. There are other scales that emphasize only nonverbal cognitive abilities (e.g. Universal Nonverbal Intelligence Test), which reduce cultural influences such as race/ethnicity, socioeconomic status, or urban/rural environment (Kranzler & Floyd, 2013). Some intelligence assessments have also developed

interactive electronic versions that allow test administrators to administer and score the assessments on portable digital devices in real time (e.g. *Weschler Scales*).

### *Extremes of Intelligence*

The extremes of intelligence are intellectual disability and intellectual giftedness. Intellectual disability is a disorder in which an individual has limited cognitive ability with an IQ below 70 combined with difficulty meeting the demands of everyday life before the age of 18 (Kranzler & Floyd, 2013). Intellectual disability is generally categorized as mild (IQ 55-70), moderate (IQ 40-54), severe (IQ 25-39) and profound (IQ below 25). Intellectual giftedness is characterized as above average intelligence with an IQ of 130 or higher, and/or exceptional talent (Kranzler & Floyd, 2013). Individual Education Plans (IEPs) are constructed to meet the unique academic needs of students with intellectual disabilities and giftedness.

Intellectual disabilities and giftedness are generally determined with multiple sources of evidence including an intelligence test, because many factors contribute to academic success. The IQ score along with achievement scores, academic performance records, medical background, adaptive skills, developmental history, social emotional state, and family experiences should be evaluated to determine eligibility for special education or gifted placement (Kranzler & Floyd, 2013; Urbina, 2011). Therefore, an intelligence test should not be the only eligibility factor.

### **Emotional development**

Emotional development continues throughout early (ages 2-5) and middle (ages 6-11) childhood, building on gains in infancy and adding to these as children's cognitive abilities improve and they interact with an ever-widening social world. This section highlights typical emotional development, cognizant that physical, cognitive, emotional, and cultural development

are interdependent and influence each other. Some overlap is unavoidable. Emotional development is a normal process with significant individual differences in the timing. There are group differences as well. For example, as a group, children with sensory disabilities, such as blindness, deafness, demonstrate delays compared to children without these characteristics (Hartshorne & Schmittl, 2016; Martens et al., 2014). And, to indulge in analogy, as a neglected and abused house may end in a ramshackle version, an emotionally neglected and abused child may suffer long-lasting damaging effects (Tailieu et al., 2016). On a positive note, there are many psychological treatments that can ameliorate these effects, even for adult survivors (Grossman et al., 2017).

### **Early Childhood (ages 2-5)**

Toddlerhood, roughly 1 ½ to 3 years old, merges infancy into early childhood. Early childhood, also called the preschool years, continues to about age 5. During this time, children develop more understanding of emotion, gain vocabulary necessary to express emotions verbally (using words) rather than mostly behaviorally (such as crying or smiling), and show improvements in emotional regulation (control over emotions and emotional reactions). Self-conscious, also called sociomoral, emotions (e.g., empathy, pride, envy, embarrassment, guilt), associated with societal values of right and wrong, good and bad, develop. They are self-conscious emotions because children must be aware of themselves as separate individuals. Parents and the broader culture influence how children learn and express these emotions, and in which social situations they are appropriate (Immordino-Yang et al., 2016; Röttger-Rössler et al., 2017). Temperament becomes more stable, and generally predicts future development more accurately. In addition, self-conceptualization changes, particularly self-concept and self-esteem.

### **Middle Childhood (ages 6-11)**

Middle childhood, sometimes divided into middle and late childhood, refers to the elementary school years. Understanding emotions and their complexity continues to improve. Children are better able to regulate their emotions, and control expressions of negative emotions such as anger. They show more empathy, and are generally more sensitive compared to pre-school aged children. Their anxieties reflect real life more than fantasy. In addition, self-concept, a major aspect of one's identity, changes as social circles widen, and often lowers in the transition to middle school, that is a tendency to have a lower opinion of their abilities (Onetti et al., 2019).

### **Emotional Regulation and Self-Control**

Emotional regulation, being able to control one's emotions or feelings, is an aspect of self-regulation or self-control, the ability to effectively manage one's emotions or affect, behavior, and attention, an ability that improves dramatically between early and middle childhood and then tends to stabilize (Raffaeilli et al., 2005). Individuals vary in their general ability to exercise self-regulation, and this appears to be a trait or descriptive characteristic with a biological basis. Higher self-control is associated with many positive outcomes, such as academic success and emotional well-being (Tangney et al., 2004).

Emotional regulation requires an ability to recognize and understand emotions. This ability, called emotion understanding (EU), improves as children develop throughout early and middle childhood, especially for those who have strong verbal and social skills (Kårstad et al., 2015). Children learn to identify facial expressions with particular emotions, such as frowns with anger, and situations with likely emotions, such as birthdays with happiness. Understanding one's own emotions is the basis for identifying and regulating when, where, and how much emotion to express. Preschool children who can identify others' emotions tend to have fewer

behavior problems (Hughes et al., 1998), while those who have difficulty doing this are more likely to demonstrate signs of mental disorders (Southan-Gerow et al., 2002).

Emotional regulation continues to develop in middle childhood during the elementary school years. Children who are better at this tend to be more popular with their peers, rated as more socially competent by teachers, behave less aggressively at school, and show more self-control (the ability to control one's own behavior), among other advantages (Castro et al., 2015).

### **Self-Concept and Self-Esteem**

Self-concept refers to what you think about yourself in general. It includes self-understanding, and has cognitive, for example, I am intelligent, and emotional, for example, I am an angry person, aspects. Self-esteem is your overall evaluation of yourself in terms of your worth. Am I worth a lot or worth less? Psychologists talk about that as high or low self-esteem, or somewhere in between. Furthermore, your self-concept and self-esteem can be different in different areas of your life. For example, you may have a high academic self-concept and self-esteem, but low in the dating realm. We learn the foundation of our self-concept and self-esteem during childhood, primarily through interacting with our parents or other significant caregivers. Young children often have unrealistically positive self-concepts that change as they mature and more accurately understand themselves and compare themselves with others (Marsh et al., 1998).

As you recall, the major developmental task in Erik Erikson's (1950, 1968) second stage of psychosocial development is resolving the issue of initiative versus guilt (3-5 years old). This applies to early childhood, a time when children are starting to develop their individuality apart from their parents or other primary caretakers, while still feeling a close connection to them. They explore their environments with energy and enthusiasm. When these attempts are successful, the reward is higher self-esteem and a feeling of pride. Too many failures and

punishment can elicit feelings of guilt and lower self-esteem, mediated by their conscience (roughly, a moral compass), which develops during this time. Our conscience, learned mainly from our parents, tells us when our behavior is good or bad, right or wrong, and we respond by feeling good about our self, feeling proud, or feeling bad about our self, feeling guilty. The quality of children's attachment to their primary caregivers is important in fostering this development. For instance, secure attachment is associated with a healthy conscience.

Erikson's third stage, called industry versus inferiority (6-11 years old), builds on the previous stages. Successful mastery of this stage results in a feeling of competence, a can-do attitude, whereas failure leads to a sense of inferiority and low self-esteem.

Boys in Western countries tend to have higher overall self-esteem compared to girls (Orth & Robins, 2014), especially in certain aspects of their lives, such as athletics and personal appearance, whereas girls in general rate themselves as better behaved and higher in moral and ethical self-esteem (Gentile et al., 2009). Parents and peers have a lot of influence on a child's level of self-esteem. Parents who use an authoritative parenting style tend to raise children with higher self-esteem. Authoritative parents show warmth and caring while maintaining age-appropriate (matched to the child's developmental level) control. Of course, being liked and respected by your peers, your friends and classmates, helps boost self-esteem, too!

## **Empathy**

Empathy, being able to understand and feel what another person is experiencing and to react appropriately, is important to individuals and to the larger society that depends on smooth social functioning among its membership. Empathy requires a sense of oneself as a separate person, while feeling interconnected with others, and forms a basis for healthy interpersonal relationships. Empathy seems to have an underlying genetic, biological basis tied to temperament

and personality, influenced by the child's environment, and evident in the first few years of life (Zahn-Waxler et al., 2008). Empathy, although fairly stable, continues to develop as young children become less egocentric, less self-centered, as they transition from Piaget's sensorimotor stage of cognitive development (infancy) into the preoperational stage (2-6 years old) and then the concrete operational stage (7-11 years old).

The development of empathy is closely associated with attachment to primary caretakers, and disturbances in the quality of this attachment can affect the degree to which empathy develops. For example, Panfile and Laible (2012) found that more securely attached children were more empathic and better able to regulate their emotions.

Children's imaginative play, such as pretending to be parents, doctors, or teachers, reflects these changes as well. Pretend play involves empathy, role-playing, and self-monitoring; advances self-regulation, which includes emotion regulation; and appears to be an important aspect of child development (Lillard et al., 2013). Although common in the United States and encouraged by the National Association for the Education of Young Children (NAEYC) and the American Association of Pediatrics (AAP), the idea that play is a critical part of child development is not as widely accepted among parents in many non-Anglo cultures and countries (Lancy, 2007).

Children who do not develop empathy are likely to display antisocial behavior, such as lying and bullying, and to develop emotional problems (Reid, et al., 2013). Social emotions have a biological basis in the human nervous system, and training that targets compassion and empathy is associated with changes in brain functioning (Klimecki, 2015). This suggests that children who score low on these traits might improve if given the right training programs.

## **Temperament**

The study of temperament has a long history and a recent past, spanning from ancient Greek philosophers to a recent resurgence of scientific interest. Although there is no consensual definition, temperament may be defined as traits that “are early emerging basic dispositions in the domain of activity, affectivity, attention, and self-regulation, and...are the product of complex interactions among genetic, biological, and environmental factors across time” (Shiner et al., 2012, p. 437). Other researchers posit that temperament is the primary basis of personality throughout life, though they differ on the relative contributions of nature and nurture, the influence of interactions between these on the individual, and distinctions between temperament and personality, cognizant of the genetic basis of temperament (Rettew & McKee, 2005).

Affectivity refers to the emotional aspect of temperament. Affect is the term psychologists use to mean emotions, feelings. Temperament starts developing *in utero* during the prenatal period, and becomes more consistent and stable in early childhood (Kochanska & Knack, 2003). Temperament has significant effects on development throughout life. For example, early childhood temperament is associated with middle childhood academic success (Chong et al., 2019), and infant temperament is somewhat predictive of later emotional and behavioral problems (Abulizi et al., 2017), including substance use (Wills et al., 2000). In addition, infant temperament and attachment to caregiver are associated (Rosen, 2016).

Researchers have looked at various ways to conceptualize temperament and describe components. Thomas and Chess (1984) are well known for their nine dimensions within the three categories of temperament, namely, difficult, easy, and slow to warm up.

Mary Rothbart and associates’ extensive research on temperament looked at two main dimensions, namely, reactivity (responsiveness to stimulation of the senses) and self-regulation. The child’s behavior (activity), emotional reactions and the time it takes to recover from these

strong emotions (affectivity), attentiveness (attention), and effortful control (self-regulation) provide measurements of these dimensions. Their research provides further support that temperament becomes more consistent and stable during early childhood, and has lasting effects on personality into adulthood (Evans & Rothbart, 2007).

### **Personality Development**

Why are people inconsistent in their behavior from one situation to the next? Does one's genetic history determine their attitudes and behaviors? Does one's environment determine their attitudes and behaviors? How does one translate beliefs and feelings into action?

There continues to be a huge debate regarding the development and manifestations of one's personality. Is it nature? Or is it nurture? Perhaps it's a combination of both. Let's begin by reviewing three standard definitions of personality:

- "Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristics, behavior and thought" (Allport, 1961, p. 28).
- "The characteristics or blend of characteristics that makes a person unique" (Weinberg & Gould, 1999, p. 27).
- Individual differences in characteristic patterns of thinking feeling and behaving (John et al., 2008)

### **Theoretical Perspectives in Personality Development**

There are many theories that propose the structure of personality development. This section will discuss two major personality theories related to childhood personality development.

## The Psychoanalytic Theory

The first formal approach to propose a comprehensive theory of the human personality was Sigmund Freud's psychoanalytic theory. Freud called his theory of personality *psychoanalysis*. Psychoanalysis was based on clinical observations of his patients' feelings and past experiences, which he creatively interpreted.

According to the psychoanalytic approach, the propelling forces of personality are *instincts*. Instincts are defined as a largely inheritable and unalterable tendency of an organism to make a complex and specific response to environmental stimuli without involving reason (*Encyclopedia of Human Behavior*, n.d.). For the purpose of personality development and Freud's psychoanalytic approach, instinct can be defined as the motivating forces that drive behavior, instincts motivate one to behave in a way that satisfies a specific need. Freud identified 2 types of instincts, life instincts and death instincts.

### *The Life Instincts*

Life Instincts are oriented towards growth and development. It is directly related to an innate desire for self-preservation or survival. This desire is manifested in pursuit of food, water, air and sex. The mental energy manifested by the life instinct is the *libido*. In casual conversations, you may recall that the libido is colloquially known as "sex drive." The libido can attach its energy to one particular person, idea or object, which is known as *cathexis*. I'll provide you with two examples: (1) you may really like the quarterback of the football team, Freud would say that your libido is cathected to him or her, (2) perhaps you have a pair of favorite socks that you believe brings luck on exams; you refuse to take an exam without wearing your favorite socks. Freud would say that your libido is cathected to the socks.

### *The Death Instincts*

According to Freud, the Death Instincts are oriented towards the compulsion to destroy and conquer. This is manifested as aggressive behavior.

Freud initially proposed that one's personality was divided into three levels: conscious, preconscious, and unconscious. The conscious level has the ability to experience awareness and corresponds to ordinary, everyday meaning. It includes thoughts, feelings and actions of which one is currently aware. The preconscious is the invisible portion of the personality; it is considered a storehouse for memories and thoughts. It is important to note that memories and thoughts can be called into consciousness from the preconscious. The unconscious level of personality is most important, as Freud states it is the home of the instincts and a major driving force behind all behaviors. One may be unable to control this portion of the personality.

The 3 levels of personality were later revised into what we call "personality structure." Within the structure of personality are the id, ego and superego. The id is driven by the proponents of the life instincts: food, water, air, and sex (libido). The id operates in accordance with the pleasure principle, as such, the behavior manifested seeks pleasure and avoids pain. The id strives for immediate satisfaction; therefore, the behavior can be considered impulsive. An example of the id at work is a crying infant who is unable to communicate their needs. The Ego corresponds with Freud's reality principle, as it has the ability to use reason in an effort to delay pleasure or instant gratification. The ego works to balance the id and superego. An example of behavior that manifests in the ego is a child's ability to wait his or her turn to play a video game. The child has reasoned that it's socially inappropriate to not share and that there may be consequences associated with this behavior. The Superego is driven by the internalized values or moral rules of conduct. The superego helps one decide if behavior is good or bad, thus

contributing to socially acceptable behavior. The child who determined that it was appropriate to wait his/her turn, associated this decision with “good” behavior.

The personality is further divided into stages. Freud called these stages psychosexual stages of development. Each stage is defined by an erogenous zone of the body (mouth, anus, and genital region) and one must resolve the conflict associated with each stage in order to progress successfully through subsequent stages. The stages are oral, anal, phallic, latency period, and genital stage. According to Freud, one’s personality develops as they navigate these stages via parent-child interactions, firmly shaping and crystallizing one’s personality by the age of 5.

### *Early Childhood*

During early childhood, children are tasked with navigating the *Anal* and *Phallic* stages of psychosexual development. The anal stage begins at around 18 months and the focus of pleasure in this stage is centered on toileting behaviors—retention or expulsion of feces. During this time, the child is expected to master or control anal stimulation. In other words, the child must learn the appropriate time and place for defecation. The resolution of the anal stage is proper toileting. Personality traits associated with anal retentiveness are obsession with cleanliness, perfectionism, rigidity, stinginess, etc., while personality traits associated with anal expulsion are defiant, disorganized, chaotic, lack of self-control, etc.

The *Phallic* stage is navigated between 4 to 6 years of age. By the time one reaches the phallic stage, the focus of pleasure has switched from the anus to the genitals. The conflict during this stage is centered around the child’s interest in manipulating her or his genitals and the genitals of their peers. The conflict is labeled Oedipus Complex in boys and Electra Complex in girls. During this stage, the child develops unconscious sexual desires for the opposite sex parent

causing the unconscious desire to replace or destroy the parent, hence death instincts. Personality traits associated with failure to resolve conflict in this stage, also referred to as phallic character, are recklessness, narcissism, sexual deviance, vanity, etc.

### *Middle Childhood*

The Latency Period is not a stage of psychosexual development. During this time the libido (sexual drive) lies dormant. It is thought that during this time, children focus all mental energies on school activities, hobbies, and developing relationships with the members of the same sex. Likewise, the child begins to identify with the same sex parent. Finally, the child begins to express instinctual drives in socially accepted forms.

### **Theory of Psychosocial Development- Erikson**

Erik Erikson, also a psychoanalyst, expanded Freud's theory of personality development. Similar to Freud, Erikson believed that one's personality develops in a series of predetermined stages. However, Erikson insisted that one's personality is not crystallized by the age of 5; it actually continues to develop throughout the entire lifespan. In addition to biological factors, he also addressed the impact of external factors such as cultural and historical experiences. He termed this phenomenon the *epigenetic principle of maturation*, postulating that personality development is affected by both genetic and social factors. As a result, Erikson developed an eight-stage model that he called Stages of Psychosocial Development. Similar to Freud's Psychosexual Stages of Development, Erikson's model of personality development requires that one resolve the personal conflict or crisis inherent in each stage. If the individual adapts and resolves the crisis, normal development of the personality continues. If the individual fails to adapt or resolve the conflict, there is the potential to experience difficulty in later stages.

### *Early Childhood*

There are two stages associated with early childhood. According to Erikson, the *Autonomy vs Doubt/Shame* stage occurs during 1-3 years of age. This stage is consumed with the mastery of language, as well as physical and mental abilities. This stage is focused on the child's ability to control their own physical behavior and establish themselves as an entity separate from others; the need for autonomy and independence is expressed during this stage. This need is expressed in behaviors such as the child's desire to get dressed on their own, eating, and/or toileting on their own. According to Erikson, if parents encourage exploration and independence within safe boundaries, the child resolves the conflict within in this stage and develops autonomy and independence. However, if the parents are "helicopter" parents and are overly protective, the child may feel shame and self-doubt.

As children approach their pre-school years (ages 3-5), they typically define themselves by what they can or cannot do, therefore they initiate new activities to explore their curiosity. *Initiative vs Guilt* is Erikson's stage of psychosocial development for this age group. This stage is consumed with a sense of purpose and the development of new abilities. The conflict inherent in this stage is the child's need to assert power and control over themselves and their environment by planning new activities, initiating play, and facing new challenges. Positive resolution of this stage occurs when caregivers encourage initiative or exploration of new activities, thereby reinforcing independence and leading to a sense of purpose. If the conflict isn't resolved appropriately, it leads to a sense of guilt, causing a fear of trying new things or initiating new behaviors and negative emotions such as low self-esteem, depression.

### *Middle Childhood*

Lasting from around ages 6-12, the *Industry vs Inferiority* stage is characterized by one's ability to master the developmental task of industry; or engage in productive labor. Children began to compare themselves or their abilities to one another, thus increasing the importance of academic abilities and social relationships. The question, "Who am I?" is now defined by internal, psychological characteristics, as opposed to physical characteristics. This stage is resolved appropriately when caregivers and other significant people support the child's efforts and abilities. This encouragement develops a sense of competence or self-confidence as it relates to school and their social world, leading to increased self-esteem and the ability to problem solve. Discouragement and too many restrictions may cause feelings of inferiority and doubt in one's abilities.

### **Gender Roles and Gender Identity**

*What are little boys made of?*

*Frogs and snails, and puppy-dogs' tails;*

*That's what little boys are made of.*

*What are little girls made of?*

*Sugar and spice, and all that's nice;*

*That's what little girls are made of.*

This popular nurse rhyme from the 19<sup>th</sup> century provides a view of societal expectations of gender characteristics. Do you remember at what age you made the connection between your sex and gender? What was your understanding about role expectations? What impact do you believe your understanding of gender roles expectations have on your gender identity?

It is essential that one is able to draw a distinction between sex and gender. Sex is biologically determined by chromosomal patterns. You may recall in learning about human

chromosomes in biology class and remember that humans have 46 chromosomes that are arranged in pairs of X and Y. The twenty-third pair is often referred to as the sex chromosome and determines whether one is born as a male or female. Males are typically born with both X and Y chromosomes and females will have two copies of the X chromosome (U.S. National Library of Medicine, n.d.). While this is a typical description of one's biological sex, it is important to note that assigning biological sex is not always this simple. There are individuals who are born with what is termed an intersex chromosomal condition, which is a mix of male and female chromosomes (World Health Organization, n.d.).

Gender refers to the socially constructed concept of being a male or female, as determined by one's society. In other words, one is taught the socially appropriate gender norms (i.e. behavior, thoughts, characteristics, and relationship dynamics) for male and female. However, one must note that the expectations of the male and female roles are complex and multidimensional, and they vary across culture and time.

One's concept of gender identity is derived from the learned behavior of gender roles (World Health Organization, n.d.). The American Psychological Association (2015) terms gender identity as "a person's deeply-felt, inherent sense of being a boy, a man, or male; a girl, a woman, or female; or an alternative gender (e.g., genderqueer, gender nonconforming, gender neutral) that may or may not correspond to a person's sex assigned at birth or to a person's primary or secondary sex characteristics." Simply put, it is one's internal experience and understanding of what it means to be male or female and does not always fit into the binary of male and female sex categories.

## **Early Childhood**

From the very beginning children are socialized into gender roles. Girls are supervised more and are prevented from participating in activities that may cause physical injury, while boys are encouraged to explore and engage in rough and tumble play. According to Kohlberg's Theory of Gender Development, most children begin to develop gender awareness around the age of 2 (Kohlberg, 1966). Around this time, they become acutely aware of physical differences between a boy and girl, consistently labeling themselves in the following manner: "I am a boy" or "I am a girl." However, by the age of 5 they have been consistently exposed to societal expectations and media representations (i.e. books, television, music) of gender role expectations. This is the beginning of *gender stereotyping*, which are general beliefs about the gender roles of males and females. Gender stereotypes lead to a more rigid idea of appropriate roles for the correlating gender and gender segregation or the preference to interact with same-sex peers occur (Mehta & Strough, 2009). During this time, children begin to express their concept of gender during play via gender-typed play activities (Freeman, 2007). For example, Julia prefers to play with dolls and pretend to cook, while Caleb prefers to drape a towel around his neck and pretend to be superman. As children transition to elementary school, same-sex peer groups continue to play a major role in regard to gender socialization.

### *Middle Childhood*

According to Kohlberg's Gender Development Theory, by the time children are around 6-7 years of age, they develop gender consistency. *Gender consistency* is the child's ability to recognize the permanency of sex across time, context, and physical features (Kohlberg, 1966), and contributes greatly to beliefs about appropriate gender-type attitudes and behaviors. While children are well aware of gender stereotypes, they are more flexible in their gender attitudes and selected gender-type activities (Carver et al., 2003).

In today's society, the stereotypical view of gender and gender-type attitudes, behaviors, and physical features are not as clearly defined. This is a time of exploration in regard to gender identity and while most children will feel connected and identify with their assigned sex and socialized gender, there is a small percentage of children who will not feel the same connection. The inability to connect has led to a variety of "gender role" classifications. Mainstream definitions of gender classifications include

- Androgynous or the presence of both male and female characteristics within the same person or "a blurring of male and female gender traits in the same individual in such a way as to suggest a kind of neither and both" (Hassenstab & Ramet, 2015).
- Transgender- one whose gender identity and/or expression is different from cultural expectations based on the sex they were assigned at birth (APA, 2015).

### **Development and Media Influences**

How is media integrated into the everyday lives of children? How does it impact individual development? Learning and play? Perceptions of self? Society?

Technological innovations have grown exponentially and developers are increasingly targeting young children with the development of mobile learning apps, interactive games, age appropriate entertainment, etc. (Hirsh-Pasek et al., 2015; Papadakis & Kalogiannakis, 2017). It is now the norm, as opposed to the exception, for children to grow up surrounded by various forms of technology, regardless of socioeconomic status. The immersion of children into this media revolution has caused researchers, pediatricians, educators, and parents to be concerned about media impact on healthy growth and development. A few examples of digital media are television, Internet, music videos, video games, and computers. What types of media should they be exposed to? How much exposure should children have to digital media? The American

Academy of Pediatrics (AAP) has taken steps to provide guidance and help families maintain a “healthy media diet”.

American Academy of Pediatrics recommends the following:

- *For children younger than 18 months, avoid use of screen media other than video-chatting. Parents of children 18 to 24 months of age who want to introduce digital media should choose high-quality programming and watch it with their children to help them understand what they're seeing.*
- *For children ages 2 to 5 years, limit screen use to 1 hour per day of high-quality programs. Parents should co-view media with children to help them understand what they are seeing and apply it to the world around them.*
- *For children ages 6 and older, place consistent limits on the time spent using media, and the types of media, and make sure media does not take the place of adequate sleep, physical activity and other behaviors essential to health.*
- *Designate media-free times together, such as dinner or driving, as well as media-free locations at home, such as bedrooms.*
- *Have ongoing communication about online citizenship and safety, including treating others with respect online and offline.*

### *Media Integration*

Media is integrated into the everyday lives of children in a variety of ways. By the age of 2, most children have learned to operate a smart phone or a video game masked as a learning device (Michael Cohen Group LLC, 2011; Duch et al., 2013) Additional types of media such as educational programming, movies, music, and videogames are a common factor in the everyday

lives of children of this age. Current literature indicates that children typically spend several hours each day using a digital device (Duch et al., 2013). While this can be beneficial to busy parents, provide entertainment to the child and perhaps learning opportunities, it can also be harmful to children's psychosocial development and physical health. Individual child development and time exposed to media are critical in terms of determining whether the effect will be positive or negative.

### *Impact on Learning and Play*

Past and present research overwhelmingly supports the statement that younger children learn better from real-life experiences and interactions (Rushton & Larkin, 2001). Consequently, research findings are mixed regarding the effects on learning. There is research that supports the use of various forms of well-designed and age appropriate media to increase the potential for learning, growth, and development. Recent studies have found that early exposure to digital media such as educational programming, learning apps, and interactive technology are linked to academic achievement (Anderson et al., 2001). Lindberger and Walker (2005) found that early exposure to programs such as Sesame Street, Blues Clues, and Dora the Explorer was positively linked to subsequent vocabulary and expressive language, whereas viewing Teletubbies was not. These studies indicate that more research is needed to identify what specific aspects of various media foster learning, growth, and development.

There is also concern that the use of media devices can impact the physical health of children. When children prefer to be entertained by media devices, they do so at the expense of other age appropriate activities such as outside play (Nieman, 2003). Additional risks to excessive use of digital media includes disruption in sleep patterns, reduced attention span, and

undermining the development of gross motor skills (Christakis, et al., 2004; Strasburger et al., 2010).

### *Media and middle childhood (ages 6-11)*

Research suggests that children access digital media at alarming rates, with positive and negative effects (Rasmussen et al., 2020). Examples of media popular in this age group include television, music, handheld and console video games, movies, smart phones and the Internet. Media is integrated into both entertainment and educational content. Educators use various forms of media to enrich the curriculum and engage students. The ability to competently use the devices mentioned has the potential to increase academic achievement. Developers are utilizing media as sources of entertainment and ways to influence and communicate with the world.

### *Impact on Learning and Play*

Positive impacts of media in terms of education include educational enrichment, readiness for learning, exposure to social issues, and exposure to art and music. While media provides education and entertainment, it can also negatively impact physical development and mental health stability. Researchers have consistently found that extended media use negatively impacts sleep, promotes unhealthy snacking, contributes to poor diets and obesity, and displaces time for physical activity effectively contributing to obesity in this age group (Strasburger, 2011). Additional negative impacts of media include cyberbullying, increased propensity for violence, substance abuse, and decrease in academic performance (Dalton et al., 2003; DePaolis et al., 2015). However, parental mediation and sibling behavior can mitigate the deleterious effects of media exposure and use on children's development (Collier & Coyne, 2016; Domoff et al., 2019; Lee et al., 2018).

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