

CHILD GROWTH AND DEVELPMENT (MPTC VERSION)



Paris, Ricardo, Rymond, and Johnson

Acknowledgements

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Moraine Park Technical College
Child Growth and Development

Kelly Carpenter & Lisa Lanting

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- Antoinette Ricardo

Dawn Rymond

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"Education is not the preparation for life; education is life itself." -John Dewey

-Dawn Rymond

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1: INTRODUCTION TO CHILD DEVELOPMENT

Learning Objectives

After this chapter, you should be able to:

- Describe the principles that underlie development.
- Differentiate periods of human development.
- Evaluate issues in development.
- Distinguish the different methods of research.
- Explain what a theory is.
- Compare and contrast different theories of child development.

Welcome to Child Growth and Development. This text is a presentation of how and why children grow, develop, and learn. We will look at how we change physically over time from conception through adolescence. We examine cognitive change, or how our ability to think and remember changes over the first 20 years or so of life. And we will look at how our emotions, psychological state, and social relationships change throughout childhood and adolescence.¹

1.1: Principles of Development

1.2: Periods of Development

1.3: Issues in Development

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1.5: Summary

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1.1: Principles of Development

There are several underlying principles of development to keep in mind:

- Development is lifelong and change is apparent across the lifespan (although this text ends with adolescence). And early experiences affect later development.
- Development is multidirectional. We show gains in some areas of development while showing loss in other areas.
- Development is multidimensional. We change across three general domains/dimensions; physical, cognitive, and social and emotional.
 - The physical domain includes changes in height and weight, changes in gross and fine motor skills, sensory capabilities, the nervous system, as well as the propensity for disease and illness.
 - The cognitive domain encompasses the changes in intelligence, wisdom, perception, problem-solving, memory, and language.
 - The social and emotional domain (also referred to as psychosocial) focuses on changes in emotion, self-perception, and interpersonal relationships with families, peers, and friends.

All three domains influence each other. It is also important to note that a change in one domain may cascade and prompt changes in the other domains.

- Development is characterized by plasticity, which is our ability to change and that many of our characteristics are malleable. *Early experiences are important, but children are remarkably resilient (able to overcome adversity).*
- Development is multicontextual.² We are influenced by both nature (genetics) and nurture (the environment) - when and where we live and our actions, beliefs, and values are a response to circumstances surrounding us. The key here is to understand that behaviors, motivations, emotions, and choices are all part of a bigger picture.³

Now let's look at a framework for examining development.

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1.2: Periods of Development

Think about what periods of development that you think a course on Child Development would address. How many stages are on your list? Perhaps you have three: infancy, childhood, and teenagers. Developmentalists (those that study development) break this part of the life span into these five stages as follows:

- Prenatal Development (conception through birth)
- Infancy and Toddlerhood (birth through two years)
- Early Childhood (3 to 5 years)
- Middle Childhood (6 to 11 years)
- Adolescence (12 years to adulthood)

This list reflects unique aspects of the various stages of childhood and adolescence that will be explored in this book. So while both an 8-month-old and an 8-year-old are considered children, they have very different motor abilities, social relationships, and cognitive skills. Their nutritional needs are different and their primary psychological concerns are also distinctive.

Prenatal Development

Conception occurs and development begins. All of the major structures of the body are forming and the health of the mother is of primary concern. Understanding nutrition, teratogens (or environmental factors that can lead to birth defects), and labor and delivery are primary concerns.



Figure 1.2.1: A tiny embryo depicting some development of arms and legs, as well as facial features that are starting to show. (Image by [lunar caustic](#) is licensed under [CC BY 2.0](#))

Infancy and Toddlerhood

The two years of life are ones of dramatic growth and change. A newborn, with a keen sense of hearing but very poor vision, is transformed into a walking, talking toddler within a relatively short period of time. Caregivers are also transformed from someone who manages feeding and sleep schedules to a constantly moving guide and safety inspector for a mobile, energetic child.



Figure 1.2.2: A swaddled newborn. (Image by [Han Myo Htwe](#) on [Unsplash](#))

Early Childhood

Early childhood is also referred to as the preschool years and consists of the years which follow toddlerhood and precede formal schooling. As a three to five-year-old, the child is busy learning language, is gaining a sense of self and greater independence, and is beginning to learn the workings of the physical world. This knowledge does not come quickly, however, and preschoolers may initially have interesting conceptions of size, time, space and distance such as fearing that they may go down the drain if they sit at the front of the bathtub or by demonstrating how long something will take by holding out their two index fingers several inches apart. A toddler's fierce determination to do something may give way to a four-year-old's sense of guilt for action that brings the disapproval of others.



Figure 1.2.3: Two young children playing in the Singapore Botanic Gardens (Image by [Alaric Sim](#) on [Unsplash](#))

Middle Childhood

The ages of six through eleven comprise middle childhood and much of what children experience at this age is connected to their involvement in the early grades of school. Now the world becomes one of learning and testing new academic skills and by assessing one's abilities and accomplishments by making comparisons between self and others. Schools compare students and make these comparisons public through team sports, test scores, and other forms of recognition. Growth rates slow down and children are able to refine their motor skills at this point in life. And children begin to learn about social relationships beyond the family through interaction with friends and fellow students.



Figure 1.2.4: Two children running down the street in Carenage, Trinidad, and Tobago (Image by [Wayne Lee-Sing](#) on [Unsplash](#))

Adolescence

Adolescence is a period of dramatic physical change marked by an overall physical growth spurt and sexual maturation, known as puberty. It is also a time of cognitive change as the adolescent begins to think of new possibilities and to consider abstract concepts such as love, fear, and freedom. Ironically, adolescents have a sense of invincibility that puts them at greater risk of dying from accidents or contracting sexually transmitted infections that can have lifelong consequences.⁸



Figure 1.2.5: Two smiling teenage women. (Image by [Matheus Ferrero](#) on [Unsplash](#))

There are some aspects of development that have been hotly debated. Let's explore these.

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1.3: Issues in Development

Nature and Nurture

Why are people the way they are? Are features such as height, weight, personality, being diabetic, etc. the result of heredity or environmental factors-or both? For decades, scholars have carried on the "nature/nurture" debate. For any particular feature, those on the side of Nature would argue that heredity plays the most important role in bringing about that feature. Those on the side of Nurture would argue that one's environment is most significant in shaping the way we are. This debate continues in all aspects of human development, and most scholars agree that there is a constant interplay between the two forces. It is difficult to isolate the root of any single behavior as a result solely of nature or nurture.

Continuity versus Discontinuity

Is human development best characterized as a slow, gradual process, or is it best viewed as one of the more abrupt changes? The answer to that question often depends on which developmental theorist you ask and what topic is being studied. The theories of Freud, Erikson, Piaget, and Kohlberg are called stage theories. Stage theories or discontinuous development assume that developmental change often occurs in distinct stages that are qualitatively different from each other, and in a set, universal sequence. At each stage of development, children and adults have different qualities and characteristics. Thus, stage theorists assume development is more discontinuous. Others, such as the behaviorists, Vygotsky, and information processing theorists, assume development is a more slow and gradual process known as continuous development. For instance, they would see the adult as not possessing new skills, but more advanced skills that were already present in some form in the child. Brain development and environmental experiences contribute to the acquisition of more developed skills.

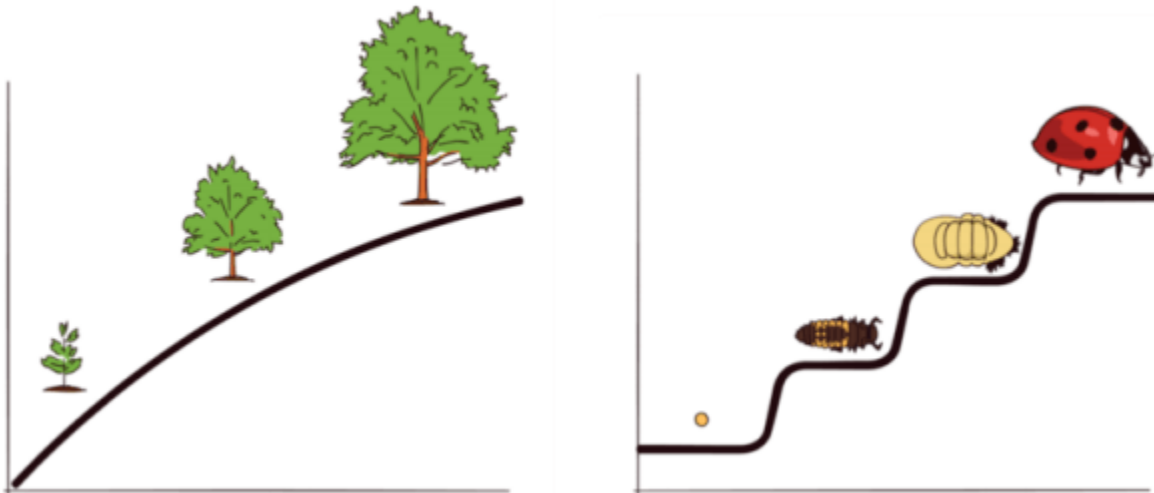


Figure 1.3.1: The graph to the left shows three stages in the continuous growth of a tree. The graph to the right shows four distinct stages of development in the life cycle of a ladybug. (Image by NOBA is licensed under CC BY-NC-SA 4.0)

Active versus Passive

How much do you play a role in your own developmental path? Are you at the whim of your genetic inheritance or the environment that surrounds you? Some theorists see humans as playing a much more active role in their own development. Piaget, for instance, believed that children actively explore their world and construct new ways of thinking to explain the things they experience. In contrast, many behaviorists view humans as being more passive in the developmental process.¹¹

How do we know so much about how we grow, develop, and learn? Let's look at how that data is gathered through research

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1.4: Research Methods

An important part of learning any science is having a basic knowledge of the techniques used in gathering information. The hallmark of scientific investigation is that of following a set of procedures designed to keep questioning or skepticism alive while describing, explaining, or testing any phenomenon. Some people are hesitant to trust academicians or researchers because they always seem to change their story. That, however, is exactly what science is all about; it involves continuously renewing our understanding of the subjects in question and an ongoing investigation of how and why events occur. Science is a vehicle for going on a never-ending journey. In the area of development, we have seen changes in recommendations for nutrition, in explanations of psychological states as people age, and in parenting advice. So think of learning about human development as a lifelong endeavor.

Take a moment to write down two things that you know about childhood. Now, how do you know? Chances are you know these things based on your own history (experiential reality) or based on what others have told you or cultural ideas (agreement reality) (Secombe and Warner, 2004). There are several problems with personal inquiry. Read the following sentence aloud:

Paris in the the spring

Are you sure that is what it said? Read it again:

Paris in the the spring

If you read it differently the second time (adding the second “the”) you just experienced one of the problems with personal inquiry; that is, the tendency to see what we believe. Our assumptions very often guide our perceptions, consequently, when we believe something, we tend to see it even if it is not there. This problem may just be a result of cognitive ‘blindness’ or it may be part of a more conscious attempt to support our own views. Confirmation bias is the tendency to look for evidence that we are right and in so doing, we ignore contradictory evidence. Popper suggests that the distinction between that which is scientific and that which is unscientific is that science is falsifiable; scientific inquiry involves attempts to reject or refute a theory or set of assumptions (Thornton, 2005). Theory that cannot be falsified is not scientific. And much of what we do in personal inquiry involves drawing conclusions based on what we have personally experienced or validating our own experience by discussing what we think is true with others who share the same views.

Science offers a more systematic way to make comparisons guard against bias.

Scientific Methods

One method of scientific investigation involves the following steps: 1. Determining a research question 2. Reviewing previous studies addressing the topic in question (known as a literature review) 3. Determining a method of gathering information 4. Conducting the study

5. Interpreting results 6. Drawing conclusions; stating limitations of the study and suggestions for future research 7. Making your findings available to others (both to share information and to have your work scrutinized by others)

Your findings can then be used by others as they explore the area of interest and through this process a literature or knowledge base is established. This model of scientific investigation presents research as a linear process guided by a specific research question. And it typically involves quantifying or using statistics to understand and report what has been studied. Many academic journals publish reports on studies conducted in this manner.

Another model of research referred to as qualitative research may involve steps such as these: 1. Begin with a broad area of interest 2. Gain entrance into a group to be researched 3. Gather field notes about the setting, the people, the structure, the activities or other areas of interest 4. Ask open ended, broad “grand tour” types of questions when interviewing subjects 5. Modify research questions as study continues 6. Note patterns or consistencies 7. Explore new areas deemed important by the people being observed 8. Report findings

In this type of research, theoretical ideas are “grounded” in the experiences of the participants. The researcher is the student and the people in the setting are the teachers as they inform the researcher of their world (Glazer & Strauss, 1967). Researchers are to be aware of their own biases and assumptions, acknowledge them and bracket them in efforts to keep them from limiting

accuracy in reporting. Sometimes qualitative studies are used initially to explore a topic and more quantitative studies are used to test or explain what was first described.

Research Methods

Let's look more closely at some techniques, or research methods, used to describe, explain, or evaluate. Each of these designs has strengths and weaknesses and is sometimes used in combination with other designs within a single study.

Observational Studies

Observational studies involve watching and recording the actions of participants. This may take place in the natural setting, such as observing children at play at a park, or behind a one-way glass while children are at play in a laboratory playroom. The researcher may follow a checklist and record the frequency and duration of events (perhaps how many conflicts occur among 2-year-olds) or may observe and record as much as possible about an event (such as observing children in a classroom and capturing the details about the room design and what the children and teachers are doing and saying). In general, observational studies have the strength of allowing the researcher to see how people behave rather than relying on self-report. What people do and what they say they do are often very different. A major weakness of observational studies is that they do not allow the researcher to explain causal relationships. Yet, observational studies are useful and widely used when studying children. Children tend to change their behavior when they know they are being watched (known as the Hawthorne effect) and may not survey well.

Experiments

Experiments are designed to test hypotheses (or specific statements about the relationship between variables) in a controlled setting in efforts to explain how certain factors or events produce outcomes. A variable is anything that changes in value. Concepts are operationalized or transformed into variables in research, which means that the researcher must specify exactly what is going to be measured in the study.

Three conditions must be met in order to establish cause and effect. Experimental designs are useful in meeting these conditions. 1. The independent and dependent variables must be related. In other words, when one is altered, the other changes in response. (The independent variable is something altered or introduced by the researcher. The dependent variable is the outcome or the factor affected by the introduction of the independent variable. For example, if we are looking at the impact of exercise on stress levels, the independent variable would be exercise; the dependent variable would be stress.) 2. The cause must come before the effect. Experiments involve measuring subjects on the dependent variable before exposing them to the independent variable (establishing a baseline). So we would measure the subjects' level of stress before introducing exercise and then again after the exercise to see if there has been a change in stress levels. (Observational and survey research does not always allow us to look at the timing of these events, which makes understanding causality problematic with these designs.) 3. The cause must be isolated. The researcher must ensure that no outside, perhaps unknown variables are actually causing the effect we see. The experimental design helps make this possible. In an experiment, we would make sure that our subjects' diets were held constant throughout the exercise program. Otherwise, the diet might really be creating a change in stress level rather than exercise.

A basic experimental design involves beginning with a sample (or subset of a population) and randomly assigning subjects to one of two groups: the experimental group or the control group. The experimental group is the group that is going to be exposed to an independent variable or condition the researcher is introducing as a potential cause of an event. The control group is going to be used for comparison and is going to have the same experience as the experimental group but will not be exposed to the independent variable. After exposing the experimental group to the independent variable, the two groups are measured again to see if a change has occurred. If so, we are in a better position to suggest that the independent variable caused the change in the dependent variable.

The major advantage of the experimental design is that of helping to establish cause and effect relationships. A disadvantage of this design is the difficulty of translating much of what happens in a laboratory setting into real life.

Case Studies

Case studies involve exploring a single case or situation in great detail. Information may be gathered with the use of observation, interviews, testing, or other methods to uncover as much as possible about a person or situation. Case studies are helpful when

investigating unusual situations such as brain trauma or children reared in isolation. And they are often used by clinicians who conduct case studies as part of their normal practice when gathering information about a client or patient coming in for treatment. Case studies can be used to explore areas about which little is known and can provide rich detail about situations or conditions. However, the findings from case studies cannot be generalized or applied to larger populations; this is because cases are not randomly selected and no control group is used for comparison.

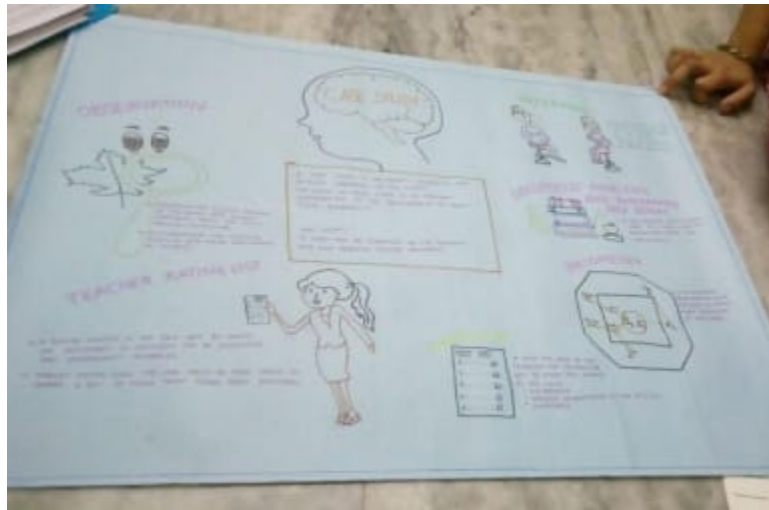


Figure 1.4.1: Illustrated poster from a classroom describing a case study. (Image by MaryGeorge is licensed under [CC BY-SA 4.0](#))

Surveys

Surveys are familiar to most people because they are so widely used. Surveys enhance accessibility to subjects because they can be conducted in person, over the phone, through the mail, or online. A survey involves asking a standard set of questions to a group of subjects. In a highly structured survey, subjects are forced to choose from a response set such as “strongly disagree, disagree, undecided, agree, strongly agree”; or “0, 1-5, 6-10, etc.” This is known as the **Likert Scale**. Surveys are commonly used by sociologists, marketing researchers, political scientists, therapists, and others to gather information on many independent and dependent variables in a relatively short period of time. Surveys typically yield surface information on a wide variety of factors, but may not allow for in-depth understanding of human behavior.

Of course, surveys can be designed in a number of ways. They may include forced choice questions and semi-structured questions in which the researcher allows the respondent to describe or give details about certain events. One of the most difficult aspects of designing a good survey is wording questions in an unbiased way and asking the right questions so that respondents can give a clear response rather than choosing “undecided” each time. Knowing that 30% of respondents are undecided is of little use! So a lot of time and effort should be placed on the construction of survey items. One of the benefits of having forced choice items is that each response is coded so that the results can be quickly entered and analyzed using statistical software. Analysis takes much longer when respondents give lengthy responses that must be analyzed in a different way. Surveys are useful in examining stated values, attitudes, opinions, and reporting on practices. However, they are based on self-report or what people say they do rather than on observation and this can limit accuracy.

Developmental Designs

Developmental designs are techniques used in developmental research (and other areas as well). These techniques try to examine how age, cohort, gender, and social class impact development.

Longitudinal Research

Longitudinal research involves beginning with a group of people who may be of the same age and background and measuring them repeatedly over a long period of time. One of the benefits of this type of research is that people can be followed through time and be compared with them when they were younger.

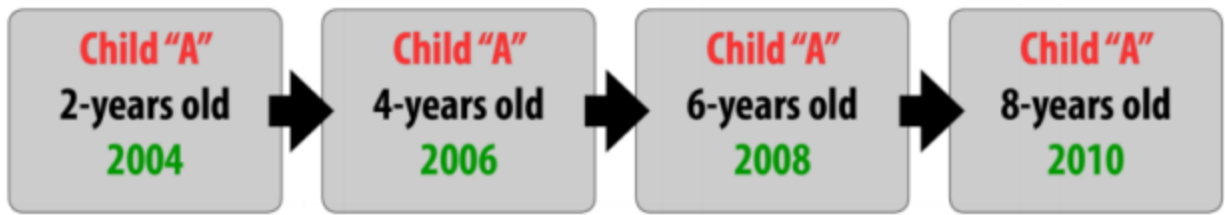


Figure 1.4.2: A longitudinal research design. (Image by NOBA is licensed under CC BY-NC-SA 4.0)

A problem with this type of research is that it is very expensive and subjects may drop out over time. The Perry Preschool Project which began in 1962 is an example of a longitudinal study that continues to provide data on children's development.

Cross-sectional Research

Cross-sectional research involves beginning with a sample that represents a cross-section of the population. Respondents who vary in age, gender, ethnicity, and social class might be asked to complete a survey about television program preferences or attitudes toward the use of the Internet. The attitudes of males and females could then be compared, as could attitudes based on age. In cross-sectional research, respondents are measured only once.

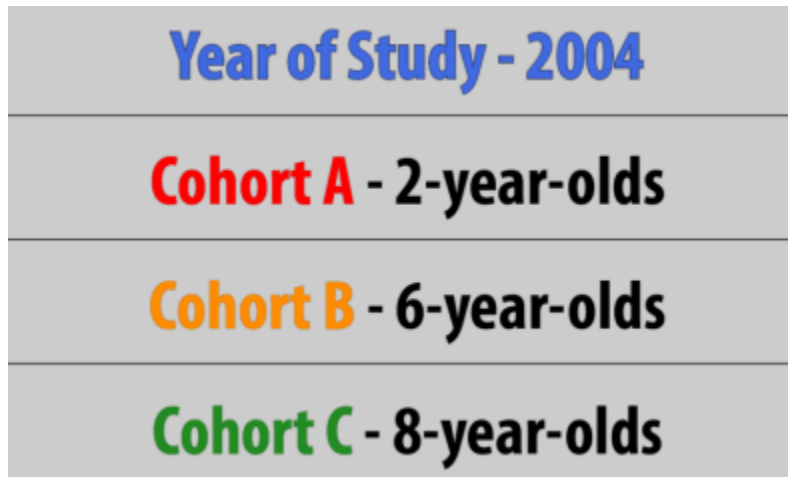


Figure 1.4.3: A cross-sectional research design. (Image by NOBA is licensed under CC BY-NC-SA 4.0)

This method is much less expensive than longitudinal research but does not allow the researcher to distinguish between the impact of age and the cohort effect. Different attitudes about the use of technology, for example, might not be altered by a person's biological age as much as their life experiences as members of a cohort.

Sequential Research

Sequential research involves combining aspects of the previous two techniques; beginning with a cross-sectional sample and measuring them through time.

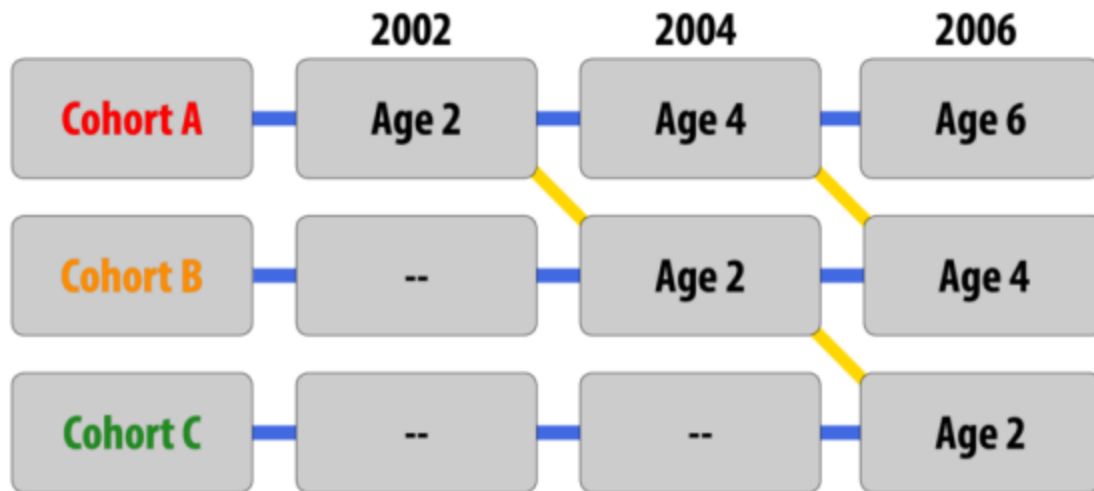


Figure 1.4.4: A sequential research design. (Image by NOBA is licensed under CC BY-NC-SA 4.0)

This is the perfect model for looking at age, gender, social class, and ethnicity. But the drawbacks of high costs and attrition are here as well.¹⁶

Table 1.4.1: Advantages and Disadvantages of Different Research Designs (*Research Methods in Developmental Psychology* by Angela Lukowski and Helen Milojevich is licensed under a CC BY-NC-SA 4.0)

Type of Research Design	Advantages	Disadvantages
Longitudinal	- Examines changes within individuals over time - Provides a developmental analysis	- Expensive - Takes a long time - Participant attrition - Possibility of practice effects - Cannot examine cohort effects
Cross-sectional	- Examines changes between participants of different ages at the same point in time - Provides information on age-related change	- Cannot examine change over time - Cannot examine cohort effects
Sequential	- Examines changes within individuals over time - Examines changes between participants of different ages at the same point in time - Can be used to examine cohort effects	- May be expensive - Possibility of practice effects

Consent and Ethics in Research

Research should, as much as possible, be based on participants' freely volunteered informed consent. For minors, this also requires consent from their legal guardians. This implies a responsibility to explain fully and meaningfully to both the child and their guardians what the research is about and how it will be disseminated. Participants and their legal guardians should be aware of the research purpose and procedures, their right to refuse to participate; the extent to which confidentiality will be maintained; the potential uses to which the data might be put; the foreseeable risks and expected benefits; and that participants have the right to discontinue at any time.

But consent alone does not absolve the responsibility of researchers to anticipate and guard against potentially harmful consequences for participants.¹⁸ It is critical that researchers protect all rights of the participants including confidentiality.

Child development is a fascinating field of study – but care must be taken to ensure that researchers use appropriate methods to examine infant and child behavior, use the correct experimental design to answer their questions, and be aware of the special challenges that are part-and-parcel of developmental research. Hopefully, this information helped you develop an understanding of these various issues and to be ready to think more critically about research questions that interest you. There are so many interesting questions that remain to be examined by future generations of developmental scientists – maybe you will make one of the next big discoveries!¹⁹

Another really important framework to use when trying to understand children's development are theories of development. Let's explore what theories are and introduce you to some major theories in child development.

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1.S: Summary

In this chapter we looked at:

- underlying principles of development
- the five periods of development
- three issues in development
- Various methods of research
- important theories that help us understand development

Next, we are going to be examining where we all started with conception, heredity, and prenatal development.

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2: THEORISTS AND THEORIES OF DEVELOPMENT

Learning Objectives

After completing Chapter Two students will be able to:

- Explain the value of understanding child development theories
- Describe several developmental theories and the theorists who pioneered them including:
 - Psychodynamic Theory
 - Behaviorist Theory
 - Social Cognitive Theory
 - Cognitive Theory
 - Sociocultural Theory
 - Humanist Theory
 - Ecological Theory
 - Multiple Intelligence Theory
 - Growth Mindset Theory
 - Bloom's Taxonomy
- Understand the educational implications of each theory

2.1: Theories of Development

2.2: Psychosocial Theory

2.3: Behaviorist Theory

2.4: Social Cognitive Theory

2.5: Cognitive Theory

2.6: Sociocultural Theory

2.7: Humanistic Theory

2.8: Ecological Theory

2.9: Other Contemporary Theories to Consider

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2.1: Theories of Development

The study of child growth and development is a rich and varied subject. Child development theories focus on explaining how children grow and change from conception through childhood. Theories of development provide a framework for thinking about child growth and learning.

Why do children behave in certain ways? How can we as educators better understand and support children's behavior? It is important to study how children develop. An understanding of child development allows us to gain a deeper understanding of the physical, cognitive, social, and emotional growth that children experience. This chapter will focus on psychosocial, behaviorist, social cognitive, cognitive, sociocultural, humanistic, ecological, growth mindset, and multiple intelligence theories and their impact on a child's development, with an emphasis on strengthening teaching and learning.

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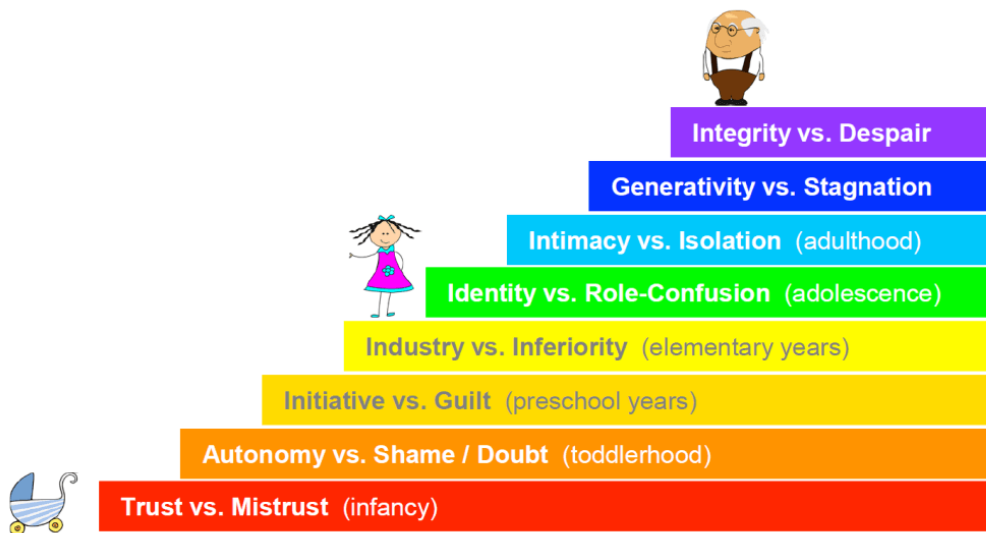
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2.2: Psychosocial Theory

Erik H. Erikson (1902-1994), was a German-born, world-renowned scholar of the behavioral sciences. Erikson is one of the few theorists of his time to address development through the entire lifespan, not just childhood. As our society as a whole is becoming increasingly older, and thus there is an increasing need to understand individuals as they advance into old age, Erikson's views are even more valuable and relevant today than when he first proposed them. Erikson is, perhaps, best known for his theory of psychosocial development. Having studied psychoanalysis (the prevailing theory of personality development at the time) Erikson began to shift from Freud's emphasis on psychosexual crises to one of psychosocial conflicts. Drawing upon Sigmund Freud's basic psychosexual theories, Anna Freud's explorations in the psychological development of children, and his own experience as an educator, he developed a theory which outlined eight distinct stages of development over the lifespan.

According to Erikson's theory, each of the eight stages of his psychosocial theory is characterized by a different psychosocial crisis of two conflicting forces. Because each stage builds upon the successful completion of earlier stages, any unresolved challenges of a particular stage will most likely resurface as problems later in an individual's development. In this way, the outcomes of each stage are not permanent and can be modified by later experiences as challenges are re-confronted. Although his stages seem to align with periods of development, they are not necessarily perfectly sequential; it is possible to move from one stage up to another, and then at some point, move back down to a previous stage. For example, imagine a scenario in which you are an adult in the generativity vs. stagnation stage, having successfully resolved all the previous stages, when you find out that your spouse has cheated on you, and you decide to get a divorce. In this case, it would be perfectly expected that you would again be struggling with issues of trust, intimacy, and possibly even identity. Your success or failure at resolving these struggles previously will, in part, determine your resilience during this challenge.

Beginning in infancy, his eight stages (from bottom to top) are:



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Trust vs. Mistrust (Infancy)

The first stage of Erik Erikson's theory centers around an infant's basic needs being met by its caregivers, and this interaction leads to trust or mistrust. Trust, as defined by Erikson, is an essential belief in the reliability of others, as well as a fundamental sense of one's own trustworthiness. The infant depends on its caregivers, typically its mother, for sustenance and comfort. At this stage, the child's relative understanding of the world and society comes directly from its caregivers and their interaction with the child. A child's first trust is always with its caregiver, whoever that might be. If caregivers expose an infant to warmth, regularity, and dependable affection, the infant's view of the world will be one of trust. Should caregivers fail to provide a secure environment or to meet the child's basic needs, a sense of mistrust will result (Bee & Boyd, 2009). Development of mistrust can lead to feelings of frustration, suspicion, withdrawal, and a lack of confidence throughout childhood, as well as later in life.

According to Erik Erikson, the major developmental task in infancy is to learn whether or not other people, especially primary caregivers, regularly satisfy basic needs. If caregivers are consistent sources of food, comfort, and affection, an infant learns trust (i.e., others are dependable and reliable). If they are neglectful, or perhaps even abusive, the infant instead learns mistrust (i.e., the world is an undependable, unpredictable, and possibly a dangerous place). The child's number one need in this stage is to feel safe, comforted, and well cared for (Bee & Boyd, 2009).

Autonomy vs. Shame/Doubt (Toddlerhood)

As children gain increasing control over their motor abilities, they begin to move around and explore their surroundings. Trusting caregivers provide a strong, secure base from which children can venture out to assert their will and newfound independence. Caregivers' patience and encouragement help to foster a sense of autonomy—or independence. Highly restrictive caregivers, caregivers who demand too much self-regulation too soon, caregivers who refuse to let children perform tasks of which they are capable, or discourage early attempts at self-sufficiency, instill in children a sense of **shame and doubt** in their ability to handle new challenges. As a result, children learn to withdraw from their world.

Initiative vs. Guilt (Preschool Years)

The development of courage and independence are what set preschoolers, ages three to six years of age, apart from other age groups. Young children in this category face the challenge of initiative versus guilt. As described by Bee and Boyd (2009), the child during this stage faces the complexities of planning and developing a sense of judgment. Because this sense of planning and judgment is still developing, along with initiative, sometimes negative behaviors (such as throwing objects, hitting, or yelling) can also emerge. These behaviors are often the result of the child's frustration in not being able to achieve a goal as planned. Sometimes preschoolers take on projects they can readily accomplish, but at other times they undertake projects that are beyond their capabilities or that interfere with other people's plans and activities. If caregivers and preschool teachers encourage and support children's efforts, while also helping them make realistic and appropriate choices, children develop a healthy sense of initiative in planning and undertaking activities. If, instead, adults discourage the pursuit of independent activities or dismiss them as silly and bothersome, children develop guilt about their needs and desires.

Industry vs. Inferiority (Elementary Years)

The failure to master trust, autonomy, and initiative may cause the child to doubt themselves, leading to feelings of shame, guilt, defeat, and/or inferiority. Children at this age are becoming more aware of themselves as individuals; they work hard at being responsible, being good, and "doing it right." At this stage, children are very eager to learn and accomplish progressively complex skills, such as reading, writing, telling time, etc. Erikson viewed the elementary school years as particularly critical for the development of self-confidence. Ideally, elementary school provides many opportunities to achieve the recognition of teachers, caregivers, and peers by producing things—drawing pictures, solving addition problems, writing sentences, and so on. If children are encouraged to make and do things and are then praised for their accomplishments, they begin to demonstrate industry by being diligent, persevering at tasks until completed, and putting work before pleasure. If children are, instead, ridiculed or punished for their efforts or if they find they are incapable of meeting their teachers' and caregivers' expectations, they develop feelings of inferiority about their capabilities (Crain, 2011).

Identity vs. Role-Confusion (Adolescence)

As adolescents become newly concerned with how they appear to others, the need to settle on an identity becomes an increasing priority. As they make the transition from childhood to adulthood, adolescents ponder the roles they will play in the adult world. Initially, they are apt to experience some role-confusion—mixed ideas and feelings about the specific ways in which they will fit into society, and they may experiment with a variety of behaviors, social groups, and activities. Erikson is credited with coining the term identity crisis to explain the negotiation of this particular challenge. Eventually, Erikson proposed, most adolescents achieve a sense of identity regarding who they are and where their lives are headed. The teenager must achieve a sense of identity in career, gender roles, politics, and religion, among others. This stage is considered to be a turning point in human development because it marks the transition from childhood to adulthood, and more specifically, seems to be the reconciliation between the person one has come to be and the person society expects one to become. In relation to the eight life stages as a whole, the fifth stage corresponds to a crossroads.

Intimacy vs. Isolation (Early Adulthood)

At the start of this stage, identity vs. role confusion is coming to an end though it still lingers at the foundation of this stage (Erikson, 1950). Young adults are still eager to blend their identities with friends; they want to fit in. Once people have established their identities, they are ready to make long-term commitments to others. They become capable of forming intimate, reciprocal relationships (for example, through close friendships or marriage) and willingly make the sacrifices and compromises that such relationships require. If people cannot form these relationships of intimacy (perhaps because of their own needs), a sense of isolation may result, provoking feelings of darkness and angst.

Generativity vs. Stagnation (Middle Adulthood)

The stage of generativity has broad applications for family relationships, work, and society. “Generativity, then, is primarily the concern in establishing and guiding the next generation. . . the concept is meant to include. . . productivity and creativity” (Erikson, 1950, p. 240). In other words, during middle adulthood, the primary developmental task is one of contributing to society and helping to guide future generations. Socially-valued work and disciplines are expressions of generativity. As a person experiences successes during this stage, perhaps by raising a family or working toward the betterment of society, a sense of generativity—of productivity and accomplishment—results. In contrast, a person who is self-centered and unable or unwilling to help society move forward develops a feeling of stagnation or dissatisfaction with his or her relative lack of productivity Berk, 2017).

Integrity vs. Despair (Older Adulthood)

As we grow older and become senior citizens, we tend to slow down our productivity and explore life as retired people. It is during this time that we contemplate our accomplishments and are able to develop integrity if we see ourselves as leading a successful life. If we see our life as unproductive or feel that we did not accomplish our life goals, we become dissatisfied with life and develop a sense of despair, often leading to depression and hopelessness. This stage may manifest itself out of sequence when individuals feel they are near the end of their lives (such as when receiving a terminal disease diagnosis) (Santrock, 2013).



Old Man © Pixabay is licensed under a [CC0 \(Creative Commons Zero\)](#) license

Criticism of Psychosocial Theory

Erikson's theory may be questioned as to whether his stages must be regarded as sequential and only occurring within the age ranges he suggests. There is debate as to whether people only search for identity during the adolescent years or if one stage needs to happen before other stages can be completed. Erikson himself states that each of these processes occurs throughout the lifetime in one form or another, and he emphasizes these periods only because it is at these times that the conflicts become most prominent (Erikson, 1956).

Educational Implications

Teachers who apply psychosocial development in the classroom create an environment where each child feels appreciated and is comfortable with learning new things and building relationships with peers.

At the preschool level, teachers want to focus on helping children develop healthy personalities and

- Find out what students are interested in and create projects that incorporate their area of interest.
- Make sure to point out and praise students for good choices.
- Offer continuous, authentic feedback.
- Not ridicule or criticize students. They should find a private place to talk with a child about a poor choice or behavior.
- Help students formulate their own alternate choices by guiding them to a more positive solution and outcome.
- When children experiment, they should not be punished for trying something that may turn out differently from what the teacher had planned.

At the elementary level, teachers should focus on achievement and peer relationships and

- Create a list of classroom duties that need to be completed on a scheduled basis. Ask students for their input when creating the list, as well as giving them a say in who will be in charge of what.
- Discuss and post classroom rules.
- Make sure to include students in the decision-making process when discussing rules.
- Encourage students to think outside of their day-to-day routine by role-playing different situations.
- Let students know that striving for perfection is not as important as learning from mistakes.
- Teach children resilience.
- Encourage children to help students who may be having trouble socially and/or academically.
- Never allow any child to make fun of or bully another child.
- Build confidence by recognizing success in what children do best.
- Provide a variety of choices when making an assignment so that students can express themselves with a focus on their strengths.

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2.3: Behaviorist Theory

Behaviorism is primarily concerned with observable and measurable aspects of human behavior. In defining behavior, behaviorist learning theories emphasize changes in behavior that result from **stimulus-response** associations made by the learner. Behaviorists assert that the only behaviors worthy of study are those that can be directly observed; thus, it is actions, rather than thoughts or emotions, which are the legitimate object of study. Behaviorist theory does not explain abnormal behavior in terms of the brain or its inner workings. Rather, it posits that all behavior is learned habits, and attempts to account for how these habits are formed. In assuming that human behavior is learned, behaviorists also hold that all behaviors can also be unlearned and replaced by new behaviors; that is, when a behavior becomes unacceptable, it can be replaced by an acceptable one. A key element of this theory of learning is the rewarded response. The desired response must be rewarded for learning to take place (Parkay & Hass, 2000). **John B. Watson** (1878-1958) and **B. F. Skinner** (1904-1990) are the two principal originators of behaviorist approaches to learning.

Watson's basic premise was that conclusions about human development should be based on observation of overt behavior rather than speculation about subconscious motives or latent cognitive processes (Shaffer, 2000). Watson's view of learning was based in part on the studies of **Ivan Pavlov** (1849-1936). Pavlov was well known for his research on a learning process called **classical conditioning**. Classical conditioning refers to learning that occurs when a neutral stimulus (an unassociated signal) becomes associated with a stimulus that naturally produces a behavior, such as a reflex or innate behavior. Pavlov noticed that dogs salivated shortly before they were given food. He discovered that when the bell was rung at repeated feedings, the sound of the bell alone (a conditioned stimulus) would cause the dogs to salivate (a conditioned response).

Skinner believed that human behavior is predictable, just like a chemical reaction. He believed that people don't shape the world, but instead, the world shapes them. Expanding on Watson's basic stimulus-response model, Skinner developed a more comprehensive view of conditioning, known as **operant conditioning**. His model was based on the premise that satisfying responses are conditioned, while unsatisfying ones are not. Operant conditioning is the rewarding of a desired behavior or act that approaches it. Skinner remarked that "the things we call pleasant have an energizing or strengthening effect on our behavior" (Skinner, 1972, p. 74). Through Skinner's research on animals, he concluded that both animals and humans would repeat acts that led to favorable outcomes and suppress those that produced unfavorable results (Shaffer, 2000). If a rat presses a bar and receives a food pellet, he will be likely to press it again. Skinner defined the bar-pressing response as operant (the learned voluntary response), and the food pellet as a **positive reinforcer**. **Punishments**, on the other hand, are consequences that suppress a response and decrease the likelihood that it will occur in the future. If the rat had been shocked every time it pressed the bar, that behavior would cease. Skinner believed the habits that each of us develop result from our unique operant learning experiences (Shaffer, 2000).

Negative reinforcement can be used as a strategy to encourage certain behaviors. Defined, negative reinforcement is the encouragement of certain behaviors by removing or avoiding a negative outcome or stimuli. An alarm clock is an example of a negative reinforcer. In order to stop the buzzing, you need to wake up! Another example is the beeping car manufacturers install that go off until you fasten your seatbelt (Jordan, 2022).

Criticisms of Behaviorism

Behaviorism can be critiqued as an overly deterministic view of human behavior that ignores internal psychological and mental processes; behaviorism oversimplifies the complexity of human behavior. The behaviorist approach has also been criticized for its inability to account for learning or changes in behavior that occur in the absence of environmental input. Lastly, research has shown that the principles of conditioning are not universal; the link between stimulus and response is not just a simple, direct, cause-and-effect relationship. Factors beyond the stimulus are involved in determining the response. A complete understanding of human behavior would need to include not just actions, but the inner life of the mind as well.

Educational Implications

Behaviorist techniques have long been employed in education to promote behavior that is desirable and discourage that which is not. Among the methods derived from behaviorist theory for practical classroom application are contracts, consequences, reinforcement, extinction, and behavior modification. Using behaviorist theory in the classroom can be rewarding for both students and teachers. Behavioral change occurs for a reason; students work for things that bring them positive feelings approval

from people they admire. They change behaviors to satisfy the desires they have learned to value. They generally avoid behaviors they associate with unpleasantness and develop habitual behaviors from those that are repeated often (Parkay & Hass, 2000). The entire rationale of behavior modification is that most behavior is learned. If behaviors can be learned, then they can also be unlearned or relearned. A behavior that goes unrewarded will be extinguished. Consistently ignoring an undesirable behavior will go far toward eliminating it. Other successful classroom strategies are contracts, consequences, punishment, and others that have been described in detail earlier. Behaviorist learning theory is not only important in achieving desired behavior in mainstream education but also in other behavior.

Advocates of behaviorism have effectively adopted this system of rewards and punishments in their classrooms by rewarding desired behaviors and punishing inappropriate ones. Rewards can vary widely and must be important to the learner in some way. As with all teaching methods, success depends on each student's individual stimulus and response.



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2.4: Social Cognitive Theory

Albert Bandura (1925-) is perhaps most famous for his Bobo Doll experiments in the 1960s. At the time there was a popular belief that learning was a result of reinforcement. In the Bobo Doll experiments, Bandura presented children with examples of violent behavior or non-violent behavior towards the inflatable Bobo Doll. Children who viewed the violent behavior were in turn violent towards the doll; the control group was rarely violent towards the doll. That became Bandura's **social learning theory** in the 1960s, a learning theory based on the idea that people learn by observing and interacting with others. It is often called a bridge between behaviorist and cognitive learning theories because it encompasses attention, memory, and motivation. Social learning is also commonly referred to as observational learning, because it comes about as a result of observing models. Bandura became interested in social aspects of learning at the beginning of his career. Early theories considered behavior to be a function of the interaction between a person and their environment. Bandura believed that behavior itself influences both the person and the environment, each of which in turn affects behavior and each other; the result is a complex interplay of factors. Social learning theory emphasizes that behavior, personal factors, and environmental factors are all equal, interlocking determinants of each other.



The top four images above show scenes of adults acting aggressively toward Bandura's doll. Children were shown these scenes, then left in a room with the doll and observed. The center and bottom rows of images show how two children emulated the behaviors they had just seen.

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Bandura and his colleagues continued to show that social modeling is a very effective way of learning and went on to expand motivational and cognitive processes on social learning theory. In 1986, Bandura published his second book *Social Foundations of Thought and Action: A Social Cognitive Theory*, which expanded and renamed his original theory. He called the new theory Social Cognitive Theory (SCT). Bandura changed the name social learning theory to social cognitive theory to emphasize the major role cognition plays in encoding and performing behaviors. In this book, Bandura (1986) argued that human behavior is caused by personal, behavioral, and environmental influences. The theory states that when people observe a model performing a behavior, along with the consequences of that behavior, they remember the sequence of events and use this information to guide subsequent behaviors. Depending on whether people are rewarded or punished for their behavior and the outcome of the behavior, the observer may choose to replicate behavior modeled (Berk, 2017; Crain, 2011; Santrock, 2013).

Media provides models for a vast array of people in many different environmental settings.

HOT TOPIC: Violence in Media

There is still much debate over the influence exposure to media violence has on behavior, especially for children. These articles offer views on both sides of the discussion:

<https://www.futurity.org/media-violence-aggression-1402632-2/>

The American Psychological Association's Policy Statement regarding media violence:

<http://www.apa.org/about/policy/violent-video-games.aspx>

Criticism of Social Cognitive Theory

One of the main criticisms of the social cognitive theory is that it is not a unified theory, meaning that the different aspects of the theory may not be connected. The theory is so broad that not all of its component parts are fully understood and integrated into a single explanation of learning. The findings associated with this theory are still, for the most part, preliminary. The theory is limited in that not all social learning can be directly observed. Because of this, it can be difficult to measure the effect that social cognition has on development. Finally, this theory tends to ignore maturation throughout the lifespan. Because of this, the understanding of how a child learns through observation and how an adult learns through observation are not differentiated, and factors of development are not included.

Educational Implications of Social Cognitive Theory

People can consciously change and develop their cognitive functioning. This is important to the proposition that how we view ourselves can also be changed or enhanced. From this perspective, people are capable of influencing their own motivation and performance. Improving performance, therefore, depends on changing some of these influences. In teaching and learning, the challenge upfront is to

- Get the learner to believe in his or her personal capabilities to successfully perform a designated task
- Provide environmental conditions, such as instructional strategies and appropriate technology, that improve the strategies and self-efficacy of the learner
- Provide opportunities for the learner to experience successful learning as a result of appropriate action

Social Cognitive Theory has numerous implications in classroom teaching and learning practices

- Students learn a great deal simply by observing others.
- Describing the consequences of behavior increases appropriate behaviors, and decreases inappropriate ones
- Modeling provides an alternative to teaching new behaviors.
- Teachers must model only appropriate behaviors and not model inappropriate behaviors.
- Teachers should expose students to a variety of models, including peers and other adult models.
- Students must believe that they are capable of accomplishing a task; it is important for students to develop a sense of self-efficacy.
- Teachers should help students set realistic expectations, while ensuring that expectations are realistically challenging.

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2.5: Cognitive Theory

Jean Piaget (1896-1980), a Swiss psychologist, is best known for his pioneering work on the development of intelligence in children. His studies have had a major impact on the fields of psychology and education. Piaget was the first to conduct systematic observations of children in order to study **cognition**. Piaget was primarily interested in the nature of knowledge and how it could be seen as a form of adaptation to the environment. He described his work as **genetic epistemology** – the study of the origins and development of knowledge. Piaget based many of his ideas on observations of his own children—Jacqueline, Lucienne, and Laurent. From his observations of children, Piaget concluded that children were actively constructing their own knowledge; they were not limited to receiving knowledge from caregivers or teachers.

In studying the cognitive development of children and adolescents, Piaget identified four major stages: **sensorimotor**, **preoperational**, **concrete operational**, and **formal operational**. In each stage, children demonstrate new intellectual abilities and increasingly complex understanding of the world. According to Piaget, these stages cannot be skipped—cognitive development always follows this precise sequence. The ages at which children progress through the stages are approximations, varying with the environment and background of individual children. Further, at any given time, a child may exhibit behaviors characteristic of more than one stage. Piaget's work provides the foundation on which **constructivist theories** are based. Constructivists believe that knowledge is individually constructed and that each person constructs their own understanding of concepts, which may vary from person to person (Berk, 2017; Crain, 2011; Santrock, 2013).

Sensorimotor Development

In the **Sensorimotor Stage**, occurring from birth to age 2, the child is concerned with gaining motor control and learning about physical objects. Piaget proposed that an infant's intelligence is essentially practical in that all interactions with its environment are either sensory (i.e., seeing, hearing, etc.) or motor (i.e., grasping, pulling, etc.). Thus, the first stage of development is known as the sensorimotor stage. Knowledge is limited in this stage because it is based on physical interactions and experiences. Infants cannot predict reactions, and, therefore, must constantly experiment and learn through trial and error. Such exploration might include shaking a rattle or putting objects in the mouth. As they become more mobile, infants' ability to develop cognitively increases, and early language development begins during this stage.

Piaget's Observations of Infant Jacqueline

Jacqueline tries to grasp a celluloid duck on top of her quilt. She almost catches it, shakes herself, and the duck slides down beside her. It falls very close to her hand but behind a fold in the sheet. Jacqueline's eyes have followed the movement, and she has even followed it with her outstretched hand. But as soon as the duck has disappeared—nothing more! It does not occur to her to search behind the fold of the sheet, which would be very easy to do (she twists it mechanically without searching at all). But, curiously, she again begins to stir about as she did when trying to get the duck and again glances at the top of the quilt.

I then take the duck from its hiding place and place it near her hand three times. All three times she tries to grasp it, but when she is about to touch it, I replace it very obviously under the sheet. Jacqueline immediately withdraws her hand and gives up. The second and third times, I make her grasp the duck through the sheet, and she shakes it for a brief moment, but it does not occur to her to raise the cloth.

Then I recommence the initial experiment. The duck is on the quilt. In trying to get it, she again causes it to slide behind the fold in the sheet; after having looked at this fold for a moment (it is near her hand), she turns over and sucks her thumb.

(Source: Piaget, 1955, pp. 36-7)

From such observations, Piaget concluded that infants lack an understanding of object permanence—the concept that objects continue to exist when they are out of sight. The fact that something as fundamental as object permanence does not appear to be innate illustrates how deeply and how early the child begins to build an understanding of the world, at least according to Piaget's theory.

Preoperational Development

In the Preoperational Stage, from ages 2 to 7, the child is preoccupied with verbal skills. At this point, the child can name objects and reason intuitively. In this stage, children can use symbols to represent words, images, and ideas, demonstrated by children in this stage by engaging in pretend play. A child's arms might become airplane wings as he zooms around the room, or a child with a stick might become a brave knight with a sword. Children also begin to use language in the preoperational stage, but they cannot understand adult logic or mentally manipulate information (the term operational refers to logical manipulation of information, so children at this stage are pre-operational). Children's logic is based on their own personal knowledge of the world so far, rather than on conventional knowledge. More complex concepts, such as cause and effect relationships, have not been learned. During this stage, we also expect children to display egocentrism, which means that the child is not able to take the perspective of others. A child at this stage thinks that everyone sees, thinks, and feels just as they do.

Concrete Operational Development

In the Concrete Operational Stage, from ages 7 to 11, the child begins to deal with abstract concepts such as numbers and relationships. In this stage, children can think logically about real (concrete) events; they have a firm grasp on the use of numbers and start to employ memory strategies. They can perform mathematical operations and understand transformations, such as addition is the opposite of subtraction, and multiplication is the opposite of division. Thinking at this stage becomes less egocentric, and children come to understand the concept of conservation—even if something changes shape, its mass, volume, and number stay the same. For example, if you pour water from a tall, thin glass into a short, fat glass, you still have the same amount of water.

Formal Operational Development



Children playing with water © Pixabay is licensed under a [CC BY \(Attribution\)](#) license

The period from adolescence through adulthood is the Formal Operational Stage. During this stage, adolescents and adults begin to reason logically and systematically. Adolescents and adults in this stage are able to use symbols related to abstract concepts. Adolescents can think about multiple variables in systematic ways, can formulate hypotheses, and think about abstract relationships and concepts. Piaget believed that intellectual development was a lifelong process, but that when formal operational thought was attained, no new structures were needed. Intellectual development in adults involves developing more complex thoughts through the addition of knowledge (Berk, 2017; Crain, 2011; Santrock, 2013).

"Play is the work of childhood." – Jean Piaget

Criticisms of Piaget's Cognitive Development Theory

As with other major contributors to theories of development, several of Piaget's ideas have come under criticism based on the results of further research. For example, several contemporary studies support a model of development that is more continuous than Piaget's discrete stages (Courage & Howe, 2002). Many others suggest that children reach cognitive milestones earlier than Piaget describes. Piaget's theory also predicts that thinking within a particular stage would be similar across tasks. In other words, preschool children should perform at the preoperational level in all cognitive tasks. Research has shown diversity in children's thinking across cognitive tasks. Researchers now believe that children may be more competent than Piaget originally thought, especially in their practical knowledge.

Lastly, according to Piaget, the highest level of cognitive development is formal operational thought, which develops between

11 and 20 years old. However, many developmental psychologists disagree with Piaget, suggesting a fifth stage of cognitive development, known as the postformal stage (Commons & Bresette, 2006). In postformal thinking, decisions are made based on situations and circumstances, and logic is integrated with emotion as adults develop principles that depend on contexts. One way that we can see the difference between an adult in postformal thought and an adolescent in formal operations is in terms of how they handle emotionally- charged issues.

Educational Implications

An important implication of Piaget's theory is the adaptation of instruction to the learner's developmental level. The content of instruction needs to be consistent with the developmental level of the learner. The teacher's role is to facilitate learning by providing a variety of experiences. Opportunities that allow students of differing cognitive levels to work together often encourage less mature students to advance to a more mature understanding. Perhaps the most significant implication for instruction is the use of concrete "hands-on" experiences to help children learn.

Additional Piagetian suggestions include:

- Continue to provide concrete props and visual aids
- Use familiar examples to facilitate learning more complex ideas
- Allow opportunities to classify and group information with increasing complexity
- Present problems that require logical analytic thinking, such as "brain teasers"
- Provide opportunities to discuss social, political, and cultural issues
- Teach broad concepts rather than facts
- Ground concepts in a context that's meaningful and relevant to the learner

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2.6: Sociocultural Theory

Sociocultural Theory has a unique history. Russian-born **Lev Semyonovich Vygotsky** (1896–1934) was one of the most notable theorists of his time. A remarkable and brilliant researcher and theoretician who died young, Vygotsky has been called the “Mozart of psychology” (Toulmin, 1978). In his very short life (He died at the age of 37 from tuberculosis), he received a law degree and studied literature, linguistics, sociology, psychology, philosophy, and the arts. He is best known for his contribution to the understanding of the relationship between the social world and cognitive development—specifically, his work focused on the significance of culture and the role of language.

Vygotsky believed that language is what makes thought possible and is, thus, the basis of consciousness. Vygotsky’s fundamental insight was that children need social interaction with adults and older children to advance their psychological development. However, his work was rejected in the Soviet Union under Joseph Stalin’s leadership and was not released in the West until decades after his death. In the latter part of the twentieth century, his theories became widely respected and influential within the fields of developmental psychology, education, and child development, advancing human understanding of how best to support the growth and development of children to reach their fullest potential as mature human beings.

According to Vygotsky, children learn by internalizing the results of interactions with adults. The first important concept he developed is the zone of proximal development (ZPD), referring to the difference between a child’s existing abilities and what he or she can learn under the guidance of an adult or a more capable peer. In other words, it’s the gap between what children are already able to do and what they are not quite ready to accomplish by themselves. Vygotsky suggested that interactive learning with adults is most effective in helping children cross this zone. According to Vygotsky, adults and more advanced peers must help direct and organize a child’s learning before the child can master and internalize it. This idea of a significant adult guiding a child through the ZPD is known as **scaffolding**, or structuring learning encounters in order to support and foster a child’s emerging capabilities. Scaffolding can be provided in a few ways: in the form of a mentor, by the use of objects or experiences, or by a child’s past learning.

Vygotsky described human cognitive development as a “collaborative process,” which means that the learning process of individuals takes place through social interactions. Children acquire cognitive skills as part of their orientation into a way of life. Shared activities help them internalize their society’s modes of thinking and behaving. Moreover, social interaction not only helps children remember. It may also even be the key to memory formation. In addition to these ideas, Vygotsky also forwarded the notion that culture and community play decisive roles in early development (Berk, 2017; Crain, 2011; Santrock, 2013).

Criticisms of Sociocultural Theory

One criticism is Vygotsky’s view of active construction of knowledge. Some critics suggest that learning is not always a result of active construction. Rather, learning can sometimes result passively.

Another criticism is that Vygotsky’s theory of language is not well-developed. Vygotsky, unfortunately, died before he had a chance to fully develop his theories. His theories rely a lot on cultural influences, for it is culture that helps to develop learners’ language acquisition and cognitive development. Vygotsky believed that very little language acquisition and cognitive development result from biological factors. However, some psychologists dismiss the idea that cultural influences play a dominant role in the development of language. This lends credence to Piaget’s view of cognitive development occurring in stages and children not being able to learn some concepts until they reach a certain level of maturation.

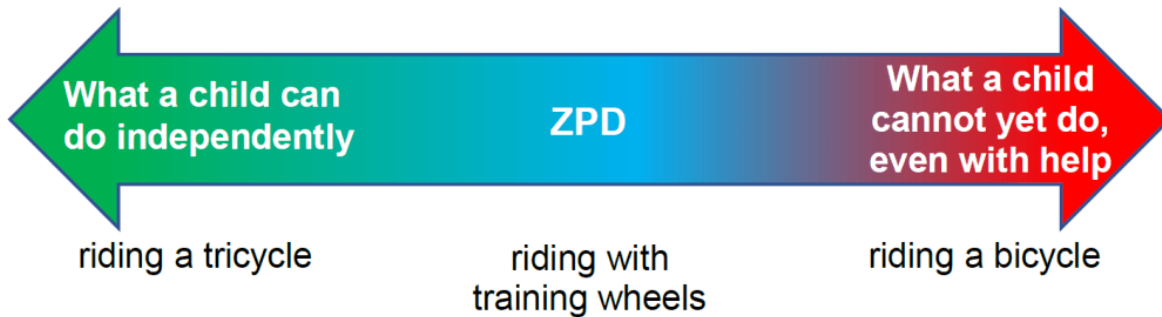
Perhaps the main criticism of Vygotsky’s work concerns the assumption that it is relevant to all cultures. Some dismiss the idea that Vygotsky’s ideas are culturally universal and believe the concept of scaffolding, which is heavily dependent on verbal instruction, may not be equally useful in all cultures and for all types of learning. Indeed, in some instances, observation and practice may be more effective ways of learning certain skills.

Educational Implications

Although the social influences on cognitive development have been considered by other researchers, such as Piaget and Bandura, Vygotsky emphasized that individual development is inherently integrated with cultural, historical, and interpersonal factors, which is foundational to developmentally appropriate practice.

Some general implications of Vygotsky's ideas can be summarized as:

- the central role of the teacher-student relationship in learning;
- the inherent cultural and social influences on students' attitudes and beliefs
- the importance and power of language as a primary tool for the transference of knowledge and thought
- the benefits of a student-centered curriculum



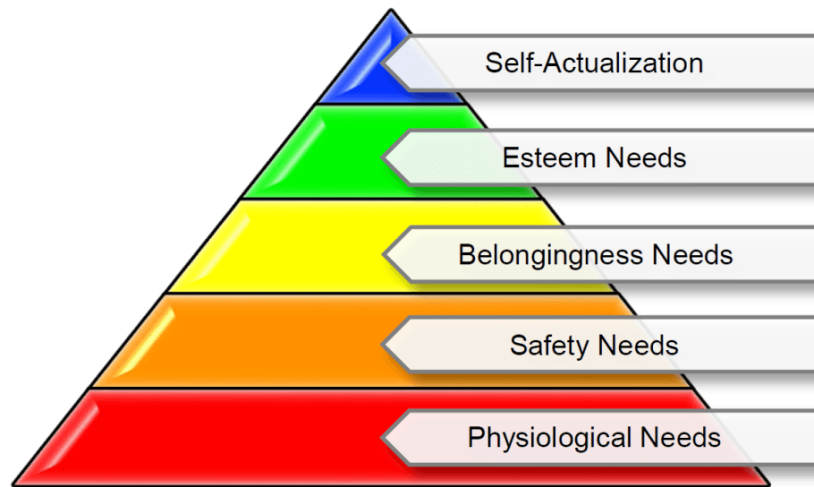
Think of scaffolding as providing training wheels for children. Training wheels provide just enough assistance to let the child be successful, until he/she is able to ride independently. Vygotsky's development © [Deirdre Budzyna via. ROTEL](#) is licensed under a [CC BY-SA \(Attribution ShareAlike\)](#) license.

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2.7: Humanistic Theory

Abraham Harold Maslow (1908-1970) has made a major contribution to teaching and classroom management in schools. **Humanistic theory** is an approach to development that examines the “whole person”—taking into consideration all aspects of human existence—and the uniqueness of all individuals. Maslow believed that people are motivated to meet certain basic needs and that some needs take precedence over others. Our most basic need is for physical survival, and this will be the first thing that motivates our behavior. Once that level is fulfilled, the next level up is what motivates us, and so on. His theory is also called the Theory of Hierarchical Needs and is often depicted as a pyramid with five distinct levels. Needs lower down in the hierarchy must be satisfied before individuals can attend to needs higher up. From the bottom of the hierarchy upwards, the needs are physiological, safety, love and belonging, esteem, and self-actualization.



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Maslow believed that while every person is capable and has the desire to move up the hierarchy toward a level of self-actualization, unfortunately, progress is often disrupted by a failure to meet lower-level needs. Life experiences, including divorce and the loss of a job, may cause an individual to fluctuate between levels of the hierarchy. Therefore, not everyone will move through the hierarchy in a one-directional manner but may move back and forth between the different types of needs, depending on each person's specific life circumstances.

The first level of **physiological needs** is related to survival. These are biological requirements for human sustenance (for example, air, food, drink, shelter, clothing, warmth, sex, and sleep.) The human body cannot function normally if these needs are not satisfied. Maslow considered physiological needs the most important as all the other needs become secondary until these needs are met.

Safety needs appear when physiological needs are fulfilled. These include the need for structure and predictability, protection from elements, security—physical and emotional, law and order, stability, and freedom from fear. Reducing uncertainty is the chief objective at this stage. Individuals are free from danger, fear, and chaos when their safety needs are adequately met.

After physiological and safety needs have been fulfilled, the third level of human needs is social and involves feelings of **belongingness**. The need for interpersonal relationships motivates behavior.

Examples include friendship, intimacy, trust, acceptance, receiving and giving affection and love, affiliation, or being part of a group (family, friends, work, etc.). In this stage, approval must come from earned respect, not fame or social status.

Maslow classified the next level, **esteem needs**, into two categories: **esteem for oneself** (for example, dignity, achievement, mastery, and independence) and the **desire for reputation or respect from others** (for example, status, and prestige). Maslow indicated that the need for respect or reputation is most important for children and adolescents and precedes real self-esteem

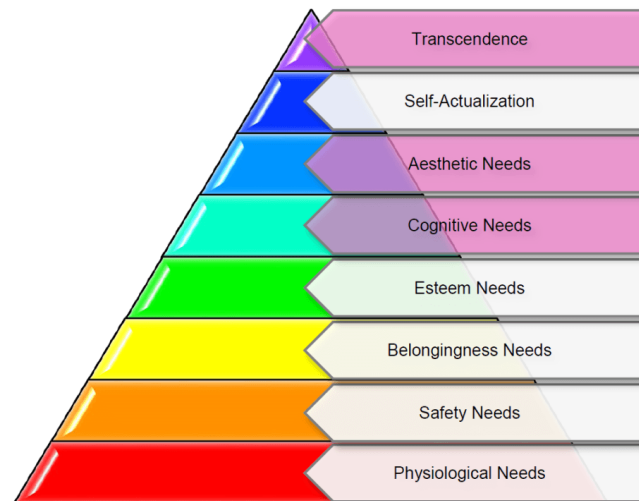
or dignity.

If the previous needs are sufficiently met, a person now has the opportunity to reach **self-actualization**—realizing personal potential, self-fulfillment, seeking personal growth and peak experiences– the ability “to become everything one is capable of becoming” (Maslow, 1987, p. 64). Maslow believed this to be an exceptional feat since it so rarely occurs. A person who reaches this stage strives for growth and self-improvement—like Gandhi or Oprah.

It is important to note that Maslow himself continued to refine his theory over several decades (Maslow, 1987), and proposed that the order in the hierarchy “is not nearly as rigid” (p. 68) as he may have implied in his earlier description. Maslow also noted that the order of needs might be flexible based on external circumstances or individual differences. For example, he notes that for some individuals, the need for self-esteem is more important than the need for love. For others, the need for creative fulfillment may supersede even the most basic needs.

Maslow (1987) also pointed out that most behavior is multi-motivated and noted that “any behavior tends to be determined by several or all of the basic needs simultaneously rather than by only one of them” (p. 71). His revised model includes levels of:

- **Cognitive needs:** knowledge and understanding, curiosity, exploration, need for meaning and predictability.
- **Aesthetic needs:** appreciation and search for beauty, balance, form, etc.
- **Transcendence needs:** A person is motivated by values which transcend the personal self (e.g., service to others, mystical experiences, religious faith, etc.)—like the Dalai Lama or the Pope (Berk, 2017; Crain, 2011; Santrock, 2013).



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Educational Implications

Applications of Maslow’s hierarchical needs theory to the work of the classroom teacher are obvious. Before a student’s cognitive needs can be met, they must first fulfill their basic physiological needs. For example, a tired and hungry student will find it difficult to focus on learning. Students need to feel emotionally and physically safe and accepted within the classroom to progress and reach their full potential. He suggests students must be shown that they are valued and respected in the classroom and the teacher should create a supportive environment. Students with low self-esteem will not progress academically at an optimal rate until their self-esteem is strengthened.

Criticisms of Humanistic Theory

The most significant limitation of Maslow’s theory concerns his methodology. He looked at the biographies and writings of 18 people he identified as being self-actualized. From these sources, he developed a list of qualities that seemed characteristic of this specific group of people, as opposed to humanity in general. From a scientific perspective, there are numerous problems with this particular approach. First, it could be argued that this type of analysis is extremely subjective, as it is based entirely

on the opinion of the researcher. Therefore, Maslow's operational definition of self-actualization must not be blindly accepted as scientific fact. Additionally, Maslow's analysis focused on a biased sample of self-actualized individuals, limited to highly educated white males (such as Thomas Jefferson, Abraham Lincoln, Albert Einstein, William James, Aldous Huxley, Beethoven).

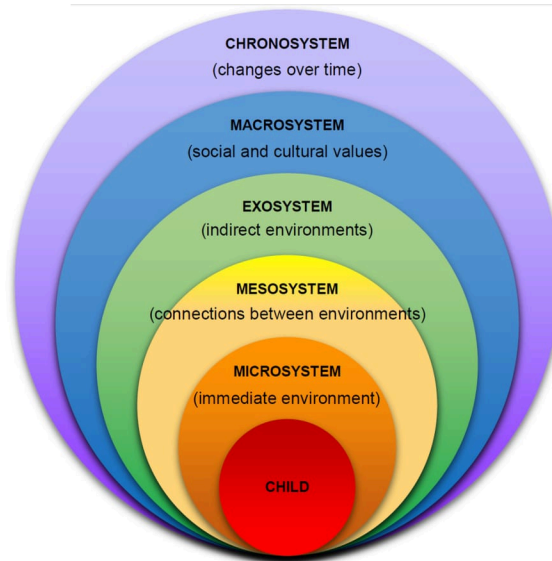
Although Maslow (1970) studied self-actualized females, such as Eleanor Roosevelt and Mother Teresa, they comprised a small proportion of his sample; this makes it difficult to generalize his theory to females and individuals from lower social classes or different ethnicities.

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2.8: Ecological Theory

Also known as the Human Ecology Theory, **Ecological Theory** states that human development is influenced by the different types of environmental systems. Formulated by famous psychologist **Urie Bronfenbrenner** (1917-2005), this theory helps us understand why we may behave differently when we compare our behavior in the presence of our family and our behavior when we are in school or at work. The ecological systems theory holds that we encounter different environments throughout our lifespan that may influence our behavior in varying degrees. These systems include the **microsystem**, the **mesosystem**, the **exosystem**, the **macrosystem**, and the **chronosystem**, and are usually depicted by nesting spheres of influence.



Ecological-Theory-1024x1024-1 © Deirdre Budzyna via. ROTEL is licensed under a [CC BY-SA \(Attribution ShareAlike\)](#) license

The **microsystem** is the setting in which we have direct social interactions with people and social agents. Family, friends, classmates, teachers, neighbors and other people with whom we have direct contact are included in the microsystem. The theory states that we are not simply recipients of experiences, rather we are contributing to the construction of such environments; we have influence over the people and systems in our lives, as they have influence over us.

The **mesosystem** involves the **relationships between the microsystems** in one's life. This means that your family experience may be related to your school experience. For example, if a child is neglected by his parents, he may have a low chance of developing a positive attitude toward his teachers. Also, this child may feel awkward in the presence of peers and may resort to withdrawal from a group of classmates.

The **exosystem** is a system of indirect influences and includes systems that have influence but are those with which a child doesn't have any direct contact. For example, a parent who has been demoted at work may bring home feelings of frustration or anger—the child may never have any interaction with the parent's boss, but that boss may, nonetheless, have influence over how that parent interacts with the child. Ecological Theory

The **macrosystem** setting is the actual culture of an individual. These cultural contexts include the socioeconomic status of a child, his/her ethnicity or race, and the specific society in which a child lives.

The **chronosystem** adds the dimension of time and includes the transitions and shifts in one's lifespan. One classic example of this is how divorce, as a major life transition, may affect not only the couple's relationship but also their children's behavior. According to the majority of research, children are negatively affected in the first year after divorce. The next years after the divorce might reveal that the interaction within the family becomes more stable and agreeable (Berk, 2017; Crain, 2011; Santrock, 2013).

Educational Implications

Bronfenbrenner looked at patterns of development across time as well as the interactions between the child and the environment. The educational implications of his model include the social and political policies and practices affecting children, families, and caregiving. As teachers and educators strive to become evidence-based practitioners, the goal then becomes to identify those factors such as caregivers, family, peers, culture, historical perspectives that influence students' learning and development.

In that regard, Bronfenbrenner's theory encourages much consideration of what constitutes supportive interactions in fostering development. It goes beyond identifying what might influence development, and, more importantly, assists in considering how and why it influences development. Furthermore, Bronfenbrenner's theory also assists in considering how an interaction might be added or taken away or improved to foster development and, especially, how a face-to-face interaction between a developing individual and an agent within his or her environment might be changed. Although Bronfenbrenner's multi-system model has value in identifying the resources that influence development, it is more likely of value in assisting consideration of how those resources might be used. Inherent within this idea is the emphasis Bronfenbrenner places on the understanding that interactions nearest to the child have the greatest influence on the development of that child. The ecological systems theory has also become an important foundation for other theorists' work. (Sincero, 2012)

Criticisms of Educational Theory

A criticism of Bronfenbrenner has been that the model focuses too much on the biological and cognitive aspects of human development, but not much on the socio-emotional aspect of human development. A more comprehensive view of human development, one with the domains of human development at the center, has been developed. This ecological model is called the Integrated Ecological Systems Framework (Sincero, 2012).

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2.9: Other Contemporary Theories to Consider

Theory of Multiple Intelligences

Howard Gardner (1943-) contends that previously accepted ideas of human intellectual capacity are all based on the belief that intelligence is fixed throughout one's lifetime and that intelligence can be measured through an individual's logical and language abilities. Gardner's theory challenges this traditional, narrow view of intelligence. According to Gardner's theory, intelligence encompasses the ability to create and solve problems, as well as create products or provide services that are valued within a culture or society. His original theory proposed seven separate intelligences. He has since revised this thinking and has added an eighth intelligence, and a proposed ninth intelligence that has yet to experience full acceptance. The nine intelligences are Verbal/Linguistic, Logical/ Mathematical, Visual/Spatial, Bodily-Kinesthetic, Musical, Interpersonal, Intrapersonal, Naturalistic, and Existential. Key tenets of Gardner's theory are

- All human beings possess all nine intelligences in varying degrees.
- Each individual has a different intelligence profile.
- Education can be improved by assessment of students' intelligence profiles and designing activities accordingly.
- Each intelligence occupies a different area of the brain.
- The nine intelligences may operate in consort or independently from one another.
- These nine intelligences may define the human species (Armstrong, 2018; Gardner, 1999; Gardner, 2006).

The Nine Intelligences

Verbal/Linguistic intelligence refers to an individual's ability to understand and manipulate words and languages. Everyone is thought to possess this intelligence at some level. This includes reading, writing, speaking, and other forms of verbal and written communication. Traditionally, linguistic intelligence and logical/ mathematical intelligence have been highly valued in education and learning environments.

Logical/Mathematical intelligence refers to an individual's ability to do things with data: collect and organize, analyze and interpret, conclude and predict. Individuals strong in this intelligence see patterns and relationships. These individuals are oriented toward thinking: inductive and deductive logic, numeration, and abstract patterns. This is the kind of intelligence studied and documented by Piaget.

Visual/Spatial intelligence refers to the ability to form and manipulate a mental model. Individuals with strength in this area depend on visual thinking and are very imaginative. People with this kind of intelligence tend to learn most readily from visual presentations such as movies, pictures, videos, and demonstrations using models and props. They like to draw, paint, or sculpt their ideas and often express their feelings and moods through art. These individuals often daydream, imagine and pretend.

Bodily/Kinesthetic intelligence refers to people who process information through the sensations they feel in their bodies. These people like to move around, touch the people they are talking to and act things out. They are good at small and large muscle skills; they enjoy all types of sports and physical activities. They often express themselves through dance.

Musical intelligence refers to the ability to understand, create, and interpret musical rhythm and tones, and the capability to compose music. Composers and instrumentalists are individuals with strength in this area.

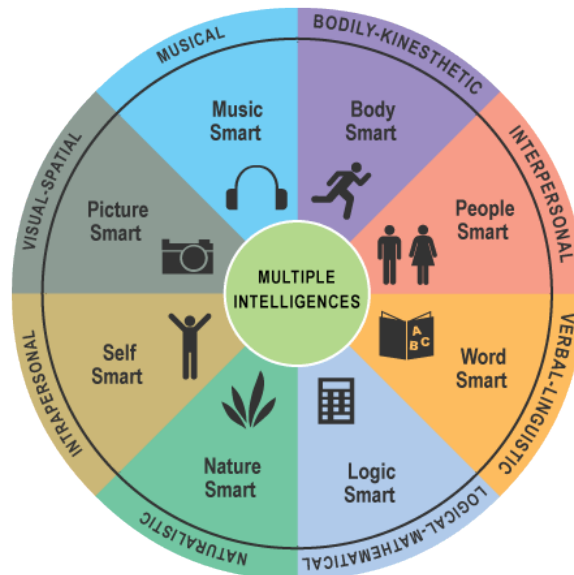
Interpersonal Although Gardner classifies interpersonal and intrapersonal intelligences separately, there is a lot of interplay between the two, and they are often grouped together. Interpersonal intelligence is the ability to interpret and respond to the moods, emotions, motivations, and actions of others. Interpersonal intelligence also requires good communication and interaction skills, and the ability to show empathy toward the feelings of other individuals. Counselors and social workers are professionals that require strength in this area.

Intrapersonal intelligence, simply put, is the ability to know oneself. It is an internalized version of interpersonal intelligence. To exhibit strength in intrapersonal intelligence, an individual must be able to understand their own emotions, and motivations, and be aware of their own strengths and weaknesses. It's important to note that this intelligence involves the use of all others.

Naturalistic intelligence describes the ability to both identify and distinguish between different types of things found in the

natural world. Naturalistic thinkers are people who value order and notice relationships and patterns.

Existential Intelligence encompasses the ability to pose and ponder questions regarding existence—including life and death. This would be in the domain of philosophers and religious leaders (Armstrong, 2018; Gardner, 1999; Gardner, 2006).



Multiple Intelligences chart © Howard via Wikimedia Commons is licensed under a CC BY-SA (Attribution ShareAlike) license

Although Gardner's theory was not originally designed for use in a classroom application, it has been widely embraced by educators and enjoyed numerous adaptations in a variety of educational settings. Teachers have always known that students had different strengths and weaknesses in the classroom. Gardner's research was able to articulate that and provide direction as to how to improve a student's ability in any given intelligence.

Match the terms on the left column with the correct definitions on the right.

An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://rotel.pressbooks.pub/whole-child/?p=719#h5p-2>

Bloom's Taxonomy

Benjamin Bloom (1913-1999) was an influential psychological researcher and child activist. In 1956, Bloom, with collaborators Max Englehart, Edward Furst, Walter Hill, and David Krathwohl, published a framework for categorizing educational goals: The Taxonomy of Educational Objectives. Familiarly known as Bloom's Taxonomy, this framework has been applied by generations of K-12 teachers and college instructors in their teaching.

The framework devised by Bloom and his collaborators consisted of six major categories of goals, in order of complexity: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. Those categories after Knowledge were presented as "skills and abilities," with the understanding that knowledge was the necessary precondition for putting these skills and abilities into practice.

In 2001, a group of cognitive psychologists, curriculum theorists, instructional researchers, and testing and assessment specialists published a revision of Bloom's Taxonomy with the title *A Taxonomy for Teaching, Learning, and Assessment*. This title draws attention away from the somewhat static notion of "educational objectives" (in Bloom's original title) and points to a more dynamic conception of the classifications of critical thinking. The authors of the revised taxonomy underscore this dynamism, using verbs to label their categories and subcategories (rather than the nouns of the original taxonomy). These "action words" describe the cognitive processes by which thinkers encounter and work with knowledge:

Bloom's Original Taxonomy



Bloom's Revised Taxonomy



The following chart lists verbs for student objective at each of Bloom's levels. Educators often find it helpful to use such a chart to be sure that they are both focusing their lessons, as well as targeting a variety of levels when planning lessons. This chart can be particularly useful in differentiation instruction for the varied needs of learners. It is important to keep in mind that children of nearly any age are capable of functioning at each level, as long as they are provided with the proper support to help scaffold their learning. Notice that some verbs can be applied to more than one level, depending on how the lesson is structured. Bloom's Taxonomy © Deirdre Budzyna via. ROTEL is licensed under a [CC BY-NC-SA \(Attribution NonCommercial ShareAlike\)](#) license

Mindset Theory

The concept of Mindset Theory was developed by psychologist Carol Dweck (1946-) and popularized in her book, *Mindset: The New Psychology of Success* (2016). In recent years, many schools and educators have started using Dweck's theories to inform how they teach students.

A **mindset**, according to Dweck, is a self-perception or self-theory that people hold about themselves. Believing that you are either *intelligent* or *unintelligent* is a simple example of a mindset. People may also have a mindset related to their personal or professional lives— "I'm a good teacher" or "I'm a bad parent," for example. People can be aware or unaware of their mindsets, according to Dweck, but they can have a profound effect on learning achievement, skill acquisition, personal relationships, professional success, and many other dimensions of life.

Dweck's educational work centers on the distinction between a **fixed mindset** and **growth mindset**. According to Dweck, in a **fixed mindset**, people believe their basic qualities, like their intelligence or talent, are simply fixed traits. They spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success—without effort. Dweck's research suggests that students who have adopted a fixed mindset believe that they are either *smart* or *dumb*, and there is no way to change this. For example, they may learn less than they could or learn at a slower rate, while also shying away from challenges, since poor performance might either confirm they can't learn if they believe they are *dumb* or indicate that they are less intelligent than they think if they believe they are *smart*. Dweck's findings also suggest that when students with **fixed mindsets** fail at something, as they inevitably will, they tend to tell themselves they can't or won't be able to do it ("I just can't learn Algebra"), or they make excuses to rationalize the failure ("I would have passed the test if I had had more time to study").

Alternatively, in a **growth mindset**, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment. Students who embrace **growth mindsets**—the belief that they can learn more or become smarter if they work hard and persevere—may learn more, learn it more quickly, and view challenges and failures as opportunities to improve their learning and skills.

Dweck's delineation of fixed and growth mindsets has potentially far-reaching implications for schools and teachers since the ways in which students think about learning, intelligence, and their own abilities can have a significant effect on learning progress and academic improvement. If teachers encourage students to believe that they can learn more and become smarter if they work hard and practice, Dweck's findings suggest, it is more likely that students will, in fact, learn more, and learn it faster and more thoroughly than if they believe that learning is not determined by how intelligent or unintelligent they are. Her work has also shown that a **growth mindset** can be intentionally taught to students. Teachers might, for example, intentionally praise student effort

and perseverance instead of ascribing learning achievements to innate qualities or talents (for example, giving feedback such as “You must have worked very hard” rather than “You are so smart.”

Read more about mindset in Christine Gross-Loh's interview with Dweck for the Atlantic, titled Don't Let Praise Become the Consolation Prize. In the interview, Dweck clarifies some common misconceptions which are often made. The interview can be found by following this link: <https://www.theatlantic.com/education/archive/2016/12/how-praise-became-a-consolation-prize/510845/>

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3: PHYSICAL DEVELOPMENT IN EARLY CHILDHOOD

Learning Objectives

After this chapter, you should be able to:

1. Describe the physical changes that occur in early childhood.
2. Explain how to provide health nutrition for 3- to 5-year-olds.
3. Summarize how to support the progression of motor skills with age appropriate activities.
4. Discuss the sleep needs during early childhood and sleep disorders that may affect children.
5. Explain the development behind toilet training and some elimination disorders that children may experience.
6. Recognize the importance of awareness of sexual development in early childhood.
7. Discuss risks to and a variety of ways to promote and protect children's health and safety.

During the early childhood years of three to five we see significant changes in the way children look, think, communicate, regulate their emotions, and interact with others. Children are often referred to as preschoolers during this time period. We'll examine the physical changes of the preschooler in this chapter.

3.1: Growth in Early Childhood

3.2: Nutritional Concerns

3.3: Tips for Establishing Healthy Eating Habits

3.4: Brain Maturation

3.5: Motor Skill Development

3.6: Sleep and Early Childhood

3.7: Toilet Training

3.8: Sexual Development in Early Childhood

3.9: Health in Early Childhood

3.10: Safety

3.S: Summary

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3.1: Growth in Early Childhood

Children between the ages of 2 and 6 years tend to grow about 3 inches in height each year and gain about 4 to 5 pounds in weight each year. The 3 year old is very similar to a toddler with a large head, large stomach, short arms and legs. But by the time the child reaches age 6, the torso has lengthened and body proportions have become more like those of adults. The average 6 year old weighs approximately 46 pounds and is about 46 inches in height. This growth rate is slower than that of infancy.

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3.2: Nutritional Concerns

That slower rate of growth is accompanied by a reduced appetite between the ages of 2 and 6. This change can sometimes be surprising to parents and lead to the development of poor eating habits. However, children between the ages of 2 and 3 need 1,000 to 1,400 calories, while children between the ages of 4 and 8 need 1,200 to 2,000 calories (Mayo Clinic, 2016a). 2

Caregivers who have established a feeding routine with their child can find the reduction in appetite a bit frustrating and become concerned that the child is going to starve. However, by providing adequate, sound nutrition, and limiting sugary snacks and drinks, the caregiver can be assured that 1) the child will not starve; and 2) the child will receive adequate nutrition. Preschoolers can experience iron deficiencies if not given well-balanced nutrition or if they are given too much milk as calcium interferes with the absorption of iron in the diet as well.

Caregivers need to keep in mind that they are setting up taste preferences at this age. Young children who grow accustomed to high fat, very sweet and salty flavors may have trouble eating foods that have more subtle flavors such as fruits and vegetables. Consider the following advice about establishing eating patterns for years to come (Rice, F.P., 1997). Notice that keeping mealtime pleasant, providing sound nutrition and not engaging in power struggles over food are the main goals.3

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3.3: Tips for Establishing Healthy Eating Habits

1. Don't try to force your child to eat or fight over food. Of course, it is impossible to force someone to eat. But the real advice here is to avoid turning food into a power struggle so that food doesn't become a way to gain favor with or express anger toward someone else.

2. Recognize that appetite varies. Children may eat well at one meal and have no appetite at another. Rather than seeing this as a problem, it may help to realize that appetites do vary. Continue to provide good nutrition at each mealtime (even if children don't choose to eat the occasional meal).

3. Keep it pleasant. This tip is designed to help caregivers create a positive atmosphere during mealtime. Mealtimes should not be the time for arguments or expressing tensions. You do not want the child to have painful memories of mealtimes together or have nervous stomachs and problems eating and digesting food due to stress.

4. No short order chefs. While it is fine to prepare foods that children enjoy, preparing a different meal for each child or family member sets up an unrealistic expectation from others. Children probably do best when they are hungry and a meal is ready. Limiting snacks rather than allowing children to "graze" continuously can help create an appetite for whatever is being served.

5. Limit choices. If you give your preschool aged child choices, make sure that you give them one or two specific choices rather than asking "What would you like for lunch?" If given an open choice, children may change their minds or choose whatever their sibling does not choose!

6. Serve balanced meals. Meals prepared at home tend to have better nutritional value than fast food or frozen dinners. Prepared foods tend to be higher in fat and sugar content as these ingredients enhance taste and profit margin because fresh food is often more costly and less profitable. However, preparing fresh food at home is not costly. It does, however, require more activity. Including children in meal preparation can provide a fun and memorable experience.

7. Don't bribe. Bribing a child to eat vegetables by promising dessert is not a good idea. First, the child will likely find a way to get the dessert without eating the vegetables (by whining or fidgeting, perhaps, until the caregiver gives in). Secondly, it teaches the child that some foods are better than others. Children tend to naturally enjoy a variety of foods until they are taught that some are considered less desirable than others. A child, for example, may learn the broccoli they have enjoyed is seen as yucky by others unless it's smothered in cheese sauce! 4



Figure 3.3.1: Two children cooking together. (Image by the [Air Force Medical Service](#) is in the public domain)

USDA Meal Patterns for Young Children

The United States Department of Agriculture Food and Nutrition Service provides the following guidance for the daytime feeding of children age 3 to 5.

Meal Patterns 6

Table 3.3.1

Meal		Ages 3-5	
Breakfast		3/4 cup milk 1/2 cup vegetables, fruit, or both 1/2 ounce equivalent grains	
Lunch or Supper		3/4 cup milk 1 1/2 ounces meat or meat alternative 1/4 cup vegetables 1/4 cup fruits 1/2 ounce equivalent of grains	
Snack		Select two of the following: 1/2 cup of milk 1/2 ounce meat or meat alternative 1/2 cup vegetables 1/2 cup fruit 1/2 ounce equivalent of grains	

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3.4: Brain Maturation

Brain Weight

The brain is about 75 percent its adult weight by two years of age. By age 6, it is approximately 95 percent its adult weight. Myelination and the development of dendrites continues to occur in the cortex and as it does, we see a corresponding change in the child's abilities. Significant development in the **prefrontal cortex** (the area of the brain behind the forehead that helps us to think, strategize, and control emotion) makes it increasingly possible to control emotional outbursts and to understand how to play games. Consider 4- or 5-year-old children and how they might approach a game of soccer. Chances are, every move would be a response to the commands of a coach standing nearby calling out, "Run this way! Now, stop. Look at the ball. Kick the ball!" And when the child is not being told what to do, he or she is likely to be looking at the clover on the ground or a dog on the other side of the fence! Understanding the game, thinking ahead, coordinating movement, and handling losing improve with practice and myelination.⁷

Visual Pathways

Children's drawings are representative of the development of visual pathways; as children's brains mature the images in their drawings change. Early scribbles and dots illustrate the use of simple motor skills. No real connection is made between an image being visualized and what is created on paper.

At age 3, the child begins to draw wispy creatures with heads and not much other detail. Gradually pictures begin to have more detail and incorporate more parts of the body. Arm buds become arms and faces take on noses, lips and eventually eyelashes.



Figure 3.4.1: Early scribbles. (CC BY-SA 3.0; Image by Wikimedia)



Figure 3.4.2: Creatures with heads. (CC-BY 4.0; Image by torange.biz)



Figure 3.4.3: A detailed face. (CC-BY 4.0; Image by torange.biz)

Growth in the Hemispheres and Corpus Callosum

Between ages 3 and 6, the left hemisphere of the brain grows dramatically. This side of the brain or hemisphere is typically involved in language skills. The right hemisphere continues to grow throughout early childhood and is involved in tasks that require spatial skills such as recognizing shapes and patterns. The **corpus callosum** which connects the two hemispheres of the brain undergoes a growth spurt between ages 3 and 6 and results in improved coordination between right and left hemisphere tasks.

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3.5: Motor Skill Development

Early childhood is a time when children are especially attracted to motion and song. Days are filled with jumping, running, swinging and clapping and every place becomes a playground. Even the booth at a restaurant affords the opportunity to slide around in the seat or disappear underneath and imagine being a sea creature in a cave! Of course, this can be frustrating to a caregiver, but it's the business of early childhood.

Gross Motor Skills

Children continue to improve their gross motor skills as they run and jump. They frequently ask their caregivers to “look at me” while they hop or roll down a hill. Children’s songs are often accompanied by arm and leg movements or cues to turn around or move from left to right.

Gross Motor Milestones

Here is a table showing the progression of gross motor skills that children will typically develop during early childhood:

Table 3.5.1: Gross Motor Milestones ([Developmental Milestones](#) by the [CDC](#) is in the public domain)

Typical Age	What Most Children Do by This Age
3 years	• Climbs well • Runs easily • Pedals a tricycle (3-wheel bike) • Walks up and down stairs, one foot on each step
4 years	• Hops and stands on one foot up to 2 seconds • Catches a bounced ball most of the time
5 years	• Stands on one foot for 10 seconds or longer • Hops; may be able to skip • Can do a somersault • Can use the toilet on own • Swings and climbs

Activities to Support Gross Motor Skills

Here are some activities focused on play that young children enjoy and that support their gross motor skill development.

- Tricycle
- Slides
- Swings
- Sit-n-Spin
- Mini trampoline
- Bowling pins (can use plastic soda bottles also)
- Tent (try throwing blankets over chairs and other furniture to make a fort)
- Playground ladders
- Suspension bridge on playground
- Tunnels (try throwing a bean bag chair underneath for greater challenge)

- Ball play (kick, throw, catch)
- Simon Says
- Target games with bean bags, ball, etc.
- Dancing/moving to music
- Pushing self on scooter or skateboard while on stomach



Figure 3.5.1: Children riding tricycles together. (Image by [Hanscom Air Force Base](#) is in the public domain)

Fine Motor Skills

Fine motor skills are also being refined as they continue to develop more dexterity, strength, and endurance. Fine motor skills are very important as they are foundational to self-help skills and later academic abilities (such as writing).

Fine Motor Milestones

Here is a table showing how fine motor skills progress during early childhood for children that are typically developing.

Table 3.5.2: Fine Motor Milestones ([Developmental Milestones](#) by the [CDC](#) is in the public domain)

Typical Age	What Most Children Do by This Age
3 years	• Copies a circle with pencil or crayon • Turns book pages one at a time • Builds towers of more than 6 blocks • Screws and unscrews jar lids or turns door handle
4 years	• Pours, cuts with supervision, and mashes own food • Draws a person with 2 to 4 body parts • Uses scissors • Starts to copy some capital letters
5 years	• Can draw a person with at least 6 body parts • Can print some letters or numbers • Copies a triangle and other geometric shapes • Uses a fork and spoon and sometimes a table knife

Activities to Support Fine Motor Skills

Here are some fun activities that will help children continue to refine their fine motor abilities. Fine motor skills are slower to develop than gross motor skills, so it is important to have age appropriate expectations and play-based activities for children.

- Pouring water into a container
- Drawing and coloring
- Using scissors
- Finger painting
- Fingerplays and songs (such as the Itsy, Bitsy Spider)
- Play dough
- Lacing and beading
- Practicing with large tweezers, tongs, and eye droppers



Figure 3.5.2: Children coloring. (Image by Spangdahlem Air Base is in the public domain)

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3.6: Sleep and Early Childhood

Along with food and water, sleep is one of the human body's most important physiological needs—we cannot live without it. Extended sleeplessness (i.e., lack of sleep for longer than a few days) has severe psychological and physical effects. Research on rats has found that a week of no sleep leads to loss of immune function, and two weeks of no sleep leads to death. Recently, neuroscientists have learned that at least one vital function of sleep is related to learning and memory. New findings suggest that sleep plays a critical role in flagging and storing important memories, both intellectual and physical, and perhaps in making subtle connections that were invisible during waking hours. 15

How Much Sleep Do We Need?

The amount of sleep an individual needs varies depending on multiple factors including age, physical condition, psychological condition, and energy exertion. Just like any other human characteristic, the amount of sleep people need to function best differs among individuals, even those of the same age and gender.

Though there is no magic sleep number, there are general rules for how much sleep certain age groups need. For instance, children need more sleep per day in order to develop and function properly: up to 18 hours for newborn babies, with a declining rate as a child ages. A newborn baby spends almost 9 hours a day in REM sleep. By the age of five, only slightly over two hours is spent in REM. Studies show that young children need about 10 to 11 hours of sleep, adolescents need between 8.5 and 9.25, and adults generally need between 7 and 9 hours.



Figure 3.6.1: A child sleeping. (Image by Peter Griffin is in the public domain)

Sleepwalking (Somnambulism)

Sleepwalking (sometimes called sleepwalking disorder, **somnambulism**, or noctambulation) causes a person to get up and walk during the early hours of sleep. The person may sit up and look awake (though they're actually asleep), get up and walk around, move items, or dress or undress themselves. They will have a blank stare and still be able to perform complex tasks. Some individuals also talk while in their sleep, saying meaningless words and even having arguments with people who are not there. A person who sleepwalks will be confused upon waking up and may also experience anxiety and fatigue.

Sleepwalking can be dangerous—people have been known to seriously hurt themselves during sleepwalking episodes. It is most common in children, but it also occurs occasionally in adults. For adults, alcohol, sedatives, medications, medical conditions and mental disorders are all associated with sleepwalking.

Sleep Terrors and Nightmare Disorder

Sleep terrors are characterized by a sudden arousal from deep sleep with a scream or cry, accompanied by some behavioral manifestations of intense fear. Sleep terrors typically occur in the first few hours of sleep, during stage 3 NREM sleep. Night

terrors tend to happen during periods of arousal from delta sleep (i.e., slow-wave sleep). They are worse than nightmares, causing significant disorientation, panic, and anxiety. They can last up to 10 minutes, and the person may be screaming and difficult to wake. In some cases, sleep terrors continue into adulthood.

Distinct from sleep terrors is nightmare disorder. Also known as "dream anxiety disorder," nightmare disorder is characterized by frequent nightmares. The nightmares, which often portray the individual in a situation that jeopardizes their life or personal safety, usually occur during the second half of the sleeping process, called the REM stage. Though many people experience nightmares, those with nightmare disorder experience them more frequently. 17

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3.7: Toilet Training

Toilet training typically occurs after the second birthday. Some children show interest by age 2, but others may not be ready until months later. The average age for girls to be toilet trained is 29 months and for boys it is 31 months, and 98% of children are trained by 36 months (Boyse & Fitzgerald, 2010). The child's age is not as important as his/her physical and emotional readiness. If started too early, it might take longer to train a child.

According to The Mayo Clinic (2016b) the following questions can help parents determine if a child is ready for toilet training:

- Does your child seem interested in the potty chair or toilet, or in wearing underwear?
- Can your child understand and follow basic directions?
- Does your child tell you through words, facial expressions or posture when he or she needs to go?
- Does your child stay dry for periods of two hours or longer during the day?
- Does your child complain about wet or dirty diapers?
- Can your child pull down his or her pants and pull them up again?
- Can your child sit on and rise from a potty chair?

If a child resists being trained or it is not successful after a few weeks, it is best to take a break and try again when they show more significant interest in the process. Most children master daytime bladder control first, typically within two to three months of consistent toilet training. However, nap and nighttime training might take months or even years.



Figure 3.7.1: A child learning to be toilet trained. (Image by Manish Bansal is licensed under CC-BY-2.0)

Elimination Disorders

Some children experience elimination disorders including:

- enuresis - the repeated voiding of urine into bed or clothes (involuntary or intentional) after age 5
- encopresis - the repeated passage of feces into inappropriate places (involuntary or intentional).

The prevalence of enuresis is 5%-10% for 5 year-olds, 3%-5% for 10 year-olds and approximately 1% for those 15 years of age or older. Around 1% of 5 year-olds have encopresis, and it is more common in males than females. These are diagnosed by a medical professional and may require treatment. 19

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3.8: Sexual Development in Early Childhood

Self-stimulation is common in early childhood for both boys and girls. Curiosity about the body and about others' bodies is a natural part of early childhood as well. Consider this example. A girl asks her mother: "So it's okay to see a boy's privates as long as it's the boy's mother or a doctor?" The mother hesitates a bit and then responds, "Yes. I think that's alright." "Hmmm," the girl begins, "When I grow up, I want to be a doctor!" While this subject can feel uncomfortable to deal with, caregivers can teach children to be safe and know what is appropriate without frightening them or causing shame.

As children grow, they are more likely to show their genitals to siblings or peers, and to take off their clothes and touch each other (Okami et al., 1997). Masturbation is common for both boys and girls. Boys are often shown by other boys how to masturbate. But girls tend to find out accidentally. And boys masturbate more often and touch themselves more openly than do girls (Schwartz, 1999).

Caregivers should respond to this without undue alarm and without making the child feel guilty about their bodies. Instead, messages about what is going on and the appropriate time and place for such activities help the child learn what is appropriate.

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3.9: Health in Early Childhood

While preschoolers are becoming more and more independent, they depend on their caregivers to keep protecting and promoting their health. 21

Childhood Obesity

Childhood obesity is a complex health issue. It occurs when a child is well above the normal or healthy weight for his or her age and height. Childhood obesity is a serious problem in the United States putting children at risk for poor health. In 2015-2016, 13.9% of 2- to 5-year-olds were obese.

Where people live can affect their ability to make healthy choices. Obesity disproportionately affects children from low-income families.

Causes of Obesity

The causes of excess weight gain in young people are similar to those in adults, including factors such as a person's behavior and genetics. Behaviors that influence excess weight gain include:

- eating high calorie, low-nutrient foods
- not getting enough physical exercise
- sedentary activities (such as watching television or other screen devices)
- medication use
- sleep routines



Figure 3.9.1: A child watching TV instead of playing. (Image by [Melissa Gutierrez](#) is licensed under [CC-BY-2.0](#))

Consequences of Obesity

The consequences of childhood obesity are both immediate and long term. It can affect physical as well as social and emotional well-being.

- More Immediate Health Risks
 - High blood pressure and high cholesterol, which are risk factors for cardiovascular disease (CVD).
 - Increased risk of impaired glucose tolerance, insulin resistance, and type 2 diabetes.
 - Breathing problems, such as asthma and sleep apnea.
 - Joint problems and musculoskeletal discomfort.

- Fatty liver disease, gallstones, and gastro-esophageal reflux (i.e., heartburn).
- Childhood obesity is also related to
 - Psychological problems such as anxiety and depression.
 - Low self-esteem and lower self-reported quality of life.
 - Social problems such as bullying and stigma.
- Future Health Risks
 - Children who have obesity are more likely to become adults with obesity.¹¹ Adult obesity is associated with increased risk of a number of serious health conditions including heart disease, type 2 diabetes, and cancer.
 - If children have obesity, their obesity and disease risk factors in adulthood are likely to be more severe.²³

Food Allergies

A **food allergy** occurs when the body has a specific and reproducible immune response to certain foods. The body's immune response can be severe and life-threatening, such as anaphylaxis. Although the immune system normally protects people from germs, in people with food allergies, the immune system mistakenly responds to food as if it were harmful.

Eight foods or food groups account for 90% of serious allergic reactions in the United States: milk, eggs, fish, crustacean shellfish, wheat, soy, peanuts, and tree nuts.

The symptoms and severity of allergic reactions to food can be different between individuals, and can also be different for one person over time. Anaphylaxis is a sudden and severe allergic reaction that may cause death.⁴ Not all allergic reactions will develop into anaphylaxis.

- Children with food allergies are two to four times more likely to have asthma or other allergic conditions than those without food allergies.
- The prevalence of food allergies among children increased by 18% during 1997-2007, and allergic reactions to foods have become the most common cause of anaphylaxis in community health settings.
- Although difficult to measure, research suggests that approximately 4% of children and adolescents are affected by food allergies.

The CDC recommends that as part of maintaining a healthy and safe environment for children, caregivers should:

- Be aware of any food allergies.
- Educate other children and all adults that care for a child with food allergies.
- Ensure the daily management of food allergies.
- Prepare for food allergy emergencies.²⁴

Oral Health

Tooth decay (cavities) is one of the most common chronic conditions of childhood in the United States. Untreated tooth decay can cause pain and infections that may lead to problems with eating, speaking, playing, and learning. The good news is that tooth decay is preventable. Fluoride varnish, a high concentration fluoride coating that is painted on teeth, can prevent about one-third (33%) of decay in the primary (baby) teeth. Children living in communities with fluoridated tap water have fewer decayed teeth than children who live in areas where their tap water is not fluoridated. Similarly, children who brush daily with fluoride toothpaste will have less tooth decay.

Applying dental sealants to the chewing surfaces of the back teeth is another way to prevent tooth decay. Studies in children show that sealants reduce decay in the permanent molars by 81% for 2 years after they are placed on the tooth and continue to be effective for 4 years after placement.²⁵

The first visit to the dentist should happen after the first tooth erupts. After that, children should be seeing the dentist every six months.²⁶



Figure 3.9.2: A dentist checking a child's teeth. (Image by Keesler Air Force Base is in the public domain)

Protection from Illness

Two important ways to help protect children from illness are immunization and handwashing.

Immunizations

While vaccines begin in infancy, it is important for children to receive additional doses of vaccines to keep them protected. These boosters, given between ages 4 and 6, are doses of the vaccines they received earlier in life to help them maintain the best protection against vaccine-preventable diseases.



Figure 3.9.3: Vaccines. (Image by Ramstein Air Base is in the public domain)

Many states require children to be fully vaccinated (unless they have a medical reason to be exempt) before they can enroll in licensed child care or public school. If vaccinations were missed, a health care provider can help the child's caregivers to create a catch-up schedule to ensure the child correctly "catches up" with the recommended childhood vaccination schedule.²⁹

Handwashing

Handwashing is one of the best ways to prevent the spread of illness. It's important for children (and adults) to wash their hands often, especially when they are likely to get and spread germs, including:

- Before, during, and after preparing food.
- Before eating food.
- After blowing nose, coughing, or sneezing.
- After using the toilet.
- After touching an animal, animal feed, or animal waste.
- After touching garbage.

It's important for children to learn how to properly wash their hands. When washing hands children (and adults) should follow these five steps every time.

1. Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap. 2. Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails. 3. Scrub your hands for at least 20 seconds. Need a timer? Hum or sing the Happy Birthday song or ABCs from beginning to end twice. 4. Rinse your hands well under clean, running water. 5. Dry your hands using a clean towel or air dry them.³⁰



Figure 3.9.4: A mother helping her son wash his hands. (Image is in the public domain)

Caregivers can help keep children healthy by:

- Teaching them good handwashing techniques.
- Reminding their kids to wash their hands.
- Washing their own hands with the children.³²

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3.10: Safety

Child injuries are preventable, yet more than 9,000 children (from 0-19 years) died from injuries in the US in 2009. Car crashes, suffocation, drowning, poisoning, fires, and falls are some of the most common ways children are hurt or killed. The number of children dying from injury dropped nearly 30% over the last decade. However, injury is still the number 1 cause of death among children.³³

Children during early childhood are more at risk for certain injuries. Using data from 2000-2006, the CDC determined that:

- Drowning was the leading cause of injury death between 1 and 4 years of age.
- Falls were the leading cause of nonfatal injury for all age groups less than 15.
- For children ages 0 to 9, the next two leading causes were being struck by or against an object and animal bites or insect stings.
- Rates for fires or burns, and drowning were highest for children 4 years and younger.³⁴

Table 7.4 summarizes some tips from the CDC to protect children from these injuries:

Table 3.10.1: Preventing Injuries

Type of Injury	Prevention Tips
Burns	• Have smoke alarms on every floor and in all rooms people sleep in • Involve children in creating and practicing an escape plan • Never leave food cooking on the stove unattended; supervise any use of microwave • Make sure the water heater is set to 120 degrees or lower³⁵
Drowning	• Make sure caregivers are trained in CPR • Fence off pools; gates should be self-closing and self-latching • Have children wear life jackets in and around natural bodies of water • Supervise children in or near water (including the bathtub)³⁶
Falls	• Make sure playground surfaces are safe, soft, and made of impact absorbing material (such as wood chips or sand) at an appropriate depth and are well maintained • Use safety devices (such as window guards) • Make sure children are wearing protective gear during sports and recreation (such as bicycle helmets) • Supervise children around fall hazards at all times³⁷
Poisoning	• Lock up all medications and toxic products (such as cleaning solutions and detergents) in original packaging out of sight and reach of children • Know the number to poison control (1-800-222-1222) • Read and follow labels of all medications • Safely dispose of unused, unneeded, or expired prescription drugs and over the counter drugs, vitamins, and supplements ³⁸
Motor-accident, in vehicle	• Children should still be safely restrained in a five point harnessed car seat • Children should be in back seat • Children should not be seated in front of an airbag

Type of Injury	Prevention Tips
Motor-accident, pedestrian	- Teach children about safety including: - Walking on the sidewalk - Not assuming vehicles see you or will stop - Crossing only in crosswalks - Looking both ways before crossing - Never playing in the road - Not crossing a road without an adult - Supervise children near all roadways and model safe behavior 39



Figur 3.10.1: Children playing on a jungle gym at a park. (Image is in the public domain)

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3.S: Summary

In this chapter we looked at:

- The physical characteristics of preschoolers.
- Healthy nutrition.
- The changes in the brain.
- The progression of motor skills and developmentally appropriate ways to support that development.
- Sleep and sleep disorders.
- Toilet training and elimination disorders
- Sexual development in early childhood.
- And ways to keep children healthy and safe.

In the next chapter we'll investigate how children understand the world and their communication abilities.

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4: COGNITIVE DEVELOPMENT IN EARLY CHILDHOOD

Learning Objectives

After reading this chapter, you should be able to:

1. Compare and contrast Piaget and Vygotsky's beliefs about cognitive development.
2. Explain the role of information processing in cognitive development.
3. Discuss how preschool-aged children understand their worlds.
4. Put cognitive and language milestones into the order in which they appear in typically developing children.
5. Discuss how early child education supports development and how our understanding of development influence education.
6. Describe autism spectrum disorder, including characteristics and possible interventions.

Early childhood is a time of pretending, blending fact and fiction, and learning to think of the world using language. As young children move away from needing to touch, feel, and hear about the world toward learning some basic principles about how the world works, they hold some pretty interesting initial ideas. For example, while adults have no concerns with taking a bath, a child of three might genuinely worry about being sucked down the drain. ¹

A child might protest if told that something will happen “tomorrow” but be willing to accept an explanation that an event will occur “today after we sleep.” Or the young child may ask, “How long are we staying? From here to here?” while pointing to two points on a table. Concepts such as tomorrow, time, size and distance are not easy to grasp at this young age. Understanding size, time, distance, fact and fiction are all tasks that are part of cognitive development in the preschool years. ³

4.1: Piaget's Preoperational Intelligence

4.2: Vygotsky's Sociocultural Theory of Cognitive Development

4.3: Information Processing

4.4: Children's Understanding of the World

4.5: Milestones of Cognitive Development

4.6: Language Development

4.7: Early Childhood Education

4.8: Applications to Early Education

4.9: Cognitive Differences

4.S: Summary

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4.1: Piaget's Preoperational Intelligence

Piaget's stage that coincides with early childhood is the **preoperational stage**. The word operational means logical, so these children were thought to be illogical. However, they were learning to use language or to think of the world symbolically. Let's examine some of Piaget's assertions about children's cognitive abilities at this age.

Pretend Play

Pretending is a favorite activity at this time. A toy has qualities beyond the way it was designed to function and can now be used to stand for a character or object unlike anything originally intended. A teddy bear, for example, can be a baby or the queen of a faraway land!



Figure 4.1.1: A child pretending to buy items at a toy grocery store. (Image by Ermalfaro is licensed under [CC BY-SA 4.0](#))

According to Piaget, children's pretend play helps them solidify new schemes they were developing cognitively. This play, then, reflects changes in their conceptions or thoughts. However, children also learn as they pretend and experiment. Their play does not simply represent what they have learned (Berk, 2007).

Egocentrism

Egocentrism in early childhood refers to the tendency of young children to think that everyone sees things in the same way as the child. Piaget's classic experiment on egocentrism involved showing children a 3-dimensional model of a mountain and asking them to describe what a doll that is looking at the mountain from a different angle might see. Children tend to choose a picture that represents their own view, rather than that of the doll. However, children tend to use different sentence structures and vocabulary when addressing a younger child or an older adult. This indicates some awareness of the views of others.



Figure 4.1.2: Piaget's egocentrism experiment. (Image by Rosenfeld Media is licensed under CC BY 2.0)

Syncretism

Syncretism refers to a tendency to think that if two events occur simultaneously, one caused the other. An example of this is a child putting on their bathing suit to turn it to summertime.

Animism

Attributing lifelike qualities to objects is referred to as **animism**. The cup is alive, the chair that falls down and hits the child's ankle is mean, and the toys need to stay home because they are tired. Cartoons frequently show objects that appear alive and take on lifelike qualities. Young children do seem to think that objects that move may be alive but after age 3, they seldom refer to objects as being alive (Berk, 2007).

Classification Errors

Preoperational children have difficulty understanding that an object can be classified in more than one way. For example, if shown three white buttons and four black buttons and asked whether there are more black buttons or buttons, the child is likely to respond that there are more black buttons. As the child's vocabulary improves and more schemes are developed, the ability to classify objects improves. 6

Conservation Errors

Conservation refers to the ability to recognize that moving or rearranging matter does not change the quantity. Let's look at an example. A father gave a slice of pizza to 10-year-old Keiko and another slice to 3-year-old Kenny. Kenny's pizza slice was cut into five pieces, so Kenny told his sister that he got more pizza than she did. Kenny did not understand that cutting the pizza into smaller pieces did not increase the overall amount. This was because Kenny exhibited **Centration**, or focused on only one characteristic of an object to the exclusion of others.

Kenny focused on the five pieces of pizza to his sister's one piece even though the total amount was the same. Keiko was able to consider several characteristics of an object than just one. Because children have not developed this understanding of conservation, they cannot perform mental operations.

The classic Piagetian experiment associated with conservation involves liquid (Crain, 2005). As seen below, the child is shown two glasses (as shown in a) which are filled to the same level and asked if they have the same amount. Usually the child agrees they have the same amount. The researcher then pours the liquid from one glass to a taller and thinner glass (as shown in b). The child is again asked if the two glasses have the same amount of liquid. The preoperational child will typically say the taller glass now has more liquid because it is taller. The child has concentrated on the height of the glass and fails to conserve. 7

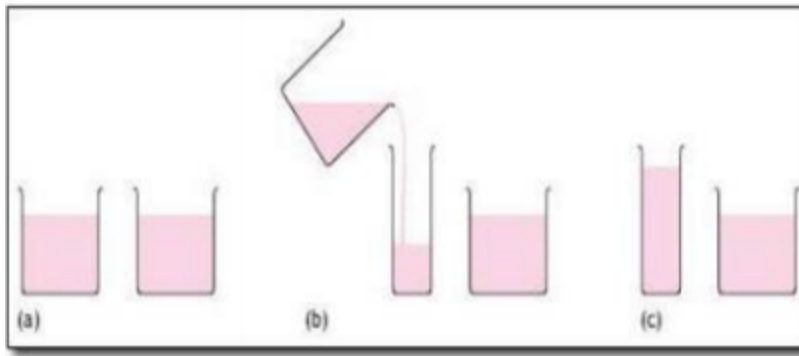


Figure 4.1.3: Piagetian liquid conservation experiments. (Image by Martha Lally and Suzanne Valentine-French is licensed under [CC BY-NC-SA 3.0](#))

Cognitive Schemas

As introduced in the first chapter, Piaget believed that in a quest for cognitive equilibrium, we use schemas (categories of knowledge) to make sense of the world. And when new experiences fit into existing schemas, we use assimilation to add that new knowledge to the schema. But when new experiences do not match an existing schema, we use accommodation to add a new schema. During early childhood, children use accommodation often as they build their understanding of the world around them.

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4.2: Vygotsky's Sociocultural Theory of Cognitive Development

As introduced in Chapter 1, Lev Vygotsky was a Russian psychologist who argued that culture has a major impact on a child's cognitive development. He believed that the social interactions with adults and more knowledgeable peers can facilitate a child's potential for learning. Without this interpersonal instruction, he believed children's minds would not advance very far as their knowledge would be based only on their own discoveries. Let's review some of Vygotsky's key concepts.

Zone of Proximal Development and Scaffolding

Vygotsky's best known concept is the zone of **proximal development (ZPD)**. Vygotsky stated that children should be taught in the ZPD, which occurs when they can perform a task with assistance, but not quite yet on their own. With the right kind of teaching, however, they can accomplish it successfully. A good teacher identifies a child's ZPD and helps the child stretch beyond it. Then the adult (teacher) gradually withdraws support until the child can then perform the task unaided. Researchers have applied the metaphor of scaffolds (the temporary platforms on which construction workers stand) to this way of teaching. Scaffolding is the temporary support that parents or teachers give a child to do a task.

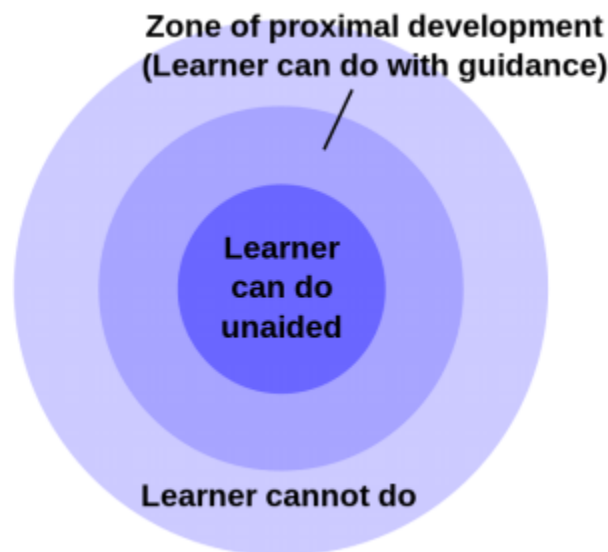


Figure 4.2.1: Zone of proximal development. (Image by Dcoetzee is licensed under [CC0 1.0](#))

Private Speech

Do you ever talk to yourself? Why? Chances are, this occurs when you are struggling with a problem, trying to remember something, or feel very emotional about a situation. Children talk to themselves too. Piaget interpreted this as **egocentric speech** or a practice engaged in because of a child's inability to see things from another's point of view. Vygotsky, however, believed that children talk to themselves in order to solve problems or clarify thoughts. As children learn to think in words, they do so aloud before eventually closing their lips and engaging in **private speech** or inner speech.

Thinking out loud eventually becomes thought accompanied by internal speech, and talking to oneself becomes a practice only engaged in when we are trying to learn something or remember something. This inner speech is not as elaborate as the speech we use when communicating with others (Vygotsky, 1962). 10

Contrast with Piaget

Piaget was highly critical of teacher-directed instruction, believing that teachers who take control of the child's learning place the child into a passive role (Crain, 2005). Further, teachers may present abstract ideas without the child's true understanding, and instead they just repeat back what they heard. Piaget believed children must be given opportunities to discover concepts on their own. As previously stated, Vygotsky did not believe children could reach a higher cognitive level without instruction from more learned individuals. Who is correct? Both theories certainly contribute to our understanding of how children learn.

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4.3: Information Processing

Information processing researchers have focused on several issues in cognitive development for this age group, including improvements in attention skills, changes in the capacity, and the emergence of executive functions in working memory. Additionally, in early childhood memory strategies, memory accuracy, and autobiographical memory emerge. Early childhood is seen by many researchers as a crucial time period in memory development (Posner & Rothbart, 2007).

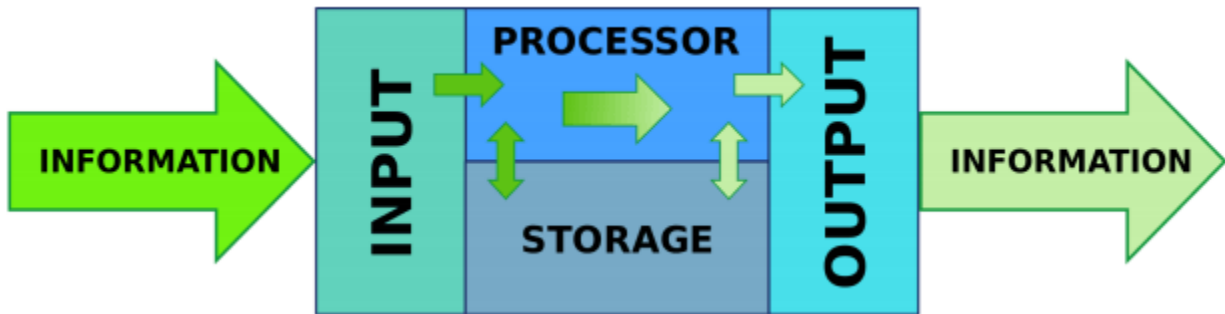


Figure 4.3.1: How information is processed. (Image by Gradient drift is in the public domain)

Attention

Changes in attention have been described by many as the key to changes in human memory (Nelson & Fivush, 2004; Posner & Rothbart, 2007). However, attention is not a unified function; it is comprised of sub-processes. The ability to switch our focus between tasks or external stimuli is called **divided attention** or **multitasking**. This is separate from our ability to focus on a single task or stimulus, while ignoring distracting information, called **selective attention**. Different from these is **sustained attention**, or the ability to stay on task for long periods of time. Moreover, we also have attention processes that influence our behavior and enable us to inhibit a habitual or dominant response, and others that enable us to distract ourselves when upset or frustrated.

Divided Attention

Young children (age 3-4) have considerable difficulties in dividing their attention between two tasks, and often perform at levels equivalent to our closest relative, the chimpanzee, but by age five they have surpassed the chimp (Hermann, Misch, Hernandez-Lloreda & Tomasello, 2015; Hermann & Tomasello, 2015). Despite these improvements, 5-year-olds continue to perform below the level of school-age children, adolescents, and adults.

Selective Attention

Children's ability with selective attention tasks improve as they age. However, this ability is also greatly influenced by the child's temperament (Rothbart & Rueda, 2005), the complexity of the stimulus or task (Porporino, Shore, Iarocci & Burack, 2004), and along with whether the stimuli are visual or auditory (Guy, Rogers & Cornish, 2013). Guy et al. (2013) found that children's ability to selectively attend to visual information outpaced that of auditory stimuli. This may explain why young children are not able to hear the voice of the teacher over the cacophony of sounds in the typical preschool classroom (Jones, Moore & Amitay, 2015). Jones and his colleagues found that 4 to 7 year-olds could not filter out background noise, especially when its frequencies were close in sound to the target sound. In comparison, 8- to 11-year-old children often performed similar to adults.



Figure 4.3.2: A group of children making crafts. (Image by Joint Base Charleston is in the public domain)

Sustained Attention

Most measures of sustained attention typically ask children to spend several minutes focusing on one task, while waiting for an infrequent event, while there are multiple distractors for several minutes. Berwid, Curko-Kera, Marks & Halperin (2005) asked children between the ages of 3 and 7 to push a button whenever a “target” image was displayed, but they had to refrain from pushing the button when a non-target image was shown. The younger the child, the more difficulty he or she had maintaining their attention.



Figure 4.3.3: A child playing a game that measures her sustained attention. (Image by Fabrice Florin is licensed under CC BY-SA 2.0)

Memory

Based on studies of adults, people with amnesia, and neurological research on memory, researchers have proposed several “types” of memory (see Figure 4.14). **Sensory memory** (also called the sensory register) is the first stage of the memory system, and it stores sensory input in its raw form for a very brief duration; essentially long enough for the brain to register and start processing the information. Studies of auditory sensory memory show that it lasts about one second in 2 year-olds, two seconds in 3-year-olds, more than two seconds in 4-year-olds, and three to five seconds in 6-year-olds (Glass, Sachse, & von Suchodoletz, 2008). Other researchers have also found that young children hold sounds for a shorter duration than do older children and adults, and that this deficit is not due to attentional differences between these age groups, but reflects differences in the performance of the sensory memory system (Gomes et al., 1999). The second stage of the memory system is called short-term or **working memory**. Working memory is the component of memory in which current conscious mental activity occurs.

Working memory often requires conscious effort and adequate use of attention to function effectively. As you read earlier, children in this age group struggle with many aspects of attention and this greatly diminishes their ability to consciously juggle several pieces of information in memory. The capacity of working memory, that is the amount of information someone can hold in consciousness, is smaller in young children than in older children and adults. The typical adult and teenager can hold a 7 digit number active in their short-term memory. The typical 5-year-old can hold only a 4 digit number active. This means that the more

complex a mental task is, the less efficient a younger child will be in paying attention to, and actively processing, information in order to complete the task.



Figure 4.3.4: A child thinking. (Image by [Leonid Mamchenkov](#) is licensed under [CC BY 2.0](#))

Changes in attention and the working memory system also involve changes in executive function. **Executive function (EF)** refers to self-regulatory processes, such as the ability to inhibit a behavior or cognitive flexibility, that enable adaptive responses to new situations or to reach a specific goal. Executive function skills gradually emerge during early childhood and continue to develop throughout childhood and adolescence. Like many cognitive changes, brain maturation, especially the prefrontal cortex, along with experience influence the development of executive function skills.

A child shows higher executive functioning skills when the parents are more warm and responsive, use scaffolding when the child is trying to solve a problem, and provide cognitively stimulating environments for the child (Fay-Stammbach, Hawes & Meredith, 2014). For instance, scaffolding was positively correlated with greater cognitive flexibility at age two and inhibitory control at age four (Bibok, Carpendale & Müller, 2009). In Schneider, Kron-Sperl and Hunnerkopf's (2009) longitudinal study of 102 kindergarten children, the majority of children used no strategy to remember information, a finding that was consistent with previous research. As a result, their memory performance was poor when compared to their abilities as they aged and started to use more effective memory strategies.

The third component in memory is **long-term memory**, which is also known as permanent memory. A basic division of long-term memory is between declarative and non-declarative memory.

- **Declarative memories**, sometimes referred to as **explicit memories**, are memories for facts or events that we can consciously recollect. Declarative memory is further divided into semantic and episodic memory.
- **Semantic memories** are memories for facts and knowledge that are not tied to a timeline,
- **Episodic memories** are tied to specific events in time.
- **Non-declarative memories**, sometimes referred to as **implicit memories**, are typically automated skills that do not require conscious recollection.

Autobiographical memory is our personal narrative. Adults rarely remember events from the first few years of life. In other words, we lack autobiographical memories from our experiences as an infant, toddler and very young preschooler. Several factors contribute to the emergence of autobiographical memory including brain maturation, improvements in language, opportunities to talk about experiences with parents and others, the development of theory of mind, and a representation of “self” (Nelson & Fivush, 2004). Two-year-olds do remember fragments of personal experiences, but these are rarely coherent accounts of past events (Nelson & Ross, 1980). Between 2 and 2 1/2 years of age children can provide more information about past experiences. However, these recollections require considerable prodding by adults (Nelson & Fivush, 2004). Over the next few years children will form more detailed autobiographical memories and engage in more reflection of the past.

Neo-Piagetians

As previously discussed, Piaget's theory has been criticized on many fronts, and updates to reflect more current research have been provided by the **Neo-Piagetians**, or those theorists who provide “new” interpretations of Piaget's theory. Morra, Gobbo, Marini and Sheese (2008) reviewed Neo-Piagetian theories, which were first presented in the 1970s, and identified how these “new” theories combined Piagetian concepts with those found in Information Processing. Similar to Piaget's theory,

Neo-Piagetian theories believe in constructivism, assume cognitive development can be separated into different stages with qualitatively different characteristics, and advocate that children's thinking becomes more complex in advanced stages. Unlike Piaget, Neo-Piagetians believe that aspects of information processing change the complexity of each stage, not logic as determined by Piaget.

Neo-Piagetians propose that working memory capacity is affected by biological maturation, and therefore restricts young children's ability to acquire complex thinking and reasoning skills. Increases in working memory performance and cognitive skills development coincide with the timing of several neurodevelopmental processes. These include myelination, axonal and synaptic pruning, changes in cerebral metabolism, and changes in brain activity (Morra et al., 2008).

Myelination especially occurs in waves between birth and adolescence, and the degree of myelination in particular areas explains the increasing efficiency of certain skills. Therefore, brain maturation, which occurs in spurts, affects how and when cognitive skills develop.

Additionally, all Neo-Piagetian theories support that experience and learning interact with biological maturation in shaping cognitive development. 15

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4.4: Children's Understanding of the World

Both Piaget and Vygotsky believed that children actively try to understand the world around them. More recently developmentalists have added to this understanding by examining how children organize information and develop their own theories about the world.

Theory-Theory

The tendency of children to generate theories to explain everything they encounter is called **theory-theory**. This concept implies that humans are naturally inclined to find reasons and generate explanations for why things occur. Children frequently ask question about what they see or hear around them. When the answers provided do not satisfy their curiosity or are too complicated for them to understand, they generate their own theories. In much the same way that scientists construct and revise their theories, children do the same with their intuitions about the world as they encounter new experiences (Gopnik & Wellman, 2012). One of the theories they start to generate in early childhood centers on the mental states; both their own and those of others.



Figure 4.4.1: What theories might this boy be creating? (Image by Eglin Air Force Base is in the public domain)

Theory of Mind

Theory of mind refers to the ability to think about other people's thoughts. This mental mind reading helps humans to understand and predict the reactions of others, thus playing a crucial role in social development. One common method for determining if a child has reached this mental milestone is the false belief task, described below.

The research began with a clever experiment by Wimmer and Perner (1983), who tested whether children can pass a false-belief test (see Figure 4.17). The child is shown a picture story of Sally, who puts her ball in a basket and leaves the room. While Sally is out of the room, Anne comes along and takes the ball from the basket and puts it inside a box. The child is then asked where Sally thinks the ball is located when she comes back to the room. Is she going to look first in the box or in the basket? The right answer is that she will look in the basket, because that's where she put it and thinks it is; but we have to infer this **false belief** against our own better knowledge that the ball is in the box.



Figure 4.4.2: A ball. (Image is in the public domain)



Figure 4.4.3: A basket. (Image is licensed under CC0)



Figure 4.4.4: A box. (Image is in the public domain)

This is very difficult for children before the age of four because of the cognitive effort it takes. Three-year-olds have difficulty distinguishing between what they once thought was true and what they now know to be true. They feel confident that what they know now is what they have always known (Birch & Bloom, 2003). Even adults need to think through this task (Epley, Morewedge, & Keysar, 2004).

To be successful at solving this type of task the child must separate what he or she “knows” to be true from what someone else might “think” is true. In Piagetian terms, they must give up a tendency toward egocentrism. The child must also understand that what guides people’s actions and responses are what they “believe” rather than what is reality. In other words, people can mistakenly believe things that are false and will act based on this false knowledge. Consequently, prior to age four children are rarely successful at solving such a task (Wellman, Cross & Watson, 2001).

Researchers examining the development of theory of mind have been concerned by the overemphasis on the mastery of false belief as the primary measure of whether a child has attained theory of mind. Wellman and his colleagues (Wellman, Fang, Liu, Zhu & Liu, 2006) suggest that theory of mind is comprised of a number of components, each with its own developmental timeline (see Table 4.2).

Two-year-olds understand the diversity of desires, yet as noted earlier it is not until age four or five that children grasp false belief, and often not until middle childhood do they understand that people may hide how they really feel. In part, because children in early childhood have difficulty hiding how they really feel.

Cultural Differences in Theory of Mind

Those in early childhood in the US, Australia, and Germany develop theory of mind in the sequence outlined above. Yet, Chinese and Iranian preschoolers acquire knowledge access before diverse beliefs (Shahaeian, Peterson, Slaughter & Wellman, 2011). Shahaeian and colleagues suggested that cultural differences in childrearing may account for this reversal. Parents in collectivistic cultures, such as China and Iran, emphasize conformity to the family and cultural values, greater respect for elders, and the acquisition of knowledge and academic skills more than they do autonomy and social skills (Frank, Plunkett & Otten, 2010). This could reduce the degree of familial conflict of opinions expressed in the family. In contrast, individualistic cultures encourage children to think for themselves and assert their own opinion, and this could increase the risk of conflict in beliefs being expressed by family members.



Figure 4.4.5: A family from a non-Western culture. (Image by [Giorgio Montersino](#) is licensed under [CC BY-SA 2.0](#))

As a result, children in individualistic cultures would acquire insight into the question of diversity of belief earlier, while children in collectivistic cultures would acquire knowledge access earlier in the sequence. The role of conflict in aiding the development of theory of mind may account for the earlier age of onset of an understanding of false belief in children with siblings, especially older siblings (McAlister & Petersen, 2007; Perner, Ruffman & Leekman, 1994).

This awareness of the existence of theory of mind is part of social intelligence, such as recognizing that others can think differently about situations. It helps us to be self-conscious or aware that others can think of us in different ways and it helps us to be able to be understanding or be empathetic toward others. Moreover, this mind-reading ability helps us to anticipate and predict people's actions. The awareness of the mental states of others is important for communication and social skills. 21

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4.5: Milestones of Cognitive Development

The many theories of cognitive development and the different research that has been done about how children understand the world has allowed researchers to study the milestones that children who are typically developing experience in early childhood. Here is a table that summarizes those.

Table 4.5.1: Cognitive Milestones (*Developmental Milestones* by the [CDC](#) is in the public domain)

Typical Age	What Most Children Do by This Age
3 years	• Can work toys with buttons, levers, and moving parts • Plays make-believe with dolls, animals, and people • Does puzzles with 3 or 4 pieces • Understands what “two” means
4 years	• Names some colors and some numbers • Understands the idea of counting • Starts to understand time • Remembers parts of a story • Understands the idea of “same” and “different” • Plays board or card games • Tells you what he thinks is going to happen next in a book
5 years	• Counts 10 or more things • Knows about things used every day, like money and food

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4.6: Language Development

Vocabulary Growth

A child's vocabulary expands between the ages of 2 to 6 from about 200 words to over 10,000 words through a process called fast-mapping. Words are easily learned by making connections between new words and concepts already known. The parts of speech that are learned depend on the language and what is emphasized. Children speaking verb-friendly languages such as Chinese and Japanese, tend to learn nouns more readily. But, those learning less verb-friendly languages such as English, seem to need assistance in grammar to master the use of verbs (Imai, et al, 2008).



Figure 4.6.1: A woman instructing a girl on vocabulary. (Image by the [U.S. Department of the Interior](#) is in the public domain)

Literal Meanings

Children can repeat words and phrases after having heard them only once or twice. But they do not always understand the meaning of the words or phrases. This is especially true of expressions or figures of speech that are taken literally. For example, two preschool-aged girls began to laugh loudly while listening to a tape-recording of Disney's "Sleeping Beauty" when the narrator reports, "Prince Phillip lost his head!" They imagine his head popping off and rolling down the hill as he runs and searches for it. Or a classroom full of preschoolers hears the teacher say, "Wow! That was a piece of cake!" The children began asking "Cake? Where is my cake? I want cake!"

Overregularization

Children learn rules of grammar as they learn a language but may apply these rules inappropriately at first. For instance, a child learns to add "ed" to the end of a word to indicate past tense. Then form a sentence such as "I goed there. I doed that." This is typical at ages 2 and 3. They will soon learn new words such as "went" and "did" to be used in those situations.

The Impact of Training

Remember Vygotsky and the zone of proximal development? Children can be assisted in learning language by others who listen attentively, model more accurate pronunciations and encourage elaboration. The child exclaims, "I goed there!" and the adult responds, "You went there? Say, 'I went there.' Where did you go?" Children may be ripe for language as Chomsky suggests, but active participation in helping them learn is important for language development as well. The process of scaffolding is one in which the adult (or more skilled peer) provides needed assistance to the child as a new skill is learned.

Language Milestones

The prior aspects of language development in early childhood can also be summarized into the progression of milestones children typically experience from ages 3 to 5. Here is a table of those.

Table 4.6.1: Language Milestones (*Developmental Milestones* by the CDC is in the public domain)

Typical Age	What Most Children Do By This Age
3 years	• Follows instructions with 2 or 3 steps • Can name most familiar things • Understands words like “in,” “on,” and “under” • Says first name, age, and sex • Names a friend • Says words like “I,” “me,” “we,” and “you” and some plurals (cars, dogs, cats) • Talks well enough for strangers to understand most of the time • Carries on a conversation using 2 to 3 sentences
4 years	• Knows some basic rules of grammar, such as correctly using “he” and “she” • Sings a song or says a poem from memory such as the “Itsy Bitsy Spider” or the “Wheels on the Bus” • Tells stories • Can say first and last name
5 years	• Speaks very clearly • Tells a simple story using full sentences • Uses future tense; for example, “Grandma will be here.” • Says name and address

Now that we have addressed some of the cognitive areas of growth in early childhood, let’s take a look at the topic of school and its various applications.

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4.7: Early Childhood Education

Providing universal preschool has become an important lobbying point for federal, state, and local leaders throughout our country. In his 2013 State of the Union address, President Obama called upon congress to provide high quality preschool for all children. He continued to support universal preschool in his legislative agenda, and in December 2014 the President convened state and local policymakers for the White House Summit on Early Education (White House Press Secretary, 2014).

However, universal preschool covering all four-year olds in the country would require significant funding. Further, how effective preschools are in preparing children for elementary school, and what constitutes high quality early childhood education have been debated. To set criteria for designation as a high quality preschool, the National Association for the Education of Young Children (NAEYC) identifies 10 standards (NAEYC, 2016). These include:

- Positive relationships among all children and adults are promoted.
- A curriculum that supports learning and development in social, emotional, physical, language, and cognitive areas.
- Teaching approaches that are developmentally, culturally and linguistically appropriate.
- Assessment of children's progress to provide information on learning and development.
- The health and nutrition of children are promoted, while they are protected from illness and injury.
- Teachers possess the educational qualifications, knowledge, and commitment to promote children's learning.
- Collaborative relationships with families are established and maintained.
- Relationships with agencies and institutions in the children's communities are established to support the program's goals.
- The indoor and outdoor physical environments are safe and well-maintained.
- Leadership and management personnel are well qualified, effective, and maintain licensure status with the applicable state agency.

Parents should review preschool programs using the NAEYC criteria as a guide and template for asking questions that will assist them in choosing the best program for their child.



Figure 4.7.1: Children making crafts at preschool. (Image by [Seattle City Council](#) is in the public domain)

Selecting the right preschool is also difficult because there are so many types of preschools available. Zachry (2013) identified Montessori, Waldorf, Reggio Emilia, High Scope, Creative Curriculum and Bank Street as types of early childhood education programs that focus on children learning through discovery. Teachers act as facilitators of children's learning and development and create activities based on the child's developmental level. Here is a table summarizes characteristics of each type of program.

Table 4.7.1: *Types of Early Childhood Education Programs* (Gordon, A. M., & Browne, K. W. (2016). *Beginning essentials in early childhood education*. (3rd ed.). Cengage: Boston.)

Program	Founder	Characteristics
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Montessori	Dr. Maria Montessori	• Refers to children's activity as work (not play); children are given long periods of time to work • Focus on individual learning • Features child-sized furniture and defined work areas • Materials are carefully chosen and introduced to children by teacher • Features mixed-aged grouping • Teachers should be certified
Waldorf	Rudolf Steiner	• Focus on whole child • Features connections to nature, sensory learning, and imagination • Provides large blocks of time for play • Delay formal academic instruction • Environment protects children from negative influences • Relationships are important so groupings last for several years (looping) • Teachers should be certified
Reggio Emilia	Loris Malaguzzi	• Teachers and children co-construct the curriculum • Teachers are researchers • Environment is the third teacher and features beauty and order • Children's learning is documented through the multiple methods (100 languages of children) • Have atelier (art studio) with an atelierista (artist) to instruct children • Believe children are competent and capable • Children stay together for 3 years • Parents partner with teachers • Community is extension of school
High Scope	David Weikart	• Features defined learning areas • Has 8 content areas with 58 key developmental indicators • Consistency of daily routine is important • Uses plan-do-review sequence in which they make a plan, act on it, and then reflect on the results • Teachers are partners and use the Child Observation Record (COR) to help assess children and plan curriculum • Utilizes 6 step process to teach children conflict resolution
Bank Street	Lucy Sprague Mitchell	• Also referred to as the Developmental- Interactionist Approach • Environment is arranged into learning centers • Focus on hands-on experience with long periods of time given • Teacher uses questions to further children's exploration • Blocks are primary material in the classroom • Field trips are frequently used

Creative Curriculum	Diane Trister Dodge	• Focus on children's play and self-selected activities • Environment is arranged into learning areas • Large blocks of time are given for self-selected play • Uses projects as basis for curriculum • Is researched based and includes assessment system
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Head Start

For children who live in poverty, Head Start has been providing preschool education since 1965 when it was begun by President Lyndon Johnson as part of his war on poverty. It currently serves nearly one million children and annually costs approximately 7.5 billion dollars (United States Department of Health and Human Services, 2015). However, concerns about the effectiveness of Head Start have been ongoing since the program began. Armor (2015) reviewed existing research on Head Start and found there were no lasting gains, and the average child in Head Start had not learned more than children who did not receive preschool education.



Figure 4.7.2: A photograph from when Head Start began. (Image by Children's Bureau Centennial)

A recent report dated July 2015 evaluating the effectiveness of Head Start comes from the What Works Clearinghouse. The What Works Clearinghouse identifies research that provides reliable evidence of the effectiveness of programs and practices in education, and is managed by the Institute of Education Services for the United States Department of Education. After reviewing 90 studies on the effectiveness of Head Start, only one study was deemed scientifically acceptable and this study showed disappointing results (Barshay, 2015). This study showed that 3- and 4-year-old children in Head Start received “potentially positive effects” on general reading achievement, but no noticeable effects on math achievement and social-emotional development.

Nonexperimental designs are a significant problem in determining the effectiveness of Head Start programs because a control group is needed to show group differences that would demonstrate educational benefits. Because of ethical reasons, low income children are usually provided with some type of pre-school programming in an alternative setting. Additionally, Head Start programs are different depending on the location, and these differences include the length of the day or qualification of the teachers. Lastly, testing young children is difficult and strongly dependent on their language skills and comfort level with an evaluator (Barshay, 2015). 28

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4.8: Applications to Early Education

Understanding how children think and learn has proven useful for improving education. Activities like playing games that involve working with numbers and spatial relationships can give young children a developmental advantage over peers who have less exposure to the same concepts.

Mathematics

Even before they enter kindergarten, the mathematical knowledge of children from low-income backgrounds lags far behind that of children from more affluent backgrounds. Ramani and Siegler (2008) hypothesized that this difference is due to the children in middle- and upper-income families engaging more frequently in numerical activities, for example playing numerical board games such as Chutes and Ladders. Chutes and Ladders is a game with a number in each square; children start at the number one and spin a spinner or throw a dice to determine how far to move their token. Playing this game seemed likely to teach children about numbers, because in it, larger numbers are associated with greater values on a variety of dimensions. In particular, the higher the number that a child's token reaches, the greater the distance the token will have traveled from the starting point, the greater the number of physical movements the child will have made in moving the token from one square to another, the greater the number of number-words the child will have said and heard, and the more time will have passed since the beginning of the game. These spatial, kinesthetic, verbal, and time- based cues provide a broad-based, multisensory foundation for knowledge of numerical magnitudes (the sizes of numbers), a type of knowledge that is closely related to mathematics achievement test scores (Booth & Siegler, 2006).

Playing this numerical board game for roughly 1 hour, distributed over a 2-week period, improved low-income children's knowledge of numerical magnitudes, ability to read printed numbers, and skill at learning novel arithmetic problems. The gains lasted for months after the game-playing experience (Ramani & Siegler, 2008; Siegler & Ramani, 2009). An advantage of this type of educational intervention is that it has minimal if any cost—a parent could just draw a game on a piece of paper.

Reading

Cognitive developmental research has shown that phonemic awareness—that is, awareness of the component sounds within words—is a crucial skill in learning to read. To measure awareness of the component sounds within words, researchers ask children to decide whether two words rhyme, to decide whether the words start with the same sound, to identify the component sounds within words, and to indicate what would be left if a given sound were removed from a word. Kindergartners' performance on these tasks is the strongest predictor of reading achievement in third and fourth grade, even stronger than IQ or social class background (Nation, 2008). Moreover, teaching these skills to randomly chosen 4- and 5-year-olds results in their being better readers years later (National Reading Panel, 2000).

Continuing Brain Maturation

Understanding of cognitive development is advancing on many different fronts. One exciting area is linking changes in brain activity to changes in children's thinking (Nelson et al., 2006). Although many people believe that brain maturation is something that occurs before birth, the brain actually continues to change in large ways for many years thereafter. For example, a part of the brain called the prefrontal cortex, which is located at the front of the brain and is particularly involved with planning and flexible problem solving, continues to develop throughout adolescence (Blakemore & Choudhury, 2006). Such new research domains, as well as enduring issues such as nature and nurture, continuity and discontinuity, and how to apply cognitive development research to education, insure that cognitive development will continue to be an exciting area of research in the coming years. 29

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4.9: Cognitive Differences

Sometimes children's brains work differently. One form of this neurodiversity is **Autism spectrum disorder**.

Autism: Defining Spectrum Disorder

Autism spectrum disorder (ASD) describes a range of conditions classified as neuro-developmental disorders in the fifth revision of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The DSM-5, published in 2013, redefined the autism spectrum to encompass the previous (DSM-IV-TR) diagnoses of autism, Asperger syndrome, pervasive developmental disorder not otherwise specified (PDD-NOS), and childhood disintegrative disorder. These disorders are characterized by social deficits and communication difficulties, repetitive behaviors and interests, sensory issues, and in some cases, cognitive delays.

Asperger syndrome was distinguished from autism in the earlier DSM-IV by the lack of delay or deviance in early language development. Additionally, individuals diagnosed with Asperger syndrome did not have significant cognitive delays. PDD-NOS was considered "subthreshold autism" and "atypical autism" because it was often characterized by milder symptoms of autism or symptoms in only one domain (such as social difficulties). In the DSM-5, both of these diagnoses have been subsumed into autism spectrum disorder.

Autism spectrum disorders are considered to be on a spectrum because each individual with ASD expresses the disorder uniquely and has varying degrees of functionality. Many have above-average intellectual abilities and excel in visual skills, music, math, and the arts, while others have significant disabilities and are unable to live independently. About 25 percent of individuals with ASD are nonverbal; however, they may learn to communicate using other means.

Social Communication Symptoms

Social impairments in children with autism can be characterized by a distinctive lack of intuition about others. Unusual social development becomes apparent early in childhood. Infants with ASD show less attention to social stimuli, smile and look at others less often, and respond less to their own name. Toddlers with ASD differ more strikingly from social norms; for example, they may show less eye contact and turn-taking and may not have the ability to use simple movements to express themselves. Individuals with severe forms of ASD do not develop enough natural speech to meet their daily communication needs.

Restricted and Repetitive Behaviors

Children with ASD may exhibit repetitive or restricted behavior, including:

- Stereotypy—repetitive movement, such as hand flapping, head rolling, or body rocking.
- Compulsive behavior—exhibiting intention to follow rules, such as arranging objects in stacks or lines.
- Sameness—resistance to change; for example, insisting that the furniture not be moved or sticking to an unvarying pattern of daily activities.
- Restricted behavior—limits in focus, interest, or activity, such as preoccupation with a single television program, toy, or game.
- Self-injury—movements that injure or can injure the person, such as eye poking, skin picking, hand biting, and head banging.



Figure 4.9.1: A boy stacking cans. (Image by Countincr is licensed under CC BY-SA 3.0)

Etiology

While specific causes of ASD have yet to be found, many risk factors have been identified in the research literature that may contribute to its development. These risk factors include genetics, prenatal and perinatal factors, neuroanatomical abnormalities, and environmental factors. It is possible to identify general risk factors, but much more difficult to pinpoint specific factors.

Genetics

ASD affects information processing in the brain by altering how nerve cells and their synapses connect and organize; thus, it is categorized as a neuro-developmental disorder. The results of family and twin studies suggest that genetic factors play a role in the etiology of ASD and other pervasive developmental disorders. Studies have consistently found that the prevalence of ASD in siblings of children with ASD is approximately 15 to 30 times greater than the rate in the general population. In addition, research suggests that there is a much higher concordance rate among monozygotic (identical) twins compared to dizygotic (fraternal) twins. It appears that there is no single gene that can account for ASD; instead, there seem to be multiple genes involved, each of which is a risk factor for part of the autism syndrome through various groups. It is unclear whether ASD is explained more by rare mutations or by combinations of common genetic variants.

The Diversity of the Autism Spectrum

The rainbow-colored infinity symbol represents the diversity of the autism spectrum as well as the greater neurodiversity movement. The neurodiversity movement suggests that diverse neurological conditions appear as a result of normal variations in the human genome. It challenges the idea that such neurological differences are inherently pathological, instead asserting that differences should be recognized and respected as a social category on a par with gender, ethnicity, sexual orientation, or disability status.



Figure 4.9.2: A symbol of the autism spectrum. (Image is in the public domain)

Prenatal and Perinatal Factors

A number of prenatal and perinatal complications have been reported as possible risk factors for ASD. These risk factors include maternal gestational diabetes, maternal and paternal age over 30, bleeding after first trimester, use of prescription medication (such as valproate) during pregnancy, and meconium (the earliest stool of an infant) in the amniotic fluid. While research is not conclusive on the relation of these factors to ASD, each of these factors has been identified more frequently in children with ASD than in developing youth without ASD.

Environmental Factors

Evidence for environmental causes is anecdotal and has not been confirmed by reliable studies. In the last few decades, controversy surrounded the idea that vaccinations may be the cause for many cases of autism; however, these theories lack scientific evidence and are biologically implausible. Even still, parental concern about a potential vaccine link with autism has led to lower rates of childhood immunizations, outbreaks of previously controlled childhood diseases in some countries, and the preventable deaths of several children.

Treatment

There is no known cure for ASD, and treatment tends to focus on management of symptoms. The main goals when treating children with ASD are to lessen associated deficits and family distress and to increase quality of life and functional independence. 32 Treatment for ASD should begin as soon as possible after diagnosis. Early treatment for ASD is important as proper care can reduce individuals' difficulties while helping them learn new skills and make the most of their strengths.

The wide range of issues facing people with ASD means that there is no single best treatment for ASD.³³ So treatment is typically tailored to the individual person's needs. Intensive, sustained special-education programs and behavior therapy yearly in life can help children acquire self-care, social, and job skills. The most widely used therapy **is applied behavior analysis** (ABA); other available approaches include developmental models, structured teaching, speech and language therapy, social skills therapy, and occupational therapy. 34



Figure 4.9.3: A boy with ASD receiving therapy. (Image by [Edwards Air Force Base](#) is in the public domain)

There has been increasing attention to the development of evidenced-based interventions for young children with ASD. Although evidence-based interventions for children with ASD vary in their methods, many adopt a psychoeducational approach to enhancing cognitive, communication, and social skills while minimizing behaviors that are thought to be problematic. 36

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4.S: Summary

In this chapter we covered,

- Piaget's preoperational stage.
- Vygotsky's sociocultural theory.
- Information processing.
- How young children understand the world.
- Typical progression of cognitive and language development (milestones).
- Early childhood education.
- Autism spectrum disorder.

In the next chapter, we will finish covering early childhood education by looking at how children understand themselves and interact with the world.

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5: SOCIAL EMOTIONAL DEVELOPMENT IN EARLY CHILDHOOD

Learning Objectives

After reading this chapter, you should be able to:

1. Describe how preschoolers view themselves.
2. Summarize Erikson's stage of initiative versus guilt.
3. Discuss the progression of social emotional development during early childhood.
4. Explain how children develop their understanding of gender.
5. Compare and contrast different styles of parenting.
6. Define characteristics of high quality child care.
7. Discuss the role of siblings and peers.
8. Describe the types of play.
9. Summarize the influence on social and emotional competence.
10. Identify the effects of stress on three- to five-year olds.

In early childhood, children's understanding of themselves and their role in the world expands greatly.

5.1: Social and Emotional Milestones

5.2: Interactionism and Views of Self

5.3: Erikson- Initiative vs. Guilt

5.4: Gender Identity, Gender Constancy, and Gender Roles

5.5: Family Life

5.6: Peers

5.7: Play

5.8: Social Understanding

5.9: Personality

5.10: Social and Emotional Competence

5.11: Childhood Stress and Development

5.S: Summary

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5.1: Social and Emotional Milestones

That expanding understanding of themselves and others develops with age. Here is a table of social and emotional milestones that children typically experience during early childhood.

Table 5.1.1: Social and Emotional Milestones (*Developmental Milestones by the CDC is in the public domain*)

Typical Age	What Most Children Do by This Age
3 years	• Copies adults and friends • Shows affection for friends without prompting • Takes turns in games • Shows concern for a crying friend • Dresses and undresses self • Understands the idea of “mine” and “his” or “hers” • Shows a wide range of emotions • Separates easily from mom and dad • May get upset with major changes in routine
4 years	• Enjoys doing new things • Is more and more creative with make-believe play • Would rather play with other children than by self • Cooperates with other children • Plays “mom” or “dad” • Often can’t tell what’s real and what’s make-believe • Talks about what she likes and what she is interested in
5 years	• Wants to please friends • Wants to be like friends • More likely to agree with rules • Likes to sing, dance, and act • Is aware of gender • Can tell what’s real and what’s make-believe • Shows more independence • Is sometimes demanding and sometimes very cooperative

Many things influence how children develop those milestones as how they view themselves and how they interact with those around them changes. Let’s look more at these.

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5.2: Interactionism and Views of Self

Early childhood is a time of forming an initial sense of self. A **self-concept** or idea of who we are, what we are capable of doing, and how we think and feel is a social process that involves taking into consideration how others view us. So, in order to develop a sense of self, you must have interaction with others. Interactionist theorists, Cooley and Mead offer two interesting explanations of how a sense of self develops.

Cooley

Charles Horton Cooley (1964) suggests that our self-concept comes from looking at how others respond to us. This process, known as the **looking-glass self** involves looking at how others seem to view us and interpreting this as we make judgments about whether we are good or bad, strong or weak, beautiful or ugly, and so on. Of course, we do not always interpret their responses accurately so our self-concept is not simply a mirror reflection of the views of others. After forming an initial self-concept, we may use it as a mental filter screening out those responses that do not seem to fit our ideas of who we are. Some compliments may be negated, for example. The process of the looking-glass self is pronounced when we are preschoolers, or perhaps when we are in a new school or job or are taking on a new role in our personal lives and are trying to gauge our own performances. When we feel more sure of who we are, we focus less on how we appear to others. 2



Figure 5.2.1: A child looking at herself wearing glasses in a mirror. (Image is in the public domain)

Mead

Herbert Mead (1967) offers an explanation of how we develop a social sense of self by being able to see ourselves through the eyes of others. There are two parts of the self: the “I” which is the part of the self that is spontaneous, creative, innate, and is not concerned with how others view us and the “me” or the social definition of who we are.

When we are born, we are all “I” and act without concern about how others view us. But the socialized self begins when we are able to consider how one important person views us. This initial stage is called “taking the role of the significant other”. For example, a child may pull a cat’s tail and be told by his mother, “No! Don’t do that, that’s bad” while receiving a slight slap on the hand. Later, the child may mimic the same behavior toward the self and say aloud, “No, that’s bad” while patting his own hand. What has happened? The child is able to see himself through the eyes of the mother. As the child grows and is exposed to many situations and rules of culture, he begins to view the self in the eyes of many others through these cultural norms or rules. This is referred to as “taking the role of the generalized other” and results in a sense of self with many dimensions. The child comes to have a sense of self as student, as friend, as son, and so on.

Exaggerated Sense of Self

One of the ways to gain a clearer sense of self is to exaggerate those qualities that are to be incorporated into the self. Preschoolers often like to exaggerate their own qualities or to seek validation as the biggest, smartest, or child who can jump the highest. This exaggeration tends to be replaced by a more realistic sense of self in middle childhood.

Self-Esteem

Early childhood is a time of forming an initial sense of self. **Self-concept** is our self-description according to various categories, such as our external and internal qualities. In contrast, **self-esteem** is an evaluative judgment about who we are. The emergence of cognitive skills in this age group results in improved perceptions of the self, but they tend to focus on external qualities, which are referred to as the **categorical self**. When researchers ask young children to describe themselves, their descriptions tend to include physical descriptors, preferred activities, and favorite possessions. Thus, the **self-description** of a 3-year-old might be a 3-year-old girl with red hair, who likes to play with blocks. However, even children as young as three know there is more to themselves than these external characteristics.

Harter and Pike (1984) challenged the method of measuring personality with an open-ended question as they felt that language limitations were hindering the ability of young children to express their self-knowledge. They suggested a change to the method of measuring self-concept in young children, whereby researchers provide statements that ask whether something is true of the child (e.g., “I like to boss people around”, “I am grumpy most of the time”). They discovered that in early childhood, children answer these statements in an internally consistent manner, especially after the age of four (Goodvin, Meyer, Thompson & Hayes, 2008) and often give similar responses to what others (parents and teachers) say about the child (Brown, Mangelsdorf, Agathen, & Ho, 2008; Colwell & Lindsey, 2003).



Figure 5.2.2: Young children don't always feel good about themselves. (Image is licensed under CC0)

Young children tend to have a generally positive self-image. This optimism is often the result of a lack of social comparison when making self-evaluations (Ruble, Boggiano, Feldman, & Loeb, 1980), and with comparison between what the child once could do to what they can do now (Kemple, 1995). However, this does not mean that preschool children are exempt from negative self-evaluations. Preschool children with insecure attachments to their caregivers tend to have lower self-esteem at age four (Goodwin et al., 2008). Maternal negative affect (emotional state) was also found by Goodwin and her colleagues to produce more negative self-evaluations in preschool children.

Self-Control

Self-control is not a single phenomenon, but is multi-faceted. It includes **response initiation**, the ability to not initiate a behavior before you have evaluated all of the information, **response inhibition**, the ability to stop a behavior that has already begun, and delayed gratification, the ability to hold out for a larger reward by forgoing a smaller immediate reward (Dougherty, Marsh, Mathias, & Swann, 2005). It is in early childhood that we see the start of self-control, a process that takes many years to fully develop. In the now classic “Marshmallow Test” (Mischel, Ebbesen, & Zeiss, 1972) children are confronted with the choice of a small immediate reward (a marshmallow) and a larger delayed reward (more marshmallows). Walter Mischel and his colleagues over the years have found that the ability to delay gratification at the age of four predicted better academic performance and health later in life (Mischel, et al., 2011). Self-control is related to executive function, discussed earlier in the chapter. As executive

function improves, children become less impulsive (Traverso, Viterbori, & Usai, 2015). 5

Self-Control and Play

Thanks to the new Centre for Research on Play in Education, Development and Learning (PEDaL), Whitebread, Baker, Gibson and a team of researchers hope to provide evidence on the role played by play in how a child develops.

“A strong possibility is that play supports the early development of children’s self-control,” explains Baker. “These are our abilities to develop awareness of our own thinking processes – they influence how effectively we go about undertaking challenging activities.”

In a study carried out by Baker with toddlers and young preschoolers, she found that children with greater self-control solved problems quicker when exploring an unfamiliar set-up requiring scientific reasoning, regardless of their IQ. “This sort of evidence makes us think that giving children the chance to play will make them more successful and creative problem-solvers in the long run.”

If playful experiences do facilitate this aspect of development, say the researchers, it could be extremely significant for educational practices because the ability to self-regulate has been shown to be a key predictor of academic performance.

Gibson adds: “Playful behavior is also an important indicator of healthy social and emotional development. In my previous research, I investigated how observing children at play can give us important clues about their well being and can even be useful in the diagnosis of neurodevelopmental disorders like autism.”⁶

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5.3: Erikson- Initiative vs. Guilt

Psychologist Erik Erikson argues that children in early childhood go through a stage of “initiative vs. guilt”. If the child is placed in an environment where he/she can explore, make decisions, and initiate activities, they have achieved initiative. On the other hand, if the child is put in an environment where initiation is repressed through criticism and control, he/she will develop a sense of guilt.



Figure 5.3.1: Children playing in the sand. (Image is in the public domain)

The trust and autonomy of previous stages develop into a desire to take initiative or to think of ideas and initiative action. Children may want to build a fort with the cushions from the living room couch or open a lemonade stand in the driveway or make a zoo with their stuffed animals and issue tickets to those who want to come. Or they may just want to get themselves ready for bed without any assistance. To reinforce taking initiative, caregivers should offer praise for the child’s efforts and avoid being critical of messes or mistakes. Soggy washrags and toothpaste left in the sink pales in comparison to the smiling face of a five-year-old that emerges from the bathroom with clean teeth and pajamas! 8

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5.4: Gender Identity, Gender Constancy, and Gender Roles

Another important dimension of the self is the sense of self as male or female. Preschool-aged children become increasingly interested in finding out the differences between boys and girls both physically and in terms of what activities are acceptable for each. While 2-year-olds can identify some differences and learn whether they are boys or girls, preschoolers become more interested in what it means to be male or female. This self-identification or **gender identity** is followed sometime later with **gender constancy** or the knowledge that gender does not change. **Gender roles** or the rights and expectations that are associated with being male or female are learned throughout childhood and into adulthood.

Freud and the Phallic Stage

Freud believed that masculinity and femininity were learned during the phallic stage of psychosexual development. According to Freud, during the phallic stage, the child develops an attraction to the opposite-sex parent but after recognizing that they cannot actually be romantically involved with that parent, the child learns to model their own behavior after the same-sex parent. The child develops his or her own sense of masculinity or femininity from this resolution. And, according to Freud, a person who does not exhibit gender-appropriate behavior, such as a woman who competes with men for jobs or a man who lacks self-assurance and dominance, has not successfully completed this stage of development. Consequently, such a person continues to struggle with his or her own gender identity.

Chodorow and Mothering

Chodorow, a Neo-Freudian, believed that mothering promotes gender stereotypic behavior. Mothers push their sons away too soon and direct their attention toward problem-solving and independence. As a result, sons grow up confident in their own abilities but uncomfortable with intimacy. Girls are kept dependent too long and are given unnecessary and even unwelcome assistance from their mothers. Girls learn to underestimate their abilities and lack assertiveness but feel comfortable with intimacy.



Figure 5.4.1: A boy showing independence and confidence. (Image by Adam Jones is licensed under CC BY-SA 2.0)



Figure 5.4.2: A girl showing dependence and comfort within a relationship. (Image by Free-Photos on Pixabay)

Both of these models assume that early childhood experiences result in lifelong gender self-concepts. However, gender socialization is a process that continues throughout life. Children, teens, and adults refine and can modify their sense of self based on gender.

Learning through Reinforcement and Modeling

Learning theorists suggest that gender role socialization is a result of the ways in which parents, teachers, friends, schools, religious institutions, media and others send messages about what is acceptable or desirable behavior as males or females. This socialization begins early-in fact, it may even begin the moment a parent learns that a child is on the way. Knowing the sex of the child can conjure up images of the child's behavior, appearance, and potential on the part of a parent. And this stereotyping continues to guide perception through life. Consider parents of newborns, shown a 7 pound, 20 inch baby, wrapped in blue (a color designating males) describe the child as tough, strong, and angry when crying. Shown the same infant in pink (a color used in the United States for baby girls), these parents are likely to describe the baby as pretty, delicate, and frustrated when crying. (Maccoby & Jacklin, 1987). Female infants are held more, talked to more frequently and given direct eye contact, while male infants play is often mediated through a toy or activity.

Sons are given tasks that take them outside the house and that have to be performed only on occasion while girls are more likely to be given chores inside the home such as cleaning or cooking that is performed daily. Sons are encouraged to think for themselves when they encounter problems and daughters are more likely to be given assistance even when they are working on an answer. This impatience is reflected in teachers waiting less time when asking a female student for an answer than when asking for a reply from a male student (Sadker and Sadker, 1994). Girls are given the message from teachers that they must try harder and endure in order to succeed while boys' successes are attributed to their intelligence. Of course, the stereotypes of advisors can also influence which kinds of courses or vocational choices girls and boys are encouraged to make.

Friends discuss what is acceptable for boys and girls and popularity may be based on modeling what is considered ideal behavior or looks for the sexes. Girls tend to tell one another secrets to validate others as best friends while boys compete for position by emphasizing their knowledge, strength or accomplishments. This focus on accomplishments can even give rise to exaggerating accomplishments in boys, but girls are discouraged from showing off and may learn to minimize their accomplishments as a result.

Gender messages abound in our environment. But does this mean that each of us receives and interprets these messages in the same way? Probably not. In addition to being recipients of these cultural expectations, we are individuals who also modify these roles (Kimmel, 2008). Based on what young children learn about gender from parents, peers, and those who they observe in society, children develop their own conceptions of the attributes associated with maleness or femaleness which is referred to as **gender schemas**.

How much does gender matter? In the United States, gender differences are found in school experiences (even into college and professional school, girls are less vocal in the classrooms and much more at risk for sexual harassment from teachers, coaches,

classmates, and professors), in social interactions and in media messages. The **stereotypes** that boys should be strong, forceful, active, dominant, and rational and that girls should be pretty, subordinate, unintelligent, emotional, and gabby are portrayed in children's toys, books, commercials, video games, movies, television shows and music.



Figure 5.4.3: Store shelves filled with pink and purple colors and girls' toys. (Image by Janet McKnight is licensed under CC BY 2.0)



Figure 5.4.4: Store shelves filled with primary colors and boys' toys. (Image by Janet McKnight is licensed under CC BY 2.0)

In adulthood, these differences are reflected in income gaps between men and women where women working full-time earn about 74 percent the income of men, in higher rates of women suffering rape and domestic violence, higher rates of eating disorders for females, and in higher rates of violent death for men in young adulthood. Each of these differences will be explored further in subsequent chapters. 13

Gender Dysphoria

A growing body of research is now focused on Gender Dysphoria, or the distress accompanying a mismatch between one's gender identity and biological sex (American Psychiatric Association, 2013). Although prevalence rates are low, at approximately 0.3 percent of the United States population (Russo, 2016), children who later identified as transgender, often stated that they were the opposite gender as soon as they began talking. Comments such as stating they prefer the toys, clothing and anatomy of the opposite sex, while rejecting the toys, clothing, and anatomy of their assigned sex are criteria for a diagnosis of Gender Dysphoria in children. Certainly, many young children do not conform to the gender roles modeled by the culture and even push back against assigned roles. However, they do not experience discomfort regarding their gender identity and would not be identified with Gender Dysphoria. A more comprehensive description of Gender Dysphoria, including current treatments, will be discussed in the chapter on adolescence. 14

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5.5: Family Life

Relationships between parents and children continue to play a significant role in children's development during early childhood. We will explore two models of parenting styles. Keep in mind that most parents do not follow any model completely. Real people tend to fall somewhere in between these styles. And sometimes parenting styles change from one child to the next or in times when the parent has more or less time and energy for parenting. Parenting styles can also be affected by concerns the parent has in other areas of his or her life. For example, parenting styles tend to become more authoritarian when parents are tired and perhaps more authoritative when they are more energetic. Sometimes parents seem to change their parenting approach when others are around, maybe because they become more self-conscious as parents or are concerned with giving others the impression that they are a “tough” parent or an “easy-going” parent. And of course, parenting styles may reflect the type of parenting someone saw modeled while growing up.



Figure 5.5.1: A family playing outside together. (Image by [Air Force Medical Service](#) is in the public domain)

Baumrind

Baumrind (1971) offers a model of parenting that includes four styles. The first, **authoritarian**, is the traditional model of parenting in which parents make the rules and children are expected to be obedient. Baumrind suggests that authoritarian parents tend to place maturity demands on their children that are unreasonably high and tend to be aloof and distant. Consequently, children reared in this way may fear rather than respect their parents and, because their parents do not allow discussion, may take out their frustrations on safer targets—perhaps as bullies toward peers.

Permissive parenting involves holding expectations of children that are below what could be reasonably expected from them. Children are allowed to make their own rules and determine their own activities. Parents are warm and communicative, but provide little structure for their children. Children fail to learn self-discipline and may feel somewhat insecure because they do not know the limits.

Authoritative parenting involves being appropriately strict, reasonable, and affectionate. Parents allow negotiation where appropriate and discipline matches the severity of the offense. A popular parenting program that is offered in many school districts is called “Love and Logic” and reflects the authoritative or democratic style of parenting just described.

Uninvolved parents (also referred to as rejecting/neglecting) are disengaged from their children. They do not make demands on their children and are non-responsive. These children can suffer in school and in their relationships with their peers (Gecas & Self, 1991).

Lemasters and Defrain

Lemasters and Defrain (1989) offer another model of parenting. This model is interesting because it looks more closely at the motivations of the parent and suggests that parenting styles are often designed to meet the psychological needs of the parent rather than the developmental needs of the child.

The **martyr** is a parent who will do anything for the child; even tasks that the child should do for himself or herself. All of the good deeds performed for the child, in the name of being a “good parent”, may be used later should the parent want to gain compliance from the child. If a child goes against the parent’s wishes, the parent can remind the child of all of the times the parent helped the child and evoke a feeling of guilt so that the child will do what the parent wants. The child learns to be dependent and manipulative as a result.

The **pal** is like the permissive parent described previously in Baumrind’s model. The pal wants to be the child’s friend. Perhaps the parent is lonely or perhaps the parent is trying to win a popularity contest against an ex-spouse. Pals let children do what they want and focus mostly on being entertaining and fun and set few limitations. Consequently, the child may have little self-discipline and may try to test limits with others.

The **police officer/drill sergeant** style of parenting is similar to the authoritarian parent described by Baumrind. The parent focuses primarily on making sure that the child is obedient and that the parent has full control of the child. Sometimes this can be taken to extreme by giving the child tasks that are really designed to check on their level of obedience. For example, the parent may require that the child fold the clothes and place items back in the drawer in a particular way. If not, the child might be scolded or punished for not doing things “right”. This type of parent has a very difficult time allowing the child to grow and learn to make decisions independently. And the child may have a lot of resentment toward the parent that is displaced on others.

The **teacher-counselor** parent is one who pays a lot of attention to expert advice on parenting and who believes that as long as all of the steps are followed, the parent can rear a perfect child. “What’s wrong with that?” you might ask. There are two major problems with this approach. First, the parent is taking all of the responsibility for the child’s behavior—at least indirectly. If the child has difficulty, the parent feels responsible and thinks that the solution lies in reading more advice and trying more diligently to follow that advice.

Parents can certainly influence children, but thinking that the parent is fully responsible for the child’s outcome is misguided. A parent can only do so much and can never have full control over the child. Another problem with this approach is that the child may get an unrealistic sense of the world and what can be expected from others. For example, if a teacher-counselor parent decides to help the child build self-esteem and has read that telling the child how special he or she is or how important it is to compliment the child on a job well done, the parent may convey the message that everything the child does is exceptional or extraordinary. A child may come to expect that all of his efforts warrant praise and in the real world, this is not something one can expect. Perhaps children get more of a sense of pride from assessing their own performance than from having others praise their efforts.



Figure 5.5.2: A father interacting with his son who is drawing a picture. He could be portraying the style of teacher-counselor or athletic coach (Image by U.S. Air Forces Central Command is in the public domain)

So what is left? Lemasters and Defrain (1989) suggest that the **athletic coach** style of parenting is best. Before you draw conclusions here, set aside any negative experiences you may have had with coaches in the past. The principles of coaching are what are important to Lemasters and Defrain. A coach helps players form strategies, supports their efforts, gives feedback on what went right and what went wrong, and stands at the sideline while the players perform. Coaches and referees make sure that the rules of the game are followed and that all players adhere to those rules. Similarly, the athletic coach as parent helps the child understand what needs to happen in certain situations whether in friendships, school, or home life, and encourages and advises the child about how to manage these situations. The parent does not intervene or do things for the child. Their role is to provide guidance while the child learns firsthand how to handle these situations. And the rules for behavior are consistent and objective

and presented in that way. So, a child who is late for dinner might hear the parent respond in this way, “Dinner was at six o’clock.” Rather than, “You know good and well that we always eat at six. If you expect me to get up and make something for you now, you have got another thing coming! Just who do you think you are showing up late and looking for food? You’re grounded until further notice!”

The most important thing to remember about parenting is that you can be a better, more objective parent when you are directing your actions toward the child’s needs and while considering what they can reasonably be expected to do at their stage of development. Parenting is more difficult when you are tired and have psychological needs that interfere with the relationship. Some of the best advice for parents is to try not to take the child’s actions personally and be as objective as possible.

Cultural Influences on Parenting Styles

The impact of class and culture cannot be ignored when examining parenting styles. The two models of parenting described above assume that authoritative and athletic coaching styles are best because they are designed to help the parent raise a child who is independent, self-reliant and responsible. These are qualities favored in “individualistic” cultures such as the United States, particularly by the white middle class. African-American, Hispanic and Asian parents tend to be more authoritarian than non-Hispanic whites.



Figure 5.5.3: A family from a collectivistic culture. (Image by the National Cancer Institute is in the public domain)

In “collectivistic” cultures such as China or Korea, being obedient and compliant are favored behaviors. Authoritarian parenting has been used historically and reflects cultural need for children to do as they are told. In societies where family members’ cooperation is necessary for survival, as in the case of raising crops, rearing children who are independent and who strive to be on their own makes no sense. But in an economy based on being mobile in order to find jobs and where one’s earnings are based on education, raising a child to be independent is very important.

Working class parents are more likely than middle class parents to focus on obedience and honesty when raising their children. In a classic study on social class and parenting styles called *Class and Conformity*, Kohn (1977) explains that parents tend to emphasize qualities that are needed for their own survival when parenting their children. Working class parents are rewarded for being obedient, reliable, and honest in their jobs. They are not paid to be independent or to question the management; rather, they move up and are considered good employees if they show up on time, do their work as they are told, and can be counted on by their employers. Consequently, these parents reward honesty and obedience in their children.

Middle class parents who work as professionals are rewarded for taking initiative, being self-directed, and assertive in their jobs. They are required to get the job done without being told exactly what to do. They are asked to be innovative and to work independently. These parents encourage their children to have those qualities as well by rewarding independence and self-

Spanking

Many adults can remember being spanked as a child. This method of discipline continues to be endorsed by the majority of parents (Smith, 2012). Just how effective is spanking, however, and are there any negative consequences? After reviewing the research, Smith (2012) states “many studies have shown that physical punishment, including spanking, hitting and other means of causing pain, can lead to increased aggression, antisocial behavior, physical injury and mental health problems for children” (p. 60).



Figure 5.5.4: A boy crying. (Image on Pexels)

Gershoff, (2008) reviewed decades of research and recommended that parents and caregivers make every effort to avoid physical punishment and called for the banning of physical discipline in all U.S. schools. Gershoff and Grogan-Kaylor (2016) completed another metaanalysis that looked at research over 160,927 children . They found increased risk for negative outcomes for children who are spanked and that effects of spanking were similar to that of physical abuse.

In a longitudinal study that followed more than 1500 families from 20 U.S. cities, parents’ reports of spanking were assessed at ages three and five (MacKenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2013). Measures of externalizing behavior (aggression and rule-breaking) and receptive vocabulary were assessed at age nine.

Overall, 57% of mothers and 40% of fathers engaged in spanking when children were age 3, and 52% of mothers and 33% of fathers engaged in spanking at age 5. Maternal spanking at age 5, even at low levels, was associated with higher levels of aggression at age 9, even after an array of risks and earlier child behavior were controlled for. Father's high-frequency spanking at age 5 was associated with lower child receptive vocabulary scores at age 9. This study revealed the negative cognitive effects of spanking in addition to the increase in aggressive behavior.

Internationally, physical discipline is increasingly being viewed as a violation of children’s human rights. Thirty countries have banned the use of physical punishment, and the United Nations Committee on the Rights of the Child (2014) called physical punishment “legalized violence against children” and advocated that physical punishment be eliminated in all settings.

Alternatives to spanking are advocated by child development specialists and include:

- Praising and modeling appropriate behavior
- Providing time-outs for inappropriate behavior
- Giving choices
- Helping the child identify emotions and learning to calm down
- Ignoring small annoyances
- Withdrawing privileges

Changing Families in a Changing Society

The sociology of the family examines the family as an institution and a unit of socialization. Sociological studies of the family look

at demographic characteristics of the family members: family size, age, ethnicity and gender of its members, social class of the family, the economic level and mobility of the family, professions of its members, and the education levels of the family members.

Currently, one of the biggest issues that sociologists study are the changing roles of family members. Often, each member is restricted by the gender roles of the traditional family. These roles, such as the father as the breadwinner and the mother as the homemaker, are declining. Now, the mother is often the supplementary provider while retaining the responsibilities of child rearing. In this scenario, females' role in the labor force is "compatible with the demands of the traditional family." Sociology studies the adaptation of males' role to caregiver as well as provider. The gender roles are increasingly interwoven.

Diverse Family Forms

A **single parent family** usually refers to a parent who has most of the day-to-day responsibilities in the raising of the child or children, who is not living with a spouse or partner, or who is not married. The dominant caregiver is the parent with whom the children reside the majority of the time. If the parents are separated or divorced, children live with their custodial parent and have visitation with their noncustodial parent. In western society in general, following separation a child will end up with the primary caregiver, usually the mother, and a secondary caregiver, usually the father. There is a growing community of **single parent by choice** families in which a family is built by a single adult (through foster care, adoption, donor gametes and embryos, and surrogacy).



Figure 5.5.5: A single-parent family. (Image is in the public domain)

Cohabitation is an arrangement where two people who are not married live together in an intimate relationship, particularly an emotionally and/or sexually intimate one, on a long-term or permanent basis. Today, cohabitation is a common pattern among people in the Western world. More than two-thirds of married couples in the U.S. say that they lived together before getting married.

Gay and lesbian couples are categorized as **same-sex relationships**.²¹ After a Supreme Court ruling in 2015, all 50 states in the U.S. must recognize same-sex marriage, there are still some counties in several states that will not issue a marriage license to a same-sex couple.²²



Figure 5.5.6: A family with parents of the same sex. (Image by Emily Walker is licensed under CC BY-SA 2.0)

Sibling Relationships

Siblings spend a considerable amount of time with each other and offer a unique relationship that is not found with same-age peers or with adults. Siblings play an important role in the development of social skills. Cooperative and pretend play interactions between younger and older siblings can teach empathy, sharing, and cooperation (Pike, Coldwell, & Dunn, 2005) as well as negotiation and conflict resolution (Abuhatoum & Howe, 2013). However, the quality of sibling relationships is often mediated by the quality of the parent-child relationship and the psychological adjustment of the child (Pike et al., 2005). For instance, more negative interactions between siblings have been reported in families where parents had poor patterns of communication with their children (Brody, Stoneman, & McCoy, 1994). Children who have emotional and behavioral problems are also more likely to have negative interactions with their siblings. However, the psychological adjustment of the child can sometimes be a reflection of the parent-child relationship. Thus, when examining the quality of sibling interactions, it is often difficult to tease out the separate effect of adjustment from the effect of the parent-child relationship.

While parents want positive interactions between their children, conflicts are going to arise, and some confrontations can be the impetus for growth in children's social and cognitive skills. The sources of conflict between siblings often depend on their respective ages. Dunn and Munn (1987) revealed that over half of all sibling conflicts in early childhood were disputes about property rights. By middle childhood this starts shifting toward control over social situations, such as what games to play, disagreements about facts or opinions, or rude behavior (Howe, Rinaldi, Jennings, & Petrakos, 2002). Researchers have also found that the strategies children use to deal with conflict change with age, but that this is also tempered by the nature of the conflict.

Abuhatoum and Howe (2013) found that coercive strategies (e.g., threats) were preferred when the dispute centered on property rights, while reasoning was more likely to be used by older siblings and in disputes regarding control over the social situation. However, younger siblings also use reasoning, frequently bringing up the concern of legitimacy (e.g., "You're not the boss") when in conflict with an older sibling. This is a very common strategy used by younger siblings and is possibly an adaptive strategy in order for younger siblings to assert their autonomy (Abuhatoum & Howe, 2013). A number of researchers have found that children who can use non-coercive strategies are more likely to have a successful resolution, whereby a compromise is reached and neither child feels slighted (Ram & Ross, 2008; Abuhatoum & Howe, 2013).

Not surprisingly, friendly relationships with siblings often lead to more positive interactions with peers. The reverse is also true. A child can also learn to get along with a sibling, with, as the song says "a little help from my friends" (Kramer & Gottman, 1992). 24



Figure 5.5.7: Siblings. (Image by LEONARDO DASILVA is licensed under CC BY 2.0)

Child Care Concerns

About 77.3 percent of mothers of school-aged and 64.2 percent of mothers of preschool-aged children in the United States work outside the home (Cohen and Bianchi, 1999; Bureau of Labor Statistics, 2010). Seventy-five percent of children under age 5 are in scheduled childcare programs. Others are cared for by family members or friends. Older children are often in after school programs, before school programs, or stay at home alone after school once they are older.

Quality childcare programs can enhance a child's social skills and can provide rich learning experiences. But long hours in poor quality care can have negative consequences, especially for young children.

Quality of Care

What determines the quality of child care? One consideration is the **teacher/child ratio**. States specify the maximum number of children that can be supervised by one teacher. In general, the younger the children, the more teachers required for a given number of children. The lower the teacher to child ratio, the more time the teacher has for involvement with the children and the less stressed the teacher may be so that the interactions can be more relaxed, stimulating and positive. Larger group sizes present challenges to quality as well. The program may be more rigid in rules and structure to accommodate the large number of children in the facility.

The **physical environment** should be engaging, clean, and safe. The **philosophy** of the organization and the **curriculum** available should be child-centered, positive, and stimulating. Providers should be trained in early childhood education. A majority of states do not require training for their childcare providers. And while formal education is not required for a person to provide a warm, loving relationship to a child, knowledge of a child's development is useful for addressing their social, emotional, and cognitive needs in an effective way.



Figure 5.5.8: Children playing in a quality childcare environment. (Image by Hurlburt Field is in the public domain)

By working toward improving the quality of childcare and increasing family-friendly workplace policies such as more flexible scheduling and perhaps childcare facilities at places of employment, we can accommodate families with smaller children and relieve parents of the stress sometimes associated with managing work and family life. 27

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5.6: Peers

Relationships within the family (parent-child and siblings) are not the only significant relationships in a child's life. Peer relationships are also important. Social interaction with another child who is similar in age, skills, and knowledge provokes the development of many social skills that are valuable for the rest of life (Bukowski, Buhrmester, & Underwood, 2011). In peer relationships, children learn how to initiate and maintain social interactions with other children. They learn skills for managing conflict, such as turn-taking, compromise, and bargaining. Play also involves the mutual, sometimes complex, coordination of goals, actions, and understanding. For example, as preschoolers engage in pretend play they create narratives together, choose roles, and collaborate to act out their stories. Through these experiences, children develop friendships that provide additional sources of security and support to those provided by their parents.



Figure 5.6.1: Navigating dramatic play provides great opportunities to continue to develop social skills with same-age peers. (Image by [Seattle City Council](#) is in the public domain)

However, peer relationships can be challenging as well as supportive (Rubin, Coplan, Chen, Bowker, & McDonald, 2011). Being accepted by other children is an important source of affirmation and self-esteem, but peer rejection can foreshadow later behavior problems (especially when children are rejected due to aggressive behavior).

Peer relationships require developing very different social and emotional skills than those that emerge in parent-child relationships. They also illustrate the many ways that peer relationships influence the growth of personality and self-concept. 29

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5.7: Play

Freud saw play as a means for children to release pent-up emotions and to deal with emotionally distressing situations in a more secure environment. Vygotsky and Piaget saw play as a way of children developing their intellectual abilities (Dyer & Moneta, 2006). Piaget created stages of play that correspond with his stages of cognitive development. The stages are:

Table 5.7.1: Piaget's Stages of Play (Cognitive and Social Types of Play (n.d.). Retrieved from <https://groundsforplay.com/cognitive-and-social-forms-play>)

Stage	Description
Functional Play	Exploring, inspecting, and learning through repetitive physical activity.
Symbolic Play	The ability to use objects, actions, or ideas to represent other objects, actions, or ideas and may include taking on roles. ³¹
Constructive Play	Involves experimenting with objects to build things ³² ; learning things that were previously unknown with hands-on manipulations of materials.
Games with Rules	Imposes rules that must be followed by everyone that is playing; the logic and order involved forms that the foundations for developing game playing strategy ³³

While Freud, Piaget, and Vygotsky looked at play slightly differently, all three theorists saw play as providing positive outcomes for children.

Mildred Parten (1932) observed two to five year-old children and noted six types of play. Three types she labeled as non-social (unoccupied, solitary, and onlooker) and three types were categorized as social play (parallel, associative, and cooperative). The table below describes each type of play. Younger children engage in non-social play more than those who are older; by age five associative and cooperative play are the most common forms of play (Dyer & Moneta, 2006). ³⁴

Table 5.7.2: Parten's Classification of Types of Play (*Lifespan Development - Module 5: Early Childhood* by *Lumen Learning* references *Psyc 200 Lifespan Psychology* by Laura Overstreet, licensed under *CC BY 4.0*)

Category	Description
Unoccupied Play	Children's behavior seems more random and without a specific goal. This is the least common form of play.
Solitary Play	Children play by themselves, do not interact with others, nor are they engaging in similar activities as the children around them.
Onlooker Play	Children are observing other children playing. They may comment on the activities and even make suggestions, but will not directly join the play.
Parallel Play	Children play alongside each other, using similar toys, but do not directly act with each other
Associative Play	Children will interact with each other and share toys but are not working toward a common goal.
Cooperative Play	Children are interacting to achieve a common goal. Children may take on different tasks to reach that goal.

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31. Symbolic Play (n.d.). Retrieved from <https://www.pgpedia.com/s/symbolic-play>
32. Constructive Play (n.d.). Retrieved from <https://www.pgpedia.com/c/constructive-play>
33. Games with Rules (n.d.). Retrieved from <https://www.pgpedia.com/g/games-rules>
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5.8: Social Understanding

As we have seen, children's experience of relationships at home and the peer group contributes to an expanding repertoire of social and emotional skills and also to broadened social understanding. In these relationships, children develop expectations for specific people (leading, for example, to secure or insecure attachments to parents), understanding of how to interact with adults and peers, and developing self-concept based on how others respond to them. These relationships are also significant forums for emotional development.

Remarkably, young children begin developing social understanding very early in life. Before the end of the first year, infants are aware that other people have perceptions, feelings, and other mental states that affect their behavior, and which are different from the child's own mental states. Carefully designed experimental studies show that by late in the preschool years, young children understand that another's beliefs can be mistaken rather than correct, that memories can affect how you feel, and that one's emotions can be hidden from others (Wellman, 2011). Social understanding grows significantly as children's theory of mind develops.

How do these achievements in social understanding occur? One answer is that young children are remarkably sensitive observers of other people, making connections between their emotional expressions, words, and behavior to derive simple inferences about mental states (e.g., concluding, for example, that what Mommy is looking at is in her mind) (Gopnik, Meltzoff, & Kuhl, 2001). This is especially likely to occur in relationships with people whom the child knows well, consistent with the ideas of attachment theory discussed above.



Figure 5.8.1: A father speaking to his child. (Image is in the public domain)

Growing language skills give young children words with which to represent these mental states (e.g., “mad,” “wants”) and talk about them with others. Thus in conversation with their parents about everyday experiences, children learn much about people's mental states from how adults talk about them (“Your sister was sad because she thought Daddy was coming home.”) (Thompson, 2006b).

Developing social understanding is based on children's everyday interactions with others and their careful interpretations of what they see and hear. There are also some scientists who believe that infants are biologically prepared to perceive people in a special way, as organisms with an internal mental life, and this facilitates their interpretation of people's behavior with reference to those mental states (Leslie, 1994).

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5.9: Personality

Parents often scrutinize their child's preferences, characteristics, and responses for clues of a developing personality. They are quite right to do so, because temperament is a foundation for personality growth. But temperament (defined as early-emerging differences in reactivity and self-regulation) is not the whole story. Although temperament is biologically based, it interacts with the influence of experience from the moment of birth (if not before) to shape personality (Rothbart, 2011). Temperamental dispositions are affected, for example, by the support level of parental care. More generally, personality is shaped by the goodness of fit between the child's temperamental qualities and characteristics of the environment (Chess & Thomas, 1999). For example, an adventurous child whose parents regularly take her on weekend hiking and fishing trips would be a good "fit" to her lifestyle, supporting personality growth. Personality is the result, therefore, of the continuous interplay between biological disposition and experience, as is true for many other aspects of social and personality development.

Personality develops from temperament in other ways (Thompson, Winer, & Goodvin, 2010). As children mature biologically, temperamental characteristics emerge and change over time. A newborn is not capable of much self-control, but as brain-based capacities for self-control advance, temperamental changes in self-regulation become more apparent. So an infant that cries frequently doesn't necessarily have a grumpy personality. With sufficient parental support and increased sense of security, the child may develop into a content preschooler that is not likely to cry to get her needs met.



Figure 5.9.1: A girl enjoying nature. (Image by Khanh Steven on Unsplash)

In addition, personality is made up of many other features besides temperament. Children's developing self-concept, their motivations to achieve or to socialize, their values and goals, their coping styles, their sense of responsibility and conscientiousness, and many other qualities are encompassed into personality. These qualities are influenced by biological dispositions, but even more by the child's experiences with others, particularly in close relationships, that guide the growth of individual characteristics.

Indeed, personality development begins with the biological foundations of temperament but becomes increasingly elaborated, extended, and refined over time. The newborn that parents observed in wonder upon becomes an adult with a personality of depth and nuance.

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5.10: Social and Emotional Competence

Social and personality development is built from the social, biological, and representational influences discussed above. These influences result in important developmental outcomes that matter to children, parents, and society: a young adult's capacity to engage in socially constructive actions (helping, caring, sharing with others), to curb hostile or aggressive impulses, to live according to meaningful moral values, to develop a healthy identity and sense of self, and to develop talents and achieve success in using them. These are some of the developmental outcomes that denote social and emotional competence.

These achievements of social and personality development derive from the interaction of many social, biological, and representational influences. Consider, for example, the development of conscience, which is an early foundation for moral development.

Conscience consists of the cognitive, emotional, and social influences that cause young children to create and act consistently with internal standards of conduct (Kochanska, 2002). It emerges from young children's experiences with parents, particularly in the development of a mutually responsive relationship that motivates young children to respond constructively to the parents' requests and expectations. Biologically based temperament is involved, as some children are temperamentally more capable of motivated self-regulation (a quality called effortful control) than are others, while some children are more prone to the fear and anxiety that parental disapproval can evoke. The development of conscience is influenced by having a good fit between the child's temperamental qualities and how parents communicate and reinforce behavioral expectations.

Conscience development also expands as young children begin to represent moral values and think of themselves as moral beings. By the end of the preschool years, for example, young children develop a "moral self" by which they think of themselves as people who want to do the right thing, who feel badly after misbehaving, and who feel uncomfortable when others misbehave. In the development of conscience, young children become more socially and emotionally competent in a manner that provides a foundation for later moral conduct (Thompson, 2012).



Figure 5.10.1: This child might be experiencing a guilty conscience. (Image by George Hodan is in the public domain)

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5.11: Childhood Stress and Development

What is the impact of stress on child development? Children experience different types of stressors. Normal, everyday stress can provide an opportunity for young children to build coping skills and poses little risk to development. Even more long-lasting stressful events such as changing schools or losing a loved one can be managed fairly well. But children who experience **toxic stress** or who live in extremely stressful situations of abuse over long periods of time can suffer long-lasting effects. The structures in the midbrain or limbic system such as the hippocampus and amygdala can be vulnerable to prolonged stress during early childhood (Middlebrooks and Audage, 2008). High levels of the stress hormone cortisol can reduce the size of the hippocampus and effect the child's memory abilities. Stress hormones can also reduce immunity to disease. The brain exposed to long periods of severe stress can develop a low threshold making the child hypersensitive to stress in the future. However, the effects of stress can be minimized if the child has the support of caring adults. Let's take a look at childhood stressors.

Effects of Domestic Abuse

3.3 million children witness domestic violence each year in the US. There has been an increase in acknowledgment that children exposed to domestic abuse during their upbringing will suffer in their developmental and psychological welfare. Because of the awareness of domestic violence that some children have to face, it also generally impacts how the child develops emotionally, socially, behaviorally as well as cognitively. Some emotional and behavioral problems that can result due to domestic violence include increased aggressiveness, anxiety, and changes in how a child socializes with friends, family, and authorities. Bruises, broken bones, head injuries, lacerations, and internal bleeding are some of the acute effects of a domestic violence incident that require medical attention and hospitalization.

Child Maltreatment

Child abuse is the physical, sexual, or emotional mistreatment or neglect of a child or children. Different jurisdictions have developed their own definitions of what constitutes child abuse for the purposes of removing a child from his/her family and/or prosecuting a criminal charge. There are four major categories of child abuse: neglect, physical abuse, psychological/emotional abuse, and sexual abuse. Neglect is the most common type of abuse in the United States and accounts for over 60 percent of child abuse cases.



Figure 5.11.1: A child hiding. (Image by Joint Base Elmendorf-Richardson Alaska is in the public domain)

Physical Abuse

Physical abuse involves physical aggression directed at a child by an adult. Most nations with child-abuse laws consider the deliberate infliction of serious injuries, or actions that place the child at obvious risk of serious injury or death, to be illegal. Beyond this, there is considerable variation. The distinction between child discipline and abuse is often poorly defined. Cultural norms about what constitutes abuse vary widely among professionals as well as the wider public. Some professionals claim that cultural norms that sanction physical punishment are one of the causes of child abuse, and have undertaken campaigns to redefine such norms.

Sexual Abuse

Child sexual abuse is a form of child abuse in which an adult or older adolescent abuses a child for sexual stimulation. Effects of child sexual abuse include guilt and self-blame, flashbacks, nightmares, insomnia, and fear of things associated with the abuse. Approximately 15 percent to 25 percent of women and 5 percent to 15 percent of men were sexually abused when they were children.

Emotional Abuse

Out of all the possible forms of abuse, emotional abuse is the hardest to define. It could include name-calling, ridicule, degradation, destruction of personal belongings, torture or killing of a pet, excessive criticism, inappropriate or excessive demands, withholding communication, and routine labeling or humiliation.

Neglect

Neglect is a passive form of abuse in which a perpetrator is responsible to provide care for a victim who is unable to care for himself or herself, but fails to provide adequate care. Neglect may include the failure to provide sufficient supervision, nourishment, or medical care, or the failure to fulfill other needs for which the victim is helpless to provide for himself or herself. The term is also applied when necessary care is withheld by those responsible for providing it from animals, plants, and even inanimate objects. Neglect can have many long-term side effects, such as physical injuries, low self-esteem, attention disorders, violent behavior, and even death. In the U.S., neglect is defined as the failure to meet the basic needs of children: housing, clothing, food, and access to medical care. Researchers found over 91,000 cases of neglect in one year using information from a database of cases verified by protective services agencies.⁴⁰

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5.S: Summary

In this chapter we covered,

- The development of self-concept and self-esteem.
- Erikson's psychosocial stage of initiative versus guilt.
- Gender identity, gender constancy, gender roles, and gender dysphoria.
- Family life, including parenting styles, diverse forms of families, using child care, and the role of siblings.
- The role of peers.
- The types of play.
- The social understanding of preschoolers.
- Personality development
- Social and emotional competences.
- The effects of stress on children, including maltreatment.

In the next chapter we begin exploring middle childhood and how children from 6 to 11 grow and develop.

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6: MIDDLE CHILDHOOD - PHYSICAL DEVELOPMENT

Learning Objectives

After this chapter, you should be able to:

1. Describe the patterns of physical growth
2. Summarize nutrition needs
3. Explain the causes of obesity and the negative consequences of excessive weight gain
4. Discuss the pros and cons of organized sports
5. Compare and contrast developmental disorders
6. Summarize several different mental health disorders

Children in middle childhood go through tremendous changes in the growth and development of their brain. During this period of development children's bodies are not only growing, but they are becoming more coordinated and physically capable. These children are more mindful of their greater abilities in school and are becoming more responsible for their health and diet. Some children may be challenged with physical or mental health concerns. It's important to know what typical development looks like in order to identify and to help those that are struggling with health concerns.

6.1: Brain Development

6.2: Physical Growth

6.3: Nutritional Needs

6.4: Exercise, Physical Fitness, and Sports

6.5: Physical Health

6.6: Childhood Mental Health

6.7: Managing Symptoms- Staying Healthy

6.S: Summary

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6.1: Brain Development

The brain reaches its adult size at about age 7. Then between 10 and 12 years of age, the frontal lobes become more developed and improvements in logic, planning, and memory are evident (van der Molen & Molenaar, 1994). The school-aged child is better able to plan and coordinate activity using both the left and right hemispheres of the brain, which control the development of emotions, physical abilities, and intellectual capabilities. The attention span also improves as the prefrontal cortex matures. The myelin also continues to develop and the child's reaction time improves as well. Myelination improvement is one factor responsible for these growths.

From age 6 to 12, the nerve cells in the association areas of the brain, that is those areas where sensory, motor and intellectual functioning connect, become almost completely myelinated (Johnson, 2005). This myelination contributes to increases in information processing speed and the child's reaction time. The **hippocampus**, which is responsible for transferring information from the short-term to long-term memory, also shows increases in myelination resulting in improvements in memory functioning (Rolls, 2000).



Figure 6.1.1: The human brain. (Image by _DJ_ is licensed under [CC BY-SA 2.0](#))

Changes in the brain during this age enable not only physical development but also allow children to understand what others think of them and dealing socially with the positive and negative consequences of that. Within this development period, children may struggle with mental health disorders or other health problems. As children are growing and becoming more capable, adults need to remember that children don't grow physically in isolation. The development of their bodies isn't separate from the changes that are occurring socially, emotionally, and cognitively. Awareness and understanding of their other developmental domains and needs will support the child during these changes.²

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6.2: Physical Growth

Middle childhood spans the years between early childhood and adolescence, children are approximately 6 to 11 years old. These children come in all shapes and sizes: height, weight, abilities, and disabilities. Physical growth rates are generally slow and steady during these years. However, growth spurts do occur during the middle to late childhood (Spreen, Riser, & Edgell, 1995). Typically, a child will gain about 5-7 pounds a year and grow about 2 inches per year. They also tend to slim down and gain muscle strength. As bones lengthen and broaden and muscles strengthen, many children want to engage in strenuous physical activity and can participate for longer periods of time. In addition, the rate of growth for the extremities is faster than for the trunk, which results in more adult-like proportions. Long-bone growth stretches muscles and ligaments, which results in many children experiencing growing pains, at night, in particular.³

Children between ages 6 and 9, show significant improvement in their abilities to perform motor skills. This development growth allows children to gain greater control over the movement of their bodies, mastering many gross and fine motor skills that were beyond that of the younger child. Riding a bike that is bigger or running longer and further is a big improvement in gross motor skills. Eye-hand coordination and fine motor skills allow children to become better at writing and cutting. Sports and extracurricular activities may become a part of the lives of children during middle childhood due to their physical growth and capabilities.

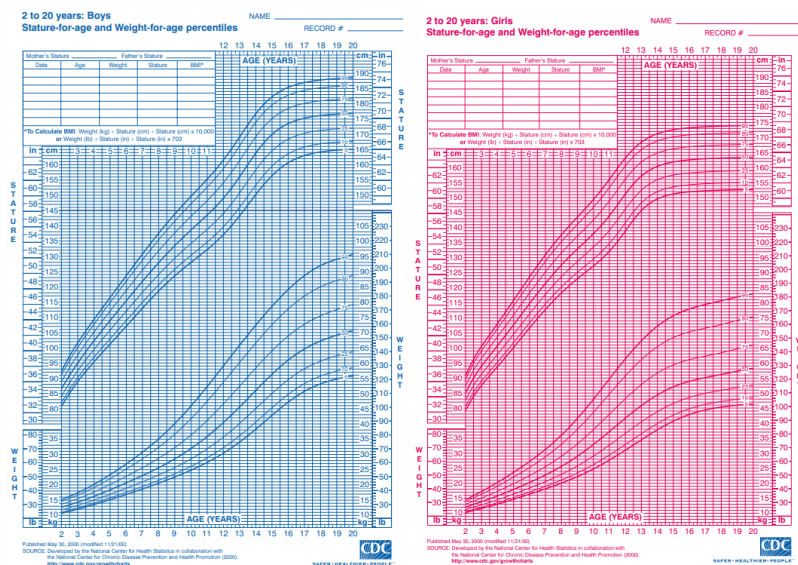


Figure 6.2.1: Stature for age and weight for age percentiles of boys and girls. (Images by the CDC is in the public domain)

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3. Polan EU, Taylor DR. Journey Across the LifeSpan: Human Development and Health Promotion. Philadelphia: F. A. Davis Company; 2003, 150-51

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6.3: Nutritional Needs

A number of factors can influence children's eating habits and attitudes toward food. Family environment, societal trends, taste preferences, and messages in the media all impact the emotions that children develop in relation to their diet. Television commercials can entice children to consume sugary products, fatty fast foods, excess calories, refined ingredients, and sodium. Therefore, it is critical that parents and caregivers direct children toward healthy choices. 5

Parents greatly impact their child's nutritional choices. This time in a child's life provides an opportunity for parents and other caregivers to reinforce good eating habits and to introduce new foods into the diet while remaining mindful of a child's preferences. Parents should also serve as role models for their children, who will often mimic their behavior and eating habits. Parents must continue to help their school-aged child establish healthy eating habits and attitudes toward food. Their primary role is to bring a wide variety of health-promoting foods into the home so that their children can make good choices.6

Let's think for a moment about what our parents and grandparents used to eat? What are some of the differences that you may have experienced as a child?

One hundred years ago, as families sat down to dinner, they might have eaten boiled potatoes or corn, leafy vegetables such as cabbage or collards, fresh-baked bread, and, if they were fortunate, a small amount of beef or chicken. Young and old alike benefitted from a sound diet that packed a real nutritional punch. Times have changed. Many families today fill their dinner plates with fatty foods, such as French Fries cooked in vegetable oil, a hamburger that contains several ounces of ground beef, and a white-bread bun, with a single piece of lettuce and a slice or two of tomato as the only vegetables served with the meal.



Figure 6.3.1: A modern meal. (Image is licensed under CC0)

Our diet has changed drastically as processed foods, which did not exist a century ago, and animal-based foods now account for a large percentage of our calories. Not only has what we eat changed, but the amount of it that we consume has greatly increased as well, as plates and portion sizes have grown much larger. All of these choices impact our health, with short- and long-term consequences as we age. Possible effects in the short-term include excess weight gain and constipation. The possible long-term effects, primarily related to obesity, include the risk of cardiovascular disease, diabetes, hypertension, as well as other health and emotional problems for children. Centers for Disease Control and Prevention. "Overweight and Obesity: Health Consequences."8

During middle childhood, a healthy diet facilitates physical and mental development and helps to maintain health and wellness. School-aged children experience steady, consistent growth, but at a slower rate than they did in early childhood. This slowed growth rate can have to last a lasting impact if nutritional, caloric, and activity levels aren't adjusted in middle childhood which can lead to excessive weight gain early in life and can lead to obesity into adolescence and adulthood.9

Making sure that children have proper nutrients will allow for optimal growth and development. Look at the figure below to familiarize yourself with food and the place setting for healthy meals.



Figure 6.3.2: Nutrition guidelines from the USDA. (Image by the USDA is in the public domain)

One way to encourage children to eat healthy foods is to make meal and snack time fun and interesting. Parents should include children in food planning and preparation, for example selecting items while grocery shopping or helping to prepare part of a meal, such as making a salad. At this time, parents can also educate children about kitchen safety. It might be helpful to cut sandwiches, meats, or pancakes into small or interesting shapes. In addition, parents should offer nutritious desserts, such as fresh fruits, instead of calorie-laden cookies, cakes, salty snacks, and ice cream. Studies show that children who eat family meals on a frequent basis consume more nutritious foods.¹¹

Energy

Children's energy needs vary, depending on their growth and level of physical activity. Energy requirements also vary according to gender. Girls require 1,200 to 1,400 calories a day from age 2 to 8 and 1,400-1,800 for age 9 to 13. Boys also need 1,200 to 1,400 calories daily from ages 4 to 8 but their daily caloric needs go up to 1,600-2,000 from ages 9 to 13. This range represents individual differences, including how active the child is.¹²

Recommended intakes of **macronutrients** (protein, carbohydrates, and fats) and most **micronutrients** (vitamins and minerals) are higher relative to body size, compared with nutrient needs during adulthood. Therefore, children should be provided nutrient-dense food at meal-and snack-time. However, it is important not to overfeed children, as this can lead to childhood obesity, which is discussed in the next section.

Children and Vegetarianism

Another issue that some parents face with school-aged children is the decision to encourage a child to become a vegetarian or a vegan. Some parents and caregivers decide to raise their children as vegetarians for health, cultural, or other reasons. Preteens and teens may make the choice to pursue vegetarianism on their own, due to concerns about animals or the environment. No matter the reason, parents with vegetarian children must take care to ensure vegetarian children get healthy, nutritious foods that provide all the necessary nutrients.

Types of Vegetarian Diets

There are several types of vegetarians, each with certain restrictions in terms of diet:

- Ovo-vegetarians. Ovo-vegetarians eat eggs but do not eat any other animal products.
- acto-ovo-vegetarians. Lacto-ovo-vegetarians eat eggs and dairy products but do not eat any meat.
- Lacto-vegetarians. Lacto-vegetarians eat dairy products but do not eat any other animal products.
- Vegans. Vegans eat food only from plant sources, no animal products at all.



Figure 6.3.3: An example of a school lunch. (Image by Sunnya343 is licensed under CC BY-SA 4.0)

Children who consume some animal products, such as eggs, cheese, or other forms of dairy, can meet their nutritional needs. For a child following a strict vegan diet, planning is needed to ensure adequate intake of protein, iron, calcium, vitamin B12, and vitamin D. Legumes and nuts can be eaten in place of meat, soy or almond milk fortified with calcium and vitamins D and B12 can replace cow's milk. Parents must be informed and knowledgeable in order to support proper development for children with a vegetarian or vegan diet.¹⁴

Children and Malnutrition

Many may not know that malnutrition is a problem that many children face, in both developing nations and the developed world. Even with the wealth of food in North America, many children grow up malnourished, or even hungry. The US Census Bureau characterizes households into the following groups:

- food secure
- food insecure without hunger
- food insecure with moderate hunger
- food insecure with severe hunger

Millions of children grow up in food-insecure households with inadequate diets due to both the amount of available food and the quality of food. In the United States, about 20 percent of households with children are food insecure to some degree. In half of those, only adults experience food insecurity, while in the other half both adults and children are considered to be food insecure, which means that children did not have access to adequate, nutritious meals at times.¹⁵

Growing up in a food-insecure household can lead to a number of problems. Deficiencies in iron, zinc, protein, and vitamin A can result in stunted growth, illness, and limited development. Federal programs, such as the National School Lunch Program, the School Breakfast Program, and Summer Feeding Programs, work to address the risk of hunger and malnutrition in school-aged children. They help to fill the gaps and provide children living in food-insecure households with greater access to nutritious meals.¹⁶

School Lunch Programs 17

Many school-age children eat breakfast, snacks, and lunch at their schools. Therefore, it is important for schools to provide meals that are nutritionally sound. In the United States, more than thirty-one million children from low-income families are given meals provided by the National School Lunch Program. This federally funded program offers low-cost or free breakfast, snacks, and lunches to school facilities. School districts that take part receive subsidies from the US Department of Agriculture (USDA) for every meal they serve that must meet the 2015 Dietary Guidelines for Americans.

Knowing that many children in the United States buy or receive free lunches in the school cafeteria, it might be worthwhile to look at the nutritional content of school lunches. You can obtain this information through your local school district's website. An example of a school menu from a school district in north-central Texas is a meal consisting of pasta alfredo, breadstick, peach cup, tomato soup, a brownie, and 2% milk which is in compliance with Federal Nutritional Guidelines. Consider another menu from an elementary school in the state of Washington. This sample meal consists of chicken burger, tater tots, fruit,

veggies, and 1% or nonfat milk. This meal is also in compliance with Federal Nutrition Guidelines but has about 300 fewer calories than the menu in Texas. This is a big difference in calories and nutritional value of these prepared lunches that are chosen and approved by officials on behalf of children in these districts.



Figure 6.3.4: Children eating lunch together at school. (Image by the USDA is in the public domain)

Healthy School Lunch Campaigns helps to promote children's health. This is done by educating government officials, school officials, food-service workers, and parents and is sponsored by the Physicians Committee for Responsible Medicine. They educate and encourage schools to offer low-fat, cholesterol-free options in school cafeterias and in vending machines and work to improve the food served to children at school. Unfortunately, many school districts in the nation allow students to purchase chips, cookies, and ice cream along with their meals. These districts rely on the sale of these items in the lunchrooms to earn additional revenues. Not only are they making money off of children and families with junk food, but they are also adding additional empty calories to their daily intake. These districts need to look at the menus and determine the rationale for offering additional snacks and desserts for children at their schools. Whether children receive free lunches, buy their own, or bring their lunch from home, quality nutrition is what is best for these growing bodies and minds.

Food Allergies and Food Intolerance

Food intolerance and food allergies are an issue for some school-aged children. Recent studies show that three million children under age eighteen are allergic to at least one type of food. Some of the most common **food allergies** come from foods that include peanuts, milk, eggs, soy, wheat, and shellfish. An allergy occurs when a protein in food triggers an immune response, which results in the release of antibodies, histamine, and other defenders that attack foreign bodies. Possible symptoms include itchy skin, hives, abdominal pain, vomiting, diarrhea, and nausea. Symptoms usually develop within minutes to hours after consuming a food allergen. Children can outgrow a food allergy, especially allergies to wheat, milk, eggs, or soy.¹⁹

Anaphylaxis is a life-threatening reaction that results in difficulty breathing, swelling in the mouth and throat, decreased blood pressure, shock, or even death. Milk, eggs, wheat, soybeans, fish, shellfish, peanuts, and tree nuts are the most likely to trigger this type of response. A dose of the drug epinephrine is often administered via a "pen" to treat a person who goes into anaphylactic shock.²⁰



Figure 6.3.5: An EpiPen. (Image by Sean William is licensed under CC BY-SA 3.0)

Some children experience a **food intolerance**, which does not involve an immune response. A food intolerance is marked by unpleasant symptoms that occur after consuming certain foods. Lactose intolerance, though rare in very young children, is one example. Children who suffer from this condition experience an adverse reaction to the lactose in milk products. It is a result of the small intestine's inability to produce enough of the enzyme lactase. Symptoms of lactose intolerance usually affect the gastrointestinal tract and can include bloating, abdominal pain, gas, nausea, and diarrhea. An intolerance is best managed by making dietary changes and avoiding any foods that trigger the reaction.²²

Being Overweight and Obesity in Children

Excess weight and obesity in children are associated with a variety of medical conditions including high blood pressure, insulin resistance, inflammation, depression, and lower academic achievement (Lu, 2016). Being overweight has also been linked to impaired brain functioning, which includes deficits in executive functioning, working memory, mental flexibility, and decision making (Liang, Matheson, Kaye, & Boutelle, 2014). Children who ate more saturated fats performed worse on relational memory tasks while eating a diet high in omega-3 fatty acids promoted relational memory skills (Davidson, 2014). Using animal studies, Davidson et al. (2013) found that large amounts of processed sugars and saturated fat weakened the blood-brain barrier, especially in the hippocampus. This can make the brain more vulnerable to harmful substances that can impair its functioning. Another important executive functioning skill is controlling impulses and delaying gratification. Children who are overweight show less inhibitory control than normal-weight children, which may make it more difficult for them to avoid unhealthy foods (Lu, 2016). Overall, being overweight as a child increases the risk of cognitive decline as one ages.



Figure 6.3.6: There are certain health risks associated with being overweight. (Image by Gausstin is licensed under CC BY 2.0)

The current measurement for determining excess weight is the **Body Mass Index (BMI)** which expresses the relationship of height to weight. According to the Centers for Disease Control and Prevention (CDC), children whose BMI is at or above the 85th percentile for their age are considered **overweight**, while children who are at or above the 95th percentile are considered **obese** (Lu, 2016). In 2011-2012 approximately 8.4% of 2-5 year-olds were considered overweight or obese, and 17.7% of 6-11 year-olds were overweight or obese (CDC, 2014b).²⁴

Obesity Rates for Children: About 16 to 33 percent of American children are obese (U. S. Department of Health and Human Services, 2005). This is defined as being at least 20 percent over their ideal weight. The percentage of obesity in school-aged children has increased substantially since the 1960s and has in fact doubled since the 1980s. This is true in part because of the introduction of a steady diet of television and other sedentary activities. In addition, we have come to emphasize high fat, fast foods as a culture. Pizza, hamburgers, chicken nuggets and “lunchables” with soda have replaced more nutritious foods as staples. The decreased participation in school physical education and youth sports is just one of many factors that have led to an increase in children being overweight or obese.

Being Overweight Can Be a Lifelong Struggle

A growing concern is the lack of recognition from parents that children are overweight or obese. Katz (2015) referred to this as “**oblivobesity**”. Black et al. (2015) found that parents in the United Kingdom (UK) only recognized their children as obese when they were above the 99.7th percentile while the official cut-off for obesity is at the 85th percentile. Oude Luttikhuis, Stolk, and Sauer (2010) surveyed 439 parents and found that 75% of parents of overweight children said the child had a normal weight and 50% of parents of obese children said the child had a normal weight. For these parents, overweight was considered normal and obesity was considered normal or a little heavy. Doolen, Alpert, and Miller (2009) reported on several studies from the United Kingdom, Australia, Italy, and the United States, and in all locations, parents were more likely to misperceive their children’s weight. Black, Park, and Gregson (2015) concluded that as the average weight of children rises, what parents consider normal also rises. If parents cannot identify if their children are overweight they will not be able to intervene and assist their children with proper weight management.

An added concern is that the children themselves are not accurately identifying if they are overweight. In a United States sample of 8-15 year-olds, more than 80% of overweight boys and 70% of overweight girls misperceived their weight as normal (Sarafrazi, Hughes, & Borrud, 2014). Also noted was that as the socioeconomic status of the children rose, the frequency of these misconceptions decreased. It appeared that families with more resources were more conscious of what defines a healthy weight.

Results of Childhood Obesity

Children who are overweight tend to be rejected, ridiculed, teased and bullied by others (Stopbullying.gov, 2016). This can certainly be damaging to their self-image and popularity. In addition, obese children run the risk of suffering orthopedic problems such as knee injuries, and they have an increased risk of heart disease and stroke in adulthood (Lu, 2016). It is hard for a child who is obese to become a non-obese adult. In addition, the number of cases of pediatric diabetes has risen dramatically in recent years.

Behavioral interventions, including training children to overcome impulsive behavior, are being researched to help overweight children (Lu, 2016). Practicing inhibition has been shown to strengthen the ability to resist unhealthy foods. Parents can help their overweight children the best when they are warm and supportive without using shame or guilt. They can also act like the child's frontal lobe until it is developed by helping them make correct food choices and praising their efforts (Liang, et al., 2014). Research also shows that exercise, especially aerobic exercise, can help improve cognitive functioning in overweight children (Lu, 2016). Parents should take caution against emphasizing diet alone to avoid the development of any obsession about dieting that can lead to eating disorders. Instead, increasing a child's activity level is most helpful.

Dieting is not really the answer. If you diet, your basal metabolic rate tends to decrease thereby making the body burn even fewer calories in order to maintain the weight. Increased activity is much more effective in lowering weight and improving the child's health and psychological well-being. Exercise reduces stress and being an overweight child, subjected to the ridicule of others can certainly be stressful. Parents should take caution against emphasizing diet alone to avoid the development of any obsession about dieting that can lead to eating disorders as teens. Again, helping children to make healthy food choices and increasing physical activity will help prevent childhood obesity.²⁵

Contributors and Attributions

5. Research on the Benefits of Family Meals. Dakota County, Minnesota. . Updated April 30, 2012. Accessed December 4, 2017.
6. *Childhood* by [University of Hawai'i at Mānoa Food Science and Human Nutrition Program](#) is licensed under [CC BY-NC-SA 4.0](#)
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11. Research on the Benefits of Family Meals. Dakota County, Minnesota. . Updated April 30, 2012. Accessed December 4, 2017.
12. *Parent Tips – Calories Needed Each Day* by the [NIH](#) is in the public domain
14. An Introduction to Nutrition by Maureen Zimmerman and Beth Snow is licensed under [CC BY-NC-SA 3.0](#)
15. Coleman-Jensen A, et al. Household Food Security in the United States in 2010. US Department of Agriculture, Economic Research Report, no. ERR-125; 2011.
16. *Lifespan Development - Module 6: Middle Childhood* by [Lumen Learning](#) references *Psyc 200 Lifespan Psychology* by Laura Overstreet, licensed under [CC BY 4.0](#) (modified by Dawn Rymond) *Childhood* by [University of Hawai'i at Mānoa Food Science and Human Nutrition Program](#) is licensed under [CC BY-NC-SA 4.0](#) (modified by Dawn Rymond)
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19. *Childhood* by [University of Hawai'i at Mānoa Food Science and Human Nutrition Program](#) is licensed under [CC BY-NC-SA 4.0](#)

20. [Food Allergy Quick Facts](#). [National Institutes of Health](#), US Department of Health and Human Services. Updated March 27, 2017. Accessed December 10, 2017.

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22. Lactose Intolerance. [National Institute of Diabetes and Digestive and Kidney Diseases](#). Updated June 2014. Accessed December 4, 2017.; [Childhood](#) by [University of Hawai'i at Mānoa Food Science and Human Nutrition Program](#) is licensed under [CC BY-NC-SA 4.0](#)

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6.4: Exercise, Physical Fitness, and Sports

Recess and Physical Education: Recess is a time for free play and Physical Education (PE) is a structured program that teaches skills, rules, and games. They're a big part of physical fitness for school-age children. For many children, PE and recess are the key components in introducing children to sports. After years of schools cutting back on recess and PE programs, there has been a turnaround, prompted by concerns over childhood obesity and the related health issues. Despite these changes, currently, only the state of Oregon and the District of Columbia meet PE guidelines of a minimum of 150 minutes per week of physical activity in elementary school and 225 minutes in middle school (SPARC, 2016).



Figure 6.4.1: A girl running on a track field. (Image by Laughlin Air Force Base is in the public domain)

Organized Sports: Pros and Cons

Middle childhood seems to be a great time to introduce children to organized sports, and in fact, many parents do. Nearly 3 million children play soccer in the United States (United States Youth Soccer, 2012). This activity promises to help children build social skills, improve athletically and learn a sense of competition. However, the emphasis on competition and athletic skill can be counterproductive and lead children to grow tired of the game and want to quit. In many respects, it appears that children's activities are no longer children's activities once adults become involved and approach the games as adults rather than children. The U. S. Soccer Federation recently advised coaches to reduce the amount of drilling engaged in during practice and to allow children to play more freely and to choose their own positions. The hope is that this will build on their love of the game and foster their natural talents.

Sports are important for children. Children's participation in sports has been linked to:

- Higher levels of satisfaction with family and overall quality of life in children
- Improved physical and emotional development
- Better academic performance

Yet, a study on children's sports in the United States (Sabo & Veliz, 2008) has found that gender, poverty, location, ethnicity, and disability can limit opportunities to engage in sports. Girls were more likely to have never participated in any type of sport.

This study also found that fathers may not be providing their daughters as much support as they do their sons. While boys rated their fathers as their biggest mentor who taught them the most about sports, girls rated coaches and physical education teachers as their key mentors. Sabo and Veliz also found that children in suburban neighborhoods had a much higher participation in sports than boys and girls living in rural or urban centers. In addition, Caucasian girls and boys participated in organized sports at higher rates than minority children. With a renewed focus, males and females can benefit from all sports and physical activity.²⁷



Figure 6.4.2: Community sports. (Image by the Department of Defense is in the public domain)

Welcome to the World of E-Sports

The recent Sport Policy and Research Collaborative (2016) report on the “State of Play” in the United States highlights a disturbing trend. One in four children between the ages of 5 and 16 rate playing computer games with their friends as a form of exercise. In addition, **e-sports**, which as SPARC writes is about as much a sport as poker, involves children watching other children play video games. Over half of males, and about 20% of females, aged 12-19, say they are fans of e-sports. Play is an important part of childhood and physical activity has been proven to help children develop and grow. Adults and caregivers should look at what children are doing within their day to prioritize the activities that should be focused on.²⁹



Figure 6.4.3: A group of boys playing video sports. (Image by Gamesingear is licensed under CC BY-SA 3.0)

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6.5: Physical Health

Vision and Hearing

The most common vision problem in middle childhood is being nearsighted, otherwise known as [myopia](#). 25% of children will be diagnosed by the end of middle childhood. Being nearsighted can be corrected by wearing glasses with corrective lenses.



Figure 6.5.1: A child receiving an eye exam. (Image is in the public domain)

Children may have many ear infections in early childhood, but it's not as common within the 6- 12 year age range. Numerous ear infections during middle childhood may lead to headaches and migraines, which may result in hearing loss.³²

Dental Health

Children in middle childhood will start or continue to lose teeth. They experience the loss of deciduous, or “baby,” teeth and the arrival of permanent teeth, which typically begins at age six or seven. It is important for children to continue seeing a dentist twice a year to be sure that these teeth are healthy.

The foods and nutrients that children consume are also important for dental health. Offer healthy foods and snacks to children and when children do eat sugary or sticky foods, they should brush their teeth afterward.



Figure 6.5.2: A boy brushing his teeth. (Image by Latrobebohs is licensed under [CC BY-SA 3.0](#))

Children should floss daily and brush their teeth at least twice daily: in the morning, at bedtime, and preferably after meals.

Younger children need help brushing their teeth properly. Try brushing their teeth first and letting them finish. You might try using a timer or a favorite song so that your child learns to brush for 2 minutes. Parents or caregivers are encouraged to supervise brushing until your child is 7 or 8 years old to avoid tooth decay.

The best defense against tooth decay is flossing, brushing and adding fluoride; a mineral found in most tap water. If your water doesn't have fluoride, ask a dentist about fluoride drops, gel or varnish. Also ask your child's dentist about sealants—a simple, pain-free way to prevent tooth decay. These thin plastic coatings are painted on the chewing surfaces of permanent back teeth. They quickly harden to form a protective shield against germs and food. If a small cavity is accidentally covered by a sealant, the decay won't spread because germs trapped inside are sealed off from their food supply.

Children's dental health needs continuous monitoring as children loose teeth and new teeth come in. Many children have some malocclusion (when the way upper teeth aren't correctly positioned slightly over the lower teeth, including under- and overbites) or malposition of their teeth, which can affect their ability to chew food, floss, and brush properly. Dentists may recommend that it's time to see an orthodontist to maintain proper dental health. Dental health is exceedingly important as children grow more independent by making food choices and as they start to take over flossing and brushing. Parents can ease this transition by promoting healthy eating and proper dental hygiene.³⁴

Diabetes in Childhood

Until recently diabetes in children and adolescents was thought of almost exclusively as type 1, but that thinking has evolved. Type 1 diabetes is the most common form of diabetes in children and is the result of a lack or production of insulin due to an overactive immune system. Type 2 diabetes is the most common form of diabetes in the U.S. It used to be referred to as adult-onset diabetes as it was not common during childhood. But with increasing rates of overweight and obesity in children and adolescents, more diagnoses are happening before adulthood. It is also important to note that Type 2 disproportionately affects minority youth.³⁵



Figure 6.5.3: The finger-prick test. (Image by the U.S. Army is in the public domain)

Asthma

Childhood asthma that is unmanaged may make it difficult for children to develop to their fullest potential. Asthma is a chronic lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing (a whistling sound when you breathe), chest tightness, shortness of breath, and coughing. The coughing often occurs at night or early in the morning. Asthma affects people of all ages, but it most often starts during childhood. In the United States, more than 25 million people are known to have asthma. About 7 million of these people are children.

To understand asthma, it helps to know how the airways work. The airways are tubes that carry air into and out of your lungs. People who have asthma have inflamed airways. The inflammation makes the airways swollen and very sensitive. The airways

tend to react strongly to certain inhaled substances. When the airways react, the muscles around them tighten. This narrows the airways, causing less air to flow into the lungs. The swelling also can worsen, making the airways even narrower. Cells in the airways might make more mucus than usual. Mucus is a sticky, thick liquid that can further narrow the airways. This chain reaction can result in asthma symptoms. Symptoms can happen each time the airways are inflamed.

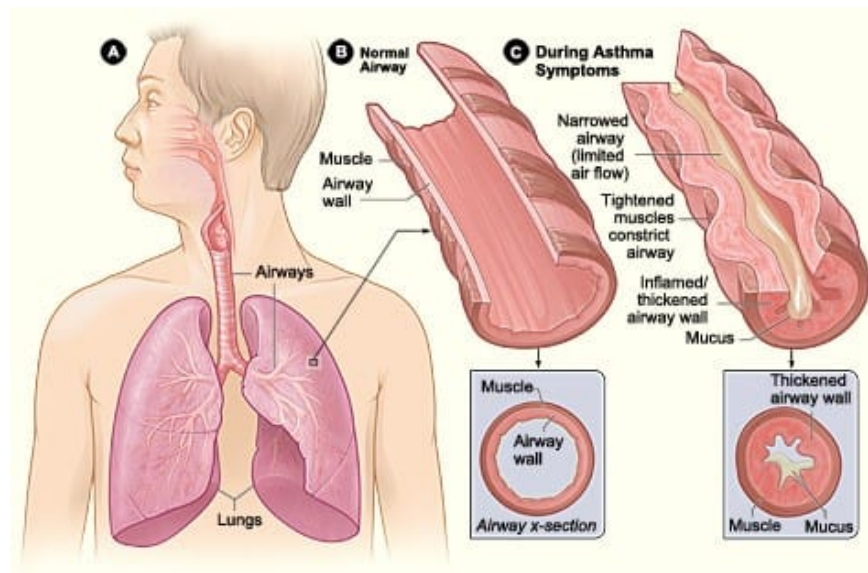
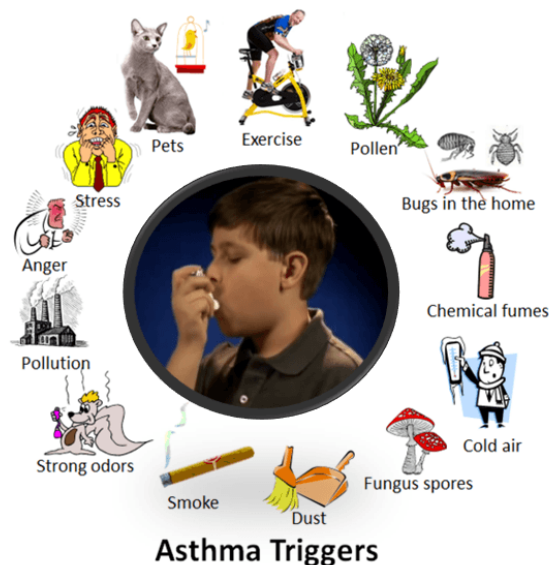


Figure 6.5.4: **Figure A** shows the location of the lungs and airways in the body. **Figure B** shows a cross-section of a normal airway. **Figure C** shows a cross-section of an airway during asthma symptoms. (Image by the [National Heart, Lung, and Blood Institute](#) is in the public domain)

Sometimes asthma symptoms are mild and go away on their own or after minimal treatment with asthma medicine. Other times, symptoms continue to get worse. When symptoms get more intense and/or more symptoms occur, you're having an asthma attack. Asthma attacks also are called flare-ups or exacerbations (eg-zas-er-BA-shuns).



Asthma Triggers

Figure 6.5.5: The different things that can trigger asthma. (Image by 7mike5000 is licensed under [CC BY-SA 3.0](#) (image modified by adding content from a video by the [CDC](#), which is in the public domain))

Treating symptoms when you first notice them is important. This will help prevent the symptoms from worsening and causing a severe asthma attack. Severe asthma attacks may require emergency care, and they can be fatal. Asthma has no cure. Even when you feel fine, you still have the disease and it can flare up at any time.

However, with today's knowledge and treatments, most people who have asthma are able to manage the disease. They have few, if any, symptoms. They can live normal, active lives and sleep through the night without interruption from asthma. If you have

asthma, you can take an active role in managing the disease. For successful, thorough, and ongoing treatment, build strong partnerships with your doctor and other health care providers.³⁹

Childhood Stress

Take a moment to think about how you deal with and how stress affects you. Now think about what the impact of stress may have on a child and their development?

Of course children experience stress and different types of stressors differently. Not all stress is bad. Normal, everyday stress can provide an opportunity for young children to build coping skills and poses little risk to development. Even more long-lasting stressful events such as changing schools or losing a loved one can be managed fairly well. But children who experience toxic stress or who live in extremely stressful situations of abuse over long periods of time can suffer long-lasting effects. The structures in the midbrain or limbic system such as the hippocampus and amygdala can be vulnerable to prolonged stress during early childhood (Middlebrooks and Audage, 2008). High levels of the stress hormone cortisol can reduce the size of the hippocampus and effect the child's memory abilities. Stress hormones can also reduce immunity to disease. If the brain is exposed to long periods of severe stress it can develop a low threshold making the child hypersensitive to stress in the future. Whatever the effects of stress, it can be minimized if a child learns to deal with stressors and develop coping strategies with the support of caring adults. It's easy to know when your child has a fever or other physical symptoms. However, a child's mental health problems may be harder to identify. In the next section, we'll look at childhood Mental Health Disorders.⁴⁰



Figure 6.5.6: High, constant levels of stress can negatively impact the brain. (Image by Leroy_Skalstad on Pixabay)

Contributors and Attributions

32. Rathus, Spencer A. (2011). *Childhood & adolescence voyages in development*. Belmont, CA: Wadsworth Cengage Learning.

34. [Chew on This - Healthy Teeth for Baby and Beyond](#) by the [National Institutes of Health](#) is in the public domain (modified by Dawn Rymond)

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6.6: Childhood Mental Health

Mental health problems can disrupt daily life at home, at school or in the community. Without help, mental health problems can lead to school failure, alcohol or other drug abuse, family discord, violence or even suicide. However, help is available. Talk to your health care provider if you have concerns about your child's behavior.

Mental health disorders are diagnosed by a qualified professional using the Diagnostic and Statistical Manual of Mental Disorders (DSM). This is a manual that is used as a standard across the profession for diagnosing and treating mental disorders.⁴²

When You Have a Concern About a Child. What's in a Label? 43

Children are continually evaluated as they enter and progress through school. If a child is showing a need, they should be assessed by a qualified professional who would make a recommendation or diagnosis of the child and give the type of instruction, resources, accommodations, and support that they should receive.

Ideally, a proper diagnosis or label is extremely beneficial for children who have educational, social, emotional, or developmental needs. Once their difficulty, disorder, or disability is labeled then the child will receive the help they need from parents, educators and any other professionals who will work as a team to meet the student's individual goals and needs.

However, it's important to consider that children that are labeled without proper support and accommodations or worse they may be misdiagnosed will have negative consequences. A label can also influence the child's self-concept, for example, if a child is misdiagnosed as having a learning disability; the child, teachers, and family member interpret their actions through the lens of that label. Labels are powerful and can be good for the child or they can go detrimental for their development all depending on the accuracy of the label and if they are accurately applied.

A team of people who include parents, teachers, and any other support staff will look at the child's evaluation assessment in a process called an Individual Education Plan (IEP). The team will discuss the diagnosis, recommendations, and the accommodations or help and a decisions will be made regarding what is the best for the child. This is time when parents or caregivers decide if they would like to follow this plan or they can dispute any part of the process. During an IEP, the team is able to voice concerns and questions. Most parents feel empowered when they leave these meetings. They feel as if they are a part of the team and that they know what, when, why, and how their child will be helped.

Childhood Mental Health Disorders

Social and Emotional Disorders

- Phobias
- Anxiety
- Post-Traumatic Stress Syndrome - PTSD
- Obsessive Compulsive Disorder -OCD
- Depression

Developmental Disorders

- Autism Spectrum Disorder (ASD)
- Attention Deficit Disorder (ADHD)
- Pervasive Developmental Disorder (PDD)⁴⁴

Phobias

When a child who has a **phobia** (an extreme or irrational fear of or aversion to something) is exposed to the phobic stimulus (the stimuli varies), it almost invariably provokes an immediate anxiety response, which may take the form of a situational bound or situational predisposed panic attack. Children can show effects and characteristics when it comes to specific phobias. The

effects of anxiety show up by crying, throwing tantrums, experiencing freezing, or clinging to the parent that they have the most connection with. Related Conditions include anxiety.

Anxiety

Many children have fears and worries, and will feel sad and hopeless from time to time. Strong fears will appear at different times during development. For example, toddlers are often very distressed about being away from their parents, even if they are safe and cared for. Although fears and worries are typical in children, persistent or extreme forms of fear and sadness feelings could be due to anxiety or depression. Because the symptoms primarily involve thoughts and feelings, they are called **internalizing disorders**.



Figure 6.6.1: An anxious child. (Image is in the public domain)

When children do not outgrow the fears and worries that are typical in young children, or when there are so many fears and worries that interfere with school, home, or play activities, the child may be diagnosed with an anxiety disorder. Examples of different types of anxiety disorders include:

- Being very afraid when away from parents (separation anxiety)
- Having extreme fear about a specific thing or situation, such as dogs, insects, or going to the doctor (phobias)
- Being very afraid of school and other places where there are people (social anxiety)
- Being very worried about the future and about bad things happening (general anxiety)
- Having repeated episodes of sudden, unexpected, intense fear that come with symptoms like heart pounding, having trouble breathing, or feeling dizzy, shaky, or sweaty (panic disorder)

Anxiety may present as fear or worry, but can also make children irritable and angry. Anxiety symptoms can also include trouble sleeping, as well as physical symptoms like fatigue, headaches, or stomachaches. Some anxious children keep their worries to themselves and, thus, the symptoms can be missed.

Related conditions include Obsessive-Compulsive Disorder and Post Traumatic Stress Disorder.

Post-Traumatic Stress Syndrome (PTSD)

Exposure to traumatic events can have major developmental influences on children. While the majority of children will not develop PTSD after a trauma, best estimates from the literature are that around a third of them will, higher than adult estimates. Some reasons for this could include more limited knowledge about the world, differential coping mechanisms employed, and the fact that children's reactions to trauma are often highly influenced by how their parents and caregivers react.

The impact of PTSD on children weeks after a trauma, show that up to 90% of children may experience heightened physiological arousal, diffuse anxiety, survivor guilt, and emotional lability. These are all normal reactions and should be understood as such (similar things are seen in adults. Those children still having these symptoms three or four months after a disaster, however, may be in need of further assessment, particularly if they show the following symptoms as well. For older children, warning signs of problematic adjustment include: repetitious play reenacting a part of the disaster; preoccupation with danger or expressed concerns about safety; sleep disturbances and irritability; anger outbursts or aggressiveness; excessive worry about family or

friends; school avoidance, particularly involving somatic complaints; behaviors characteristic of younger children; and changes in personality, withdrawal, and loss of interest in activities.⁴⁶

Obsessive Compulsive Disorder (OCD)

Although a diagnosis of OCD requires only that a person either has obsessions or compulsions, not both, approximately 96% of people experience both. For almost all people with OCD, being exposed to a certain stimuli (internal or external) will then trigger an upsetting or anxiety-causing obsession, which can only be relieved by doing a compulsion. For example, a person touches a doorknob in a public building, which causes an obsessive thought that they will get sick from the germs, which can only be relieved by compulsively washing their hands to an excessive degree. Some of the most common obsessions include unwanted thoughts of harming loved ones, persistent doubts that one has not locked doors or switched off electrical appliances, intrusive thoughts of being contaminated, and morally or sexually repugnant. ⁴⁷

Depression

Occasionally being sad or feeling hopeless is a part of every child's life. However, some children feel sad or uninterested in things that they used to enjoy, or feel helpless or hopeless in situations where they could do something to address the situations. When children feel persistent sadness and hopelessness, they may be diagnosed with depression.



Figure 6.6.2: Persistent sadness is a symptom of depression. (Image is in the public domain)

Symptoms

We now know that youth who have depression may show signs that are slightly different from the typical adult symptoms of depression. Children who are depressed may complain of feeling sick, refuse to go to school, cling to a parent or caregiver, feel unloved, hopelessness about the future, or worry excessively that a parent may die. Older children and teens may sulk, get into trouble at school, be negative or grouchy, are irritable, indecisive, have trouble concentrating, or feel misunderstood. Because normal behaviors vary from one childhood stage to another, it can be difficult to tell whether a child who shows changes in behavior is just going through a temporary “phase” or is suffering from depression.

Treatment

With medication, psychotherapy, or combined treatment, most youth with depression can be effectively treated. Youth are more likely to respond to treatment if they receive it early in the course of their illness.⁴⁹

Developmental Disorders

Autism Spectrum Disorder

As introduced in chapter 8, autism spectrum disorder (ASD) is a developmental disorder that affects communication and behavior. Although autism can be diagnosed at any age, it is said to be a “developmental disorder” because symptoms generally appear in the first two years of life.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), a guide created by the American Psychiatric Association used to diagnose mental disorders, people with ASD have:

- Difficulty with communication and interaction with other people
- Restricted interests and repetitive behaviors
- Symptoms that hurt the person’s ability to function properly in school, work, and other areas of life

Autism is known as a “spectrum” disorder because there is wide variation in the type and severity of symptoms people experience. ASD occurs in all ethnic, racial, and economic groups. Although ASD can be a lifelong disorder, treatments and services can improve a person’s symptoms and ability to function. The American Academy of Pediatrics recommends that all children be screened for autism.

Changes to the diagnosis of ASD

In 2013, a revised version of the Diagnostic and Statistical Manual of Mental Disorders (DSM) was released. This revision changed the way autism is classified and diagnosed. Using the previous version of the DSM, people could be diagnosed with one of several separate conditions:

- Autistic disorder
- Asperger’s syndrome
- Pervasive developmental disorder not otherwise specified (PDD-NOS)

In the current revised version of the DSM (the DSM-5), these separate conditions have been combined into one diagnosis called “autism spectrum disorder.” Using the DSM-5, for example, people who were previously diagnosed as having Asperger’s syndrome would now be diagnosed as having autism spectrum disorder. Although the “official” diagnosis of ASD has changed, there is nothing wrong with continuing to use terms such as Asperger’s syndrome to describe oneself or to identify with a peer group.

Signs and Symptoms of ASD

People with ASD have difficulty with social communication and interaction, restricted interests, and repetitive behaviors. The list below gives some examples of the types of behaviors that are seen in people diagnosed with ASD. Not all people with ASD will show all behaviors, but most will show several.

Social communication / interaction behaviors may include:

- Making little or inconsistent eye contact
- Tending not to look at or listen to people
- Rarely sharing enjoyment of objects or activities by pointing or showing things to others
- Failing to, or being slow to, respond to someone calling their name or to other verbal attempts to gain attention
- Having difficulties with the back and forth of conversation
- Often talking at length about a favorite subject without noticing that others are not interested or without giving others a chance to respond
- Having facial expressions, movements, and gestures that do not match what is being said
- Having an unusual tone of voice that may sound sing-song or flat and robot-like
- Having trouble understanding another person’s point of view or being unable to predict or understand other people’s actions

Restrictive / repetitive behaviors may include:

- Repeating certain behaviors or having unusual behaviors. For example, repeating words or phrases, a behavior called echolalia
- Having a lasting intense interest in certain topics, such as numbers, details, or facts
- Having overly focused interests, such as with moving objects or parts of objects
- Getting upset by slight changes in a routine
- Being more or less sensitive than other people to sensory input, such as light, noise, clothing, or temperature

People with ASD may also experience sleep problems and irritability. Although people with ASD experience many challenges, they may also have many strengths, including:

- Being able to learn things in detail and remember information for long periods of time
- Being strong visual and auditory learners
- Excelling in math, science, music, or art

Causes and Risk Factors

While scientists don't know the exact causes of ASD, research suggests that genes can act together with influences from the environment to affect development in ways that lead to ASD. Although scientists are still trying to understand why some people develop ASD and others don't, some risk factors include:

- Having a sibling with ASD
- Having older parents
- Having certain genetic conditions—people with conditions such as Down syndrome, fragile X syndrome, and Rett syndrome are more likely than others to have ASD
- Very low birth weight

Treatments and Therapies

Treatment for ASD should begin as soon as possible after diagnosis. Early treatment for ASD is important as proper care can reduce individuals' difficulties while helping them learn new skills and make the most of their strengths.

The wide range of issues facing people with ASD means that there is no single best treatment for ASD. Working closely with a doctor or health care professional is an important part of finding the right treatment program.

A doctor may use medication to treat some symptoms that are common with ASD. With medication, a person with ASD may have fewer problems with:

- Irritability
- Aggression
- Repetitive behavior
- Hyperactivity
- Attention problems
- Anxiety and depression

People with ASD may be referred to doctors who specialize in providing behavioral, psychological, educational, or skill-building interventions. These programs are typically highly structured and intensive and may involve parents, siblings, and other family members. Programs may help people with ASD:

- Learn life-skills necessary to live independently
- Reduce challenging behaviors
- Increase or build upon strengths
- Learn social, communication, and language skills



Figure 6.6.3: Rich and Nubia Quick have put their autistic 8-year-old son, Matthew, through therapy to help him open up and relate more to others. The Quicks maintain a structured environment so Matthew can better adjust to the world around him. (Image and caption by the U.S. Air Force is in the public domain)

Attention Deficit/Hyperactivity Disorder (AD/HD)

The exact causes of AD/HD are unknown; however, research has demonstrated that factors that many people associate with the development of AD/HD do not cause the disorder including, minor head injuries, damage to the brain from complications during birth, food allergies, excess sugar intake, too much television, poor schools, or poor parenting. Research has found a number of significant risk factors affecting neurodevelopment and behavior expression. Events such as maternal alcohol and tobacco use that affect the development of the fetal brain can increase the risk for AD/HD. Injuries to the brain from environmental toxins such as lack of iron have also been implicated.

Symptoms

People with AD/HD show a persistent pattern of inattention and/or hyperactivity–impulsivity that interferes with functioning or development:

1. Inattention: Six or more symptoms of inattention for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level:

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- Often has trouble holding attention on tasks or play activities.
- Often does not seem to listen when spoken to directly.
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
- Often has trouble organizing tasks and activities.
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
- Is often easily distracted
- Is often forgetful in daily activities.



Figure 6.6.4: This child is exhibiting inattention. (Image by Ben Paarmann is licensed under CC BY 2.0)

2. Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level:

- Often fidgets with or taps hands or feet, or squirms in seat.
- Often leaves seat in situations when remaining seated is expected.
- Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- Often unable to play or take part in leisure activities quietly.
- Is often "on the go" acting as if "driven by a motor".
- Often talks excessively.
- Often blurts out an answer before a question has been completed.
- Often has trouble waiting his/her turn.
- Often interrupts or intrudes on others (e.g., butts into conversations or games)

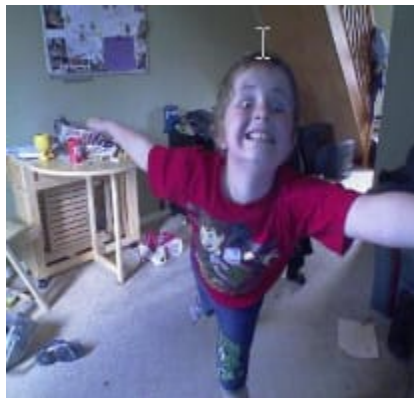


Figure 6.6.5: This child is exhibiting hyperactivity and impulsivity. (Image by Marc Lewis is licensed under CC BY-SA 2.0)

In addition, the following conditions must be met:

- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (such as at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms are not better explained by another mental disorder (such as a mood disorder, anxiety disorder, dissociative disorder, or a personality disorder). The symptoms do not happen only during the course of schizophrenia or another psychotic disorder.

Based on the types of symptoms, three kinds (presentations) of AD/HD can occur:

- **Combined Presentation:** if enough symptoms of both criteria inattention and hyperactivity-impulsivity were present for the past 6 months
- **Predominantly Inattentive Presentation:** if enough symptoms of inattention, but not hyperactivity-impulsivity, were present for the past six months
- **Predominantly Hyperactive-Impulsive Presentation:** if enough symptoms of hyperactivity-impulsivity, but not inattention,

were present for the past six months.

Because symptoms can change over time, the presentation may change over time as well.⁵⁴ The diagnosis of AD/HD can be made reliably using well-tested diagnostic interview methods. However, as of yet, there is no independent valid test for ADHD.

Among children, AD/HD frequently occurs along with other learning, behavior, or mood problems such as learning disabilities, oppositional defiant disorder, anxiety disorders, and depression.

Treatment

A variety of medications and behavioral interventions are used to treat AD/HD. The most widely used medications are methylphenidate (Ritalin), D-amphetamine, and other amphetamines. These drugs are stimulants that affect the level of the neurotransmitter dopamine at the synapse. Nine out of 10 children improve while taking one of these drugs.

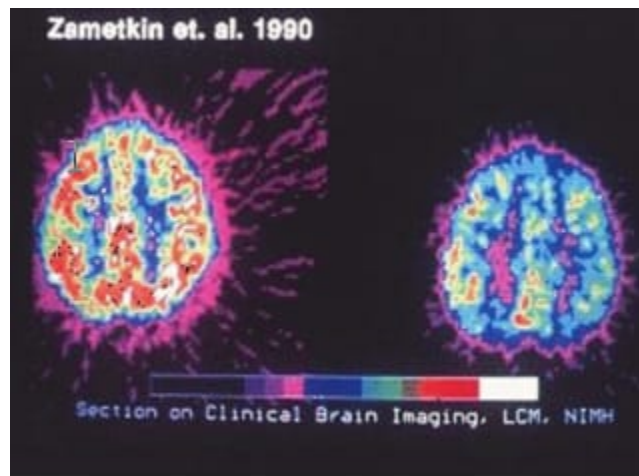


Figure 6.6.6: Brain scans of brains with and without ADHD. (Image by the [National Institutes of Health](#) is in the public domain)

In addition to the well-established treatments described above, some parents and therapists have tried a variety of nutritional interventions to treat AD/HD. A few studies have found that some children benefit from such treatments. Nevertheless, no well-established nutritional interventions have consistently been shown to be effective for treating AD/HD.⁵⁶

Pervasive Developmental Disorder (PDD) or PPD (NOS) Not Otherwise Specified PDD -NOS

Pervasive developmental disorder (PDD) is a term used to refer to difficulties in socialization and delays in developing communicative skills. This is usually recognized before 3 years of age. A child with PDD may interact in unusual ways with toys, people, or situations, and may engage in repetitive movement. PDD is diagnosed and treatment is similar to ADHA and ASD. In 2013 the DSM- 5 discontinued using this as a diagnosis, however it is still used informally.⁵⁷

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6.7: Managing Symptoms- Staying Healthy

Being healthy is important for all children and can be especially important for children with mental health disorders. In addition to getting the right treatment, leading a healthy lifestyle can play a role in managing symptoms. Here are some healthy behaviors that may help:

- Eating a healthful diet centered on fruits, vegetables, whole grains, legumes (for example, beans, peas, and lentils), lean protein sources, and nuts and seeds
- Participating in physical activity for at least 60 minutes each day
- Getting the recommended amount of sleep each night based on age
- Practicing mindfulness or relaxation techniques 58



Figure 6.7.1: Staying healthy is critical for all children, especially those who may have mental health disorders. (Image by the [U.S. Marine Corps](#) is in the public domain)

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6.S: Summary

In this chapter we looked at:

- Patterns of growth in the brain and body
- Health and nutrition
- Causes and results of obesity
- Exercise, fitness, and organized sports
- Physical health concerns
- Mental health disorders

In the next chapter we will be examining cognitive development theories and theorists. We will learn about information processing; attention, memory, and planning in middle childhood. We will also see how school age children learn language and how intelligence is measured.

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7: MIDDLE CHILDHOOD - COGNITIVE DEVELOPMENT

Learning Objectives

After this chapter, you should be able to:

1. Describe what cognitive theorists share about children and their thinking
2. Explain how intelligence is measured, the tests used to assess intelligence, the extremes in intelligence, and the concern of bias
3. Describe the Information Processing Theory
4. Explain several theories of language development
5. Compare typical language development with language difficulties

Cognitive skills continue to expand in middle and late childhood. Children in middle childhood have thought processes that become more logical and organized when dealing with concrete information. Children at this age understand concepts such as past, present, and future, giving them the ability to plan and work toward goals. Additionally, they can process complex ideas such as addition and subtraction and cause-and-effect relationships.¹

7.1: Cognitive Theories of Intelligence

7.2: Piaget's Theory of Cognitive Development

7.3: Howard Gardner's Theory of Multiple Intelligences

7.4: Information Processing- Learning, Memory, and Problem Solving

7.5: Cognitive Processes

7.6: Intelligence Testing - The What, the Why, and the Who

7.7: Language Development in the School-Age Child

7.8: Introduction to Linguistics

7.9: Bilingualism - also known as Dual Language Learners or English Language Learners

7.10: Theories of Language Development

7.11: Learning to Read

7.12: Learning Difficulties

7.S: Summary

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7.1: Cognitive Theories of Intelligence

Theorists are able to give different perspectives to the cognitive development of children and psychologists have long debated how to best conceptualize and measure intelligence (Sternberg, 2003). In the next section, we'll look at Piaget's theory of cognitive development, Sternberg's alternative view to intelligence, and Gardner's theory of multiple intelligence. Lastly, you'll learn about the Information Processing Theory that looks at the cognitive function of children in middle childhood.



Figure 11.1 - Jean Piaget. (Image is in the public domain)

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7.2: Piaget's Theory of Cognitive Development

Concrete Operational Thought

As children continue into elementary school, they develop the ability to represent ideas and events more flexibly and logically. Their rules of thinking still seem very basic by adult standards and usually operate unconsciously, but they allow children to solve problems more systematically than before, and therefore to be successful with many academic tasks. In the concrete operational stage, for example, a child may unconsciously follow the rule: "If nothing is added or taken away, then the amount of something stays the same." This simple principle helps children to understand certain arithmetic tasks, such as in adding or subtracting zero from a number, as well as to do certain classroom science experiments, such as ones involving judgments of the amounts of liquids when mixed. Piaget called this period the concrete operational stage because children mentally "operate" on concrete objects and events. ³



Figure 7.2.1: Children studying. (Image is licensed under [CC0](#))

The concrete operational stage is defined as the third in Piaget's theory of cognitive development. This stage takes place around 7 years old to 11 years of age, and is characterized by the development of organized and rational thinking. Piaget (1954a) considered the concrete stage a major turning point in the child's cognitive development, because it marks the beginning of logical or operational thought. The child is now mature enough to use logical thought or operations (i.e. rules) but can only apply logic to physical objects (hence concrete operational). Children gain the abilities of conservation (number, area, volume, orientation) and reversibility.⁵

Let's look at the following cognitive skills that children typically master during Piaget's concrete operational stage.⁶ :

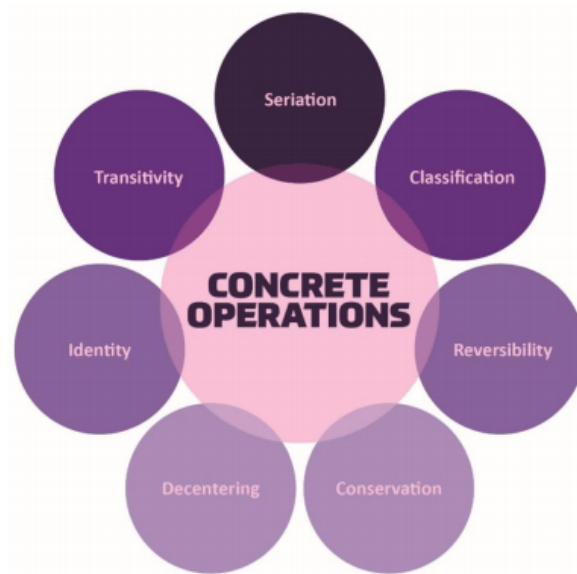


Figure 7.2.2: The cognitive skills developed during the concrete operational stage. (Image by Ian Joslin is licensed under [CC BY 4.0](#))

Seriation: Arranging items along a quantitative dimension, such as length or weight, in a methodical way is now demonstrated by the concrete operational child. For example, they can methodically arrange a series of different-sized sticks in order by length, while younger children approach a similar task in a haphazard way.⁸

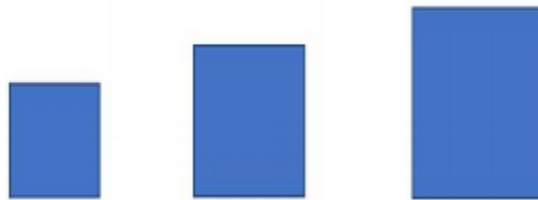


Figure 7.2.3: Caption: Putting these rectangles from smallest to largest is seriation. (Image by MehreenH is licensed [CC BY-SA 4.0](#))

Classification: As children's experiences and vocabularies grow, they build **schema** and are able to organize objects in many different ways. They also understand classification hierarchies and can arrange objects into a variety of classes and subclasses.



Figure 7.2.4: This child might use classification if she sorts these toys by color. (Image is licensed under [CC0](#))

Reversibility: The child learns that some things that have been changed can be returned to their original state. Water can be frozen and then thawed to become liquid again. But eggs cannot be unscrambled. Arithmetic operations are reversible as well: 2

$+ 3 = 5$ and $5 - 3 = 2$. Many of these cognitive skills are incorporated into the school's curriculum through mathematical problems and in worksheets about which situations are reversible or irreversible.



Figure 7.2.5: Understanding that ice cubes melt is an example of reversibility. (Image by John Voo is licensed under CC BY 2.0)

Conservation: An example of the preoperational child's thinking; if you were to fill a tall beaker with 8 ounces of water this child would think that it was "more" than a short, wide bowl filled with 8 ounces of water? Concrete operational children can understand the concept of conservation, which means that changing one quality (in this example, height or water level) can be compensated for by changes in another quality (width). Consequently, there is the same amount of water in each container, although one is taller and narrower and the other is shorter and wider.

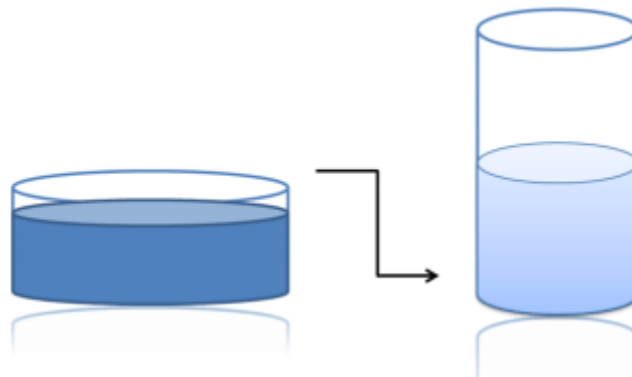


Figure 7.2.6: Beakers displaying the idea of conservation. (Image by Ydolem2689 is licensed under CC BY-SA 3.0)

Decentration: Concrete operational children no longer focus on only one dimension of any object (such as the height of the glass) and instead consider the changes in other dimensions too (such as the width of the glass). This allows for conservation to occur.



Figure 7.2.7: Children looking at these glasses demonstrate decentration when looking at more than one attribute i.e. tall, short, and wide narrow. (Image by Waterlily16 is licensed under CC BY-SA 3.0)

Identity: One feature of concrete operational thought is the understanding that objects have qualities that do not change even if the object is altered in some way. For instance, mass of an object does not change by rearranging it. A piece of chalk is still chalk even when the piece is broken in two. 14



Figure 7.2.8: A broken egg is still an egg. (Image by John Liu is licensed under CC BY 2.0)



Figure 7.2.9: A deflated balloon is still a balloon. (Image is licensed under CC0)



Figure 7.2.10: Broken chalk is still chalk. (Image from Pexels)

Transitivity: Being able to understand how objects are related to one another is referred to as transitivity or transitive inference. This means that if one understands that a dog is a mammal and that a boxer is a dog, then a boxer must be a mammal.¹⁸



Figure 7.2.11: Transitivity allows children to understand that this boxer puppy, is a dog and a mammal. (Image by Martin Vorel is in the public domain)

Looking at Piaget's Theory

Researchers have obtained findings indicating that cognitive development is considerably more continuous than Piaget claimed. Thus, the debate between those who emphasize discontinuous, stage-like changes in cognitive development and those who emphasize gradual continuous changes remains a lively one.²⁰

Triarchic Theory of Intelligence

An alternative view of intelligence is presented by Sternberg (1997; 1999). Sternberg offers three types of intelligences. Sternberg provided background information about his view of intelligence in a conference, where he described his frustration as a committee member charged with selecting graduate students for a program in psychology. He was concerned that there was too much emphasis placed on aptitude test scores (we will discuss this later in the chapter) and believed that there were other, less easily measured, qualities necessary for success in a graduate program and in the world of work. Aptitude test scores indicate the first type of intelligence-academic

1. Analytical (componential) sometimes described as academic: includes the ability to solve problems of logic, verbal comprehension, vocabulary, and spatial abilities.
2. Creative (experiential): the ability to apply newly found skills to novel situations
3. Practical (contextual): the ability to use common sense and to know what is called for in a situation.

Analytical



Figure 7.2.12: Reading supports analytical intelligence (Image licensed under CC0)

Creative



Figure 7.2.13: Building with shows creative intelligence (Image licensed under CC0)

Practical



Figure 7.2.14: Navigating social settings is practical intelligence (Image by Steven Depolo is licensed under CC BY 2.0)

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7.3: Howard Gardner's Theory of Multiple Intelligences

Another champion of the idea of specific types of intelligences rather than one overall intelligence is the psychologist Howard Gardner (1983, 1999). Gardner argued that it would be evolutionarily functional for different people to have different talents and skills, and proposed that there are nine intelligences that can be differentiated from each other.



Figure 7.3.1: Howard Gardner. (Image by [Interaction-Design.org](https://www.interaction-design.org) is licensed under [CC BY-SA 2.0](https://creativecommons.org/licenses/by-sa/2.0/))

Gardner contends that these are also forms of intelligence. A high IQ does not always ensure success in life or necessarily indicate that a person has common sense, good interpersonal skills, or other abilities important for success. Gardner investigated intelligences by focusing on children who were talented in one or more areas. He identified these 9 intelligences based on other criteria including a set developmental history and psychometric findings.²⁶

Howard Gardner (1983, 1998, 1999) suggests that there are not one, but nine domains of intelligence. The first three are skills that are measured by IQ tests:

Table 7.3.1: Howard Gardner's Multiple Intelligences (Lifespan Development: A Psychological Perspective by Martha Lally and Suzanne Valentine-French is licensed under [CC BY-NC-SA 3.0](https://creativecommons.org/licenses/by-nc-sa/3.0/); Table adapted from Gardner, H. (1999). Intelligence reframed: Multiple intelligences for the 21st century. New York, NY: Basic Books.)

Intelligence	Description
Linguistic	The ability to speak and write well
Logical-mathematical	The ability to use logic and mathematical skills to solve problems
Spatial	The ability to think and reason about objects in three dimensions
Musical	The ability to perform and enjoy music
Kinesthetic (body)	The ability to move the body in sports, dance, or other physical activities
Interpersonal	The ability to understand and interact effectively with others
Intrapersonal	The ability to have insight into the self
Naturalistic	The ability to recognize, identify, and understand animals, plants, and other living things
Existential	The ability to understand and have concern from life's larger questions, the meaning of life, and other spiritual matters

The concept of multiple intelligences has been influential in the field of education, and teachers have used these ideas to try to teach differently for individual students. For instance, to teach math problems to students who have particularly good kinesthetic

intelligence, a teacher might encourage the students to move their bodies or hands according to the numbers. On the other hand, some have argued that these “intelligences” sometimes seem more like “abilities” or “talents” rather than real intelligence. There is no clear conclusion about how many intelligences there are. Are a sense of humor, artistic skills, dramatic skills, and so forth also separate intelligences?28

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7.4: Information Processing- Learning, Memory, and Problem Solving

During middle and late childhood children make strides in several areas of cognitive function including the capacity of working memory, their ability to pay attention, and their use of memory strategies. Both changes in the brain and experience foster these abilities. In this section, we will look at how children process information, think and learn, allowing them to increase their ability to learn and remember due to an improvement in the ways they attend to, store information, and problem solve.²⁹

Working Memory: The capacity of working memory expands during middle and late childhood, research has suggested that both an increase in processing speed and the ability to inhibit irrelevant information from entering memory are contributing to the greater efficiency of working memory during this age (de Ribaupierre, 2002). Changes in **myelination** and **synaptic pruning** in the **cortex** are likely behind the increase in processing speed and ability to filter out irrelevant stimuli (Kail, McBride-Chang, Ferrer, Cho, & Shu, 2013).

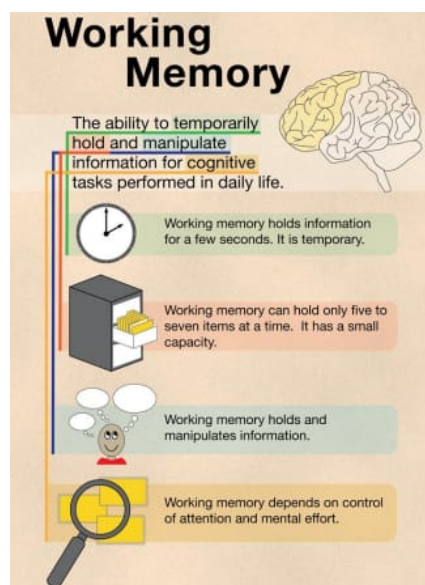


Figure 7.4.1: Working memory expands during middle and late childhood. (Image by Anchor is licensed under CC BY-NC-SA)

Attention: As noted above, the ability to inhibit irrelevant information improves during this age group, with there being a sharp improvement in selective attention from age six into adolescence (Vakil, Blachstein, Sheinman, & Greenstein, 2009). Children also improve in their ability to shift their attention between tasks or different features of a task (Carlson, Zelazo, & Faja, 2013). A younger child who is asked to sort objects into piles based on the type of object, car versus animal, or color of the object, red versus blue, would likely have no trouble doing so. But if you ask them to switch from sorting based on type to now having them sort based on color, they would struggle because this requires them to suppress the prior sorting rule. An older child has less difficulty making the switch, meaning there is greater flexibility in their intentional skills. These changes in attention and working memory contribute to children having more strategic approaches to challenging tasks.

Memory Strategies: Bjorklund (2005) describes a developmental progression in the acquisition and use of memory strategies. Such strategies are often lacking in younger children, but increase in frequency as children progress through elementary school. Examples of memory strategies include rehearsing information you wish to recall, visualizing and organizing information, creating rhymes, such as "i" before "e" except after "c", or inventing acronyms, such as "roygbiv" to remember the colors of the rainbow. Schneider, Kron-Sperl, and Hünnerkopf (2009) reported a steady increase in the use of memory strategies from ages six to ten in their longitudinal study. Moreover, by age ten many children were using two or more memory strategies to help them recall information. Schneider and colleagues found that there were considerable individual differences at each age in the use of strategies and that children who utilized more strategies had better memory performance than their same-aged peers.

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7.5: Cognitive Processes

As children enter school and learn more about the world, they develop more categories for concepts and learn more efficient strategies for storing and retrieving information. One significant reason is that they continue to have more experiences on which to tie new information. In other words, their **knowledge base**, knowledge in particular areas that makes learning new information easier, expands (Berger, 2014).



Figure 7.5.1: As children learn more about the world, their knowledge base grows. (Image is licensed under [CC0](#))

Metacognition: refers to the knowledge we have about our own thinking and our ability to use this awareness to regulate our own cognitive processes (Bruning, Schraw, Norby, & Ronning, 2004). Children in this developmental stage also have a better understanding of how well they are performing a task and the level of difficulty of a task. As they become more realistic about their abilities, they can adapt studying strategies to meet those needs. Young children spend as much time on an unimportant aspect of a problem as they do on the main point, while older children start to learn to prioritize and gauge what is significant and what is not. As a result, they develop metacognition.

Critical thinking, or a detailed examination of beliefs, courses of action, and evidence, involves teaching children how to think. The purpose of critical thinking is to evaluate information in ways that help us make informed decisions. Critical thinking involves better understanding a problem through gathering, evaluating, and selecting information, and also by considering many possible solutions. Ennis (1987) identified several skills useful in critical thinking. These include: Analyzing arguments, clarifying information, judging the credibility of a source, making value judgments, and deciding on an action. Metacognition is essential to critical thinking because it allows us to reflect on the information as we make decisions.

Children differ in their cognitive process and these differences predict both their readiness for school, academic performance, and testing in school. (Prebler, Krajewski, & Hasselhorn, 2013).³²

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7.6: Intelligence Testing - The What, the Why, and the Who

Measuring Intelligence: Standardization and the Intelligence Quotient

The goal of most intelligence tests is to measure “g”, the general intelligence factor. Good intelligence tests are **reliable**, meaning that they are consistent over time, and also demonstrate **validity**, meaning that they actually measure intelligence rather than something else. Because intelligence is such an important part of individual differences, psychologists have invested substantial effort in creating and improving measures of intelligence, and these tests are now considered the most accurate of all psychological tests.

Intelligence changes with age. A 3-year-old who could accurately multiply 183 by 39 would certainly be intelligent, but a 25-year-old who could not do so would be seen as unintelligent. Thus understanding intelligence requires that we know the norms or standards in a given population of people at a given age. The **standardization** of a test involves giving it to a large number of people at different ages and computing the average score on the test at each age level.

Once the standardization has been accomplished, we have a picture of the average abilities of people at different ages and can calculate a person's **mental age**, which is the age at which a person is performing intellectually. If we compare the mental age of a person to the person's chronological age, the result is the **Intelligence Quotient (IQ)**, a measure of intelligence that is adjusted for age. A simple way to calculate IQ is by using the following formula:

$$\text{IQ} = \text{mental age} \div \text{chronological age} \times 100.$$

Thus a 10-year-old child who does as well as the average 10-year-old child has an IQ of 100 ($10 \div 10 \times 100$), whereas an 8-year-old child who does as well as the average 10-year-old child would have an IQ of 125 ($10 \div 8 \times 100$). Most modern intelligence tests are based on the relative position of a person's score among people of the same age, rather than on the basis of this formula, but the idea of intelligence “ratio” or “quotient” provides a good description of the score's meaning.

The Flynn Effect

It is important that intelligence tests be standardized on a regular basis, because the overall level of intelligence in a population may change over time. The Flynn effect refers to the observation that scores on intelligence tests worldwide have increased substantially over the past decades (Flynn, 1999). Although the increase varies somewhat from country to country, the average increase is about 3 IQ points every 10 years. There are many explanations for the Flynn effect, including better nutrition, increased access to information, and more familiarity with multiple-choice tests (Neisser, 1998). But whether people are actually getting smarter is debatable (Neisser, 1997). 33

The Value of IQ Testing

The value of IQ testing is most evident in educational or clinical settings. Children who seem to be experiencing learning difficulties or severe behavioral problems can be tested to ascertain whether the child's difficulties can be partly attributed to an IQ score that is significantly different from the mean for her age group. Without IQ testing—or another measure of intelligence—children and adults needing extra support might not be identified effectively. People also use IQ testing results to seek disability benefits from the Social Security Administration.

While IQ tests have sometimes been used as arguments in support of insidious purposes, such as the **eugenics movement**, which was the science of improving a human population by controlled breeding to increase desirable heritable characteristics. However, the value of this test is important to help those in need.³⁴

Intelligence Tests and Those Who Created Them

Alfred Binet & Théodore Simon - Stanford- Binet Intelligence Test

From 1904- 1905 the French psychologist Alfred Binet (1857-1914) and his colleague Théodore Simon (1872-1961) began working on behalf of the French government to develop a measure that would identify children who would not be successful with the regular school curriculum. The goal was to help teachers better educate these students (Aiken, 1994).

Binet and Simon developed what most psychologists today regard as the first intelligence test, which consisted of a wide variety of questions that included the ability to name objects, define words, draw pictures, complete sentences, compare items, and construct sentences. Binet and Simon (Binet, Simon, & Town, 1915; Siegler, 1992) believed that the questions they asked the children all assessed the basic abilities to understand, reason, and make judgments.



Figure 7.6.1: Alfred Binet (b) This page is from a 1908 version of the Binet-Simon Intelligence Scale. Children being tested were asked which face, of each pair, was prettier. (Images are in the public domain)

Soon after Binet and Simon introduced their test, the American psychologist Lewis Terman at Stanford University (1877-1956) developed an American version of Binet's test that became known as the **Stanford- Binet Intelligence Test**. The Stanford-Binet is a measure of general intelligence made up of a wide variety of tasks including vocabulary, memory for pictures, naming of familiar objects, repeating sentences, and following commands.³⁶

David Wechsler- Wechsler-Bellevue Intelligence Scale

In 1939, David Wechsler, a psychologist who spent part of his career working with World War I veterans, developed a new IQ test in the United States. Wechsler combined several subtests from other intelligence tests used between 1880 and World War I. These subtests tapped into a variety of verbal and nonverbal skills, because Wechsler believed that intelligence encompassed “the global capacity of a person to act purposefully, to think rationally, and to deal effectively with his environment” (Wechsler, 1958, p. 7). He named the test the **Wechsler-Bellevue Intelligence Scale** (Wechsler, 1981). This combination of subtests became one of the most extensively used intelligence tests in the history of psychology.



Figure 7.6.2: David Wechsler (Image by Comet Photo AG (Zürich) is licensed under [CC BY-SA 4.0](#))

Today, there are three intelligence tests credited to Wechsler, the Wechsler Adult Intelligence Scale-fourth edition (WAIS-IV), the Wechsler Intelligence Scale for Children (WISC-V), and the Wechsler Preschool and Primary Scale of Intelligence—Revised (WPPSI-III) (Wechsler, 2002). These tests are used widely in schools and communities throughout the United States, and they are periodically normed and standardized as a means of recalibration.

Bias of IQ Testing

Intelligence tests and psychological definitions of intelligence have been heavily criticized since the 1970s for being biased in favor of Anglo-American, middle-class respondents and for being inadequate tools for measuring non-academic types of intelligence or talent. Intelligence changes with experience, and intelligence quotients or scores do not reflect that ability to change. What is considered smart varies culturally as well, and most intelligence tests do not take this variation into account. For example, in the West, being smart is associated with being quick. A person who answers a question the fastest is seen as the smartest, but in some cultures being smart is associated with considering an idea thoroughly before giving an answer. A well-thought out, contemplative answer is the best answer.³⁸

A Spectrum of Intellectual Development

The results of studies assessing the measurement of intelligence show that IQ is distributed in the population in the form of a **Normal Distribution (or bell curve)**, which is the pattern of scores usually observed in a variable that clusters around its average. In a normal distribution, the bulk of the scores fall toward the middle, with many fewer scores falling at the extremes. The normal distribution of intelligence shows that on IQ tests, as well as on most other measures, the majority of people cluster around the average (in this case, where IQ = 100), and fewer are either very smart or very dull (see below).

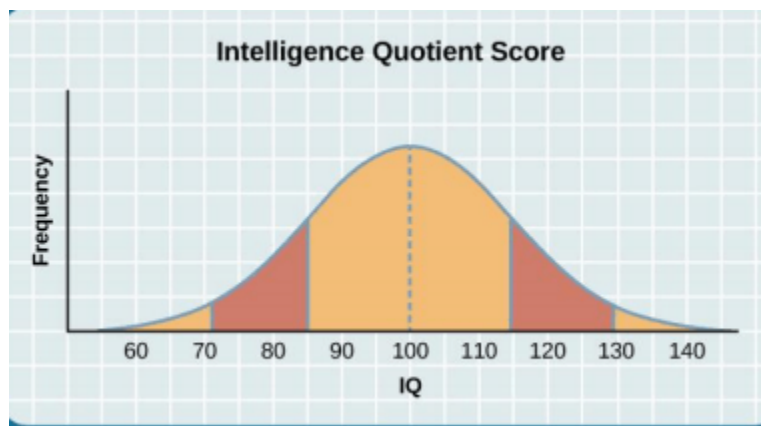


Figure 7.6.3: The majority of people have an IQ score between 85 and 115. (Image by CNX Psychology is licensed under CC BY 4.0)

Distribution of IQ Scores in the General Population

This means that about 2% of people score above an IQ of 130, often considered the threshold for giftedness, and about the same percentage score below an IQ of 70, often being considered the threshold for an intellectual disability.

Intellectual Disabilities

One end of the distribution of intelligence scores is defined by people with very low IQ. **Intellectual disability** (or **intellectual developmental disorder**) is assessed based on cognitive capacity (IQ) and adaptive functioning. The severity of the disability is based on adaptive functioning, or how well the person handles everyday life tasks. About 1% of the United States population, most of them males, fulfill the criteria for intellectual developmental disorder, but some children who are given this diagnosis lose the classification as they get older and better learn to function in society. A particular vulnerability of people with low IQ is that they may be taken advantage of by others, and this is an important aspect of the definition of intellectual developmental disorder (Greenspan, Loughlin, & Black, 2001).

One example of an intellectual developmental disorder is **Down syndrome**, a chromosomal disorder caused by the presence of

all or part of an extra 21st chromosome. The incidence of Down syndrome is estimated at approximately 1 per 700 births, and the prevalence increases as the mother's age increases (CDC, 2014a). People with Down syndrome typically exhibit a distinctive pattern of physical features, including a flat nose, upwardly slanted eye, a protruding tongue, and a short neck.



Figure 7.6.4: Down Syndrome is caused by the presence of all or part of an extra 21st chromosome. (Image by [Vanellus Foto](#) is licensed under [CC BY-SA 3.0](#))

Fortunately, societal attitudes toward individuals with intellectual disabilities have changed over the past decades. We no longer use terms such as “retarded,” “moron,” “idiot,” or “imbecile” to describe people with intellectual differences, although these were the official psychological terms used to describe degrees of what was referred to as mental retardation in the past. Laws such as the Americans with Disabilities Act (ADA) have made it illegal to discriminate on the basis of mental and physical disability.

The normal distribution of IQ scores in the general population shows that most people have about average intelligence, while very few have extremely high or extremely low intelligence.⁴¹

Giftedness

Being **gifted** refers to children who have an IQ of 130 or higher (Lally & Valentine-French, 2015). Having an extremely high IQ is clearly less of a problem than having an extremely low IQ but there may also be challenges to being particularly smart. It is often assumed that school children who are labeled as “gifted” may have adjustment problems that make it more difficult for them to create and maintain social relationships.

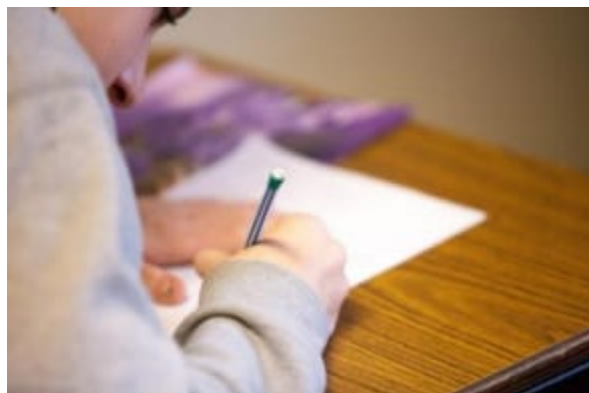


Figure 7.6.5: Children who get a score on an intelligence test showing an IQ of 130 or higher are labeled as gifted. (Image by [Ben Mullins](#) on [Unsplash](#))

As you might expect based on our discussion of intelligence, there are also different types and areas of intelligence and giftedness. Some children are particularly good at math or science, some at automobile repair or carpentry, some at music or art, some at sports or leadership, and so on. There is a lively debate among scholars about whether it is appropriate or beneficial to label some children as “gifted and talented” in school and to provide them with accelerated special classes and other programs

that are not available to everyone. Although doing so may help the gifted kids (Colangelo & Assouline, 2009), it also may isolate them from their peers and make such provisions unavailable to those who are not classified as “gifted.” Testing for high IQ or for disabilities needs to be critically looked at so that the good that these tests were created for are not used for undesirable purposes.⁴³

How do we know so much about what children learn in schools? In the next section we'll look at the different types of tests and what the schools are testing.

Testing in Schools

Children's academic performance is often measured with the use of standardized tests. Those tests include, but are not limited to Achievement and Aptitude tests.



Figure 7.6.6: Standardized tests are used to measure academic performance. (Image by Marine Corps Base Hawaii is in the public domain)

Achievement tests are used to measure what a child has already learned. Achievement tests are often used as measures of teaching effectiveness within a school setting and as a method to make schools that receive tax dollars (such as public schools, charter schools, and private schools that receive vouchers) accountable to the government for their performance.

Aptitude tests are designed to measure a student's ability to learn or to determine if a person has potential in a particular program. These are often used at the beginning of a course of study or as part of college entrance requirements. The Scholastic Aptitude Test (SAT) and Preliminary Scholastic Aptitude Test (PSAT) are perhaps the most familiar aptitude tests to students in grades 6 and above. Learning test taking skills and preparing for SATs has become part of the training that some students in these grades receive as part of their pre-college preparation. Other aptitude tests include the MCAT (Medical College Admission Test), the LSAT (Law School Admission Test), and the GRE (Graduate Record Examination). Intelligence tests are also a form of aptitude test, which designed to measure a person's ability to learn.⁴⁵

What Happened to No Child Left Behind?

In 2001, President Bush signed into effect Public Law 107-110, better known as the **No Child Left Behind Act** mandating that schools administer achievement tests to students and publish those results so that parents have an idea of their children's performance. Additionally, the government would have information on the gaps in educational achievement between children from various social class, racial, and ethnic groups.

Schools that showed significant gaps in these levels of performance were mandated to work toward narrowing these gaps. Educators criticized the policy for focusing too much on testing as the only indication of student performance. Target goals were considered unrealistic and set by the federal government rather than individual states. Because these requirements became increasingly unworkable for schools, changes to the law were requested.



Figure 7.6.7: The No Child Left Behind Act was signed into effect in 2001. (Image is in the public domain)



Figure 7.6.8: The Every Student Succeeds Act was signed into effect in 2015. (Image is in the public domain)

On December 12, 2015 President Obama signed into law the **Every Student Succeeds Act** (ESSA). This law is state-driven and focuses on expanding educational opportunities and improving student outcomes, including in the areas of high school graduation, drop-out rates, and college attendance.⁴⁸

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7.7: Language Development in the School-Age Child

Human language is the most complex behavior on the planet and, at least as far as we know, in the universe. Language involves both the ability to comprehend (receptive) spoken and written (expressive) words and to create communication in real-time when we speak or write. Most languages are oral, generated through speaking. Speaking involves a variety of complex cognitive, social, and biological processes including operation of the vocal cords, and the coordination of breath with movements of the throat and mouth, and tongue. Other languages are sign languages, in which the communication is expressed by movements of the hands. The most common sign language is American Sign Language (ASL), currently spoken by more than 500,000 people in the United States alone.

Although language is often used for the transmission of information (“turn right at the next light and then go straight,” “Place tab A into slot B”), this is only its most mundane function. Language also allows us to access existing knowledge, to draw conclusions, to set and accomplish goals, and to understand and communicate complex social relationships. Language is fundamental to our ability to think, and without it, we would be nowhere near as intelligent as we are.

Language can be conceptualized in terms of sounds, meaning, and the environmental factors that help us understand it. Phonemes are the elementary sounds of our language, morphemes are the smallest units of meaning in a language, syntax is the set of grammatical rules that control how words are put together, and contextual information is the elements of communication that are not part of the content of language but that help us understand its meaning. Understanding how language works means reaching across many branches of psychology—everything from basic **neurological** functioning to high-level **cognitive** processing. Language shapes our social interactions and brings order to our lives. Complex language is one of the defining factors that make us human.⁴⁹

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7.8: Introduction to Linguistics

Language is such a special topic that there is an entire field, linguistics, devoted to its study. Linguistics views language in an objective way, using the **scientific method** and rigorous research to form **theories** about how humans acquire, use, and sometimes abuse language. There are a few major branches of linguistics, which it is useful to understand in order to learn about language from a psychological perspective.

Major Branches of Linguistics

This diagram outlines the various subfields of linguistics, the study of language. These include phonetics, phonology, morphology, syntax, semantics, and pragmatics.

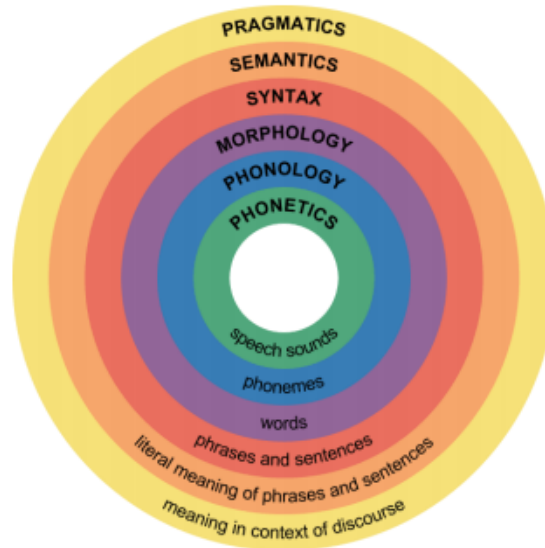


Figure 7.8.1: Major branches of linguistics. (Image is in the public domain)

Phonetics and Phonology

A **phoneme** is the smallest unit of sound that makes a meaningful difference in a language. The word “bit” has three phonemes, /b/, /i/, and /t/ (in transcription, phonemes are placed between slashes), and the word “pit” also has three: /p/, /i/, and /t/. In spoken languages, phonemes are produced by the positions and movements of the vocal tract, including our lips, teeth, tongue, vocal cords, and throat, whereas in sign languages phonemes are defined by the shapes and movement of the hands. English contains about 45 phonemes.

Whereas phonemes are the smallest units of sound in language, **phonetics** is the study of individual speech sounds; **phonology** is the study of phonemes, which are the speech sounds of an individual language. These two heavily overlapping subfields cover all the sounds that humans can make, as well as which sounds make up different languages.

Morpheme and Morphology

A **morpheme** is a string of one or more phonemes that makes up the smallest units of meaning in a language. Some morphemes, such as one-letter words like “I” and “a,” are also phonemes, but most morphemes are made up of combinations of phonemes. Some morphemes are prefixes and suffixes used to modify other words. For example, the syllable “re-” as in “rewrite” or “repay” means “to do again,” and the suffix “-est” as in “happiest” or “coolest” means “to the maximum.”

Morphology is the study of words and other meaningful units of language like suffixes and prefixes. A morphologist would

be interested in the relationship between words like “dog” and “dogs” or “walk” and “walking,” and how people figure out the differences between those words.

Syntax

Syntax is the set of rules of a language by which we construct sentences. Each language has a different syntax. The syntax of the English language requires that each sentence have a noun and a verb, each of which may be modified by adjectives and adverbs. Some syntaxes make use of the order in which words appear, while others do not.

Syntax is the study of sentences and phrases, or how people put words into the right order so that they can communicate meaningfully. All languages have underlying rules of syntax, which, along with morphological rules, make up every language’s grammar. An example of syntax coming into play in language is “Eugene walked the dog” versus “The dog walked Eugene.” The order of words is not arbitrary—in order for the sentence to convey the intended meaning, the words must be in a certain order.⁵¹

Semantics and Pragmatics

Semantics, generally, is about the meaning of sentences. Someone who studies semantics is interested in words and what real-world object or concept those words denote, or point to.

Pragmatics is an even broader field that studies how the context of a sentence contributes to meaning. For example, someone shouting “Fire!” has a very different meaning if they are in charge of a seven-gun salute than it does if they are sitting in a crowded movie theater. Every language is different. In English, an adjective comes before a noun (“red house”), whereas in Spanish, the adjective comes after (“casa [house] roja [red].”) In German, you can put noun after noun together to form giant compound words; in Chinese, the pitch of your voice determines the meaning of your words. In American Sign Language, you can convey full, grammatical sentences with tense and aspect by moving your hands and face. But all languages have structural underpinnings that make them logical for the people who speak and understand them.⁵²



Figure 7.8.2: As speakers of Chinese, these boys would understand the importance of pitch. (Image by joan vila is licensed under CC BY 2.0)

Cognitive Language and Communication

When learning one or more languages in middle childhood, children are able to understand that there are many complex parts including comprehension, fluency, and meaning when communicating. The following are areas of cognitive language and communication.

Lexicon

Every language has its rules, which act as a framework for meaningful communication. But what do people fill that framework up with? The answer is, of course, words. Every human language has a **lexicon**—the sum total of all of the words in that language. By using grammatical rules to combine words into logical sentences, humans can convey an infinite number of concepts.

Grammar

Because all language obeys a set of combinatory rules, we can communicate an infinite number of concepts. While every language has a different set of rules, all languages do obey rules. These rules are known as grammar. Speakers of a language have

internalized the rules and exceptions for that language's grammar. There are rules for every level of language—word formation (for example, native speakers of English have internalized the general rule that -ed is the ending for past-tense verbs, so even when they encounter a brand-new verb, they automatically know how to put it into past tense); phrase formation (for example, knowing that when you use the verb “buy,” it needs a subject and an object; “She buys” is wrong, but “She buys a gift” is okay); and sentence formation.

Older children are also able to learn new rules of grammar with more flexibility. While younger children are likely to be reluctant to give up saying “I goed there”, older children will learn this rather quickly along with other rules of grammar.

Vocabulary

One of the reasons that children can classify objects in so many ways is that they have acquired a vocabulary to do so. By fifth grade, a child's vocabulary has grown to 40,000 words. It grows at a rate that exceeds that of those in early childhood. This language explosion, however, differs from that of younger children because it is facilitated by being able to associate new words with those already known, and because it is accompanied by a more sophisticated understanding of the meanings of a word.

Context

Words do not possess fixed meanings but change their interpretation as a function of the context in which they are spoken. We use **contextual information**—the information surrounding language—to help us interpret it. Context is how everything within language works together to convey a particular meaning. Context includes tone of voice, body language, and the words being used. Depending on how a person says something, holds his or her body, or emphasizes certain points of a sentence, a variety of different messages can be conveyed. For example, the word “awesome,” when said with a big smile, means the person is excited about a situation. “Awesome,” said with crossed arms, rolled eyes, and a sarcastic tone, means the person is not thrilled with the situation.⁵⁴



Figure 7.8.3: Context helps us understand meaning. (Image is licensed under CC0)

New Understanding

Those in middle and late childhood are also able to think of objects in less literal ways. For example, if asked for the first word that comes to mind when one hears the word “pizza”, the younger child is likely to say “eat” or some word that describes what is done with a pizza. However, the older child is more likely to place pizza in the appropriate category and say “food”. This sophistication of vocabulary is also evidenced by the fact that older children tell jokes and delight in doing so. They may use jokes that involve plays on words such as “knock-knock” jokes or jokes with punch lines. Young children do not understand play on words and tell “jokes” that are literal or slapstick, such as “A man fell down in the mud! Isn't that funny?”⁵⁶

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7.9: Bilingualism - also known as Dual Language Learners or English Language Learners

Although **monolingual** speakers (those that only speak one language) often do not realize it, the majority of children around the world are **bilingual**, (they understand and use two languages). (Meyers- Sutton, 2005). Even in the United States, which is a relatively monolingual society, more than 47 million people speak a language other than English at home, and about 10 million of these people are children or youth in public schools (United States Department of Commerce, 2003). The large majority of bilingual students (75%) are Hispanic, but the rest represent more than a hundred different language groups from around the world. In larger communities throughout the United States, it is therefore common for a single classroom to contain students from several language backgrounds at once. In classrooms, as in other social settings, bilingualism exists in different forms and degrees.



Figure 7.9.1: The Iceberg Analogy. (Image by LEAP is licensed under the Free Art License)

The student who speaks both languages fluently has a definite cognitive advantage. As you might suspect and research confirmed, a fully fluent bilingual student is in a better position to express concepts or ideas in more than one way, and to be aware of doing so (Jimenez, Garcia, & Pearson, 1995; Francis, 2006). Having a large vocabulary in a first language has been shown to save time in learning vocabulary in a second language (Hansen, Umeda & McKinney, 2002).⁵⁸

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7.10: Theories of Language Development

Humans, especially children, have an amazing ability to learn language. Within the first year of life, children will have learned many of the necessary concepts to have functional language, although it will still take years for their capabilities to develop fully. As we just explained, some people learn two or more languages fluently and are bilingual or multilingual. Here is a recap of the theorists and theories that have been proposed to explain the development of language, and related brain structures, in children.

Skinner: Operant Conditioning

B. F. Skinner believed that children learn language through **operant conditioning**; in other words, children receive “rewards” for using language in a functional manner. For example, a child learns to say the word “drink” when she is thirsty; she receives something to drink, which reinforces her use of the word for getting a drink, and thus she will continue to do so. This follows the four-term contingency that Skinner believed was the basis of language development—motivating operations, discriminative stimuli, response, and reinforcing stimuli. Skinner also suggested that children learn language through imitation of others, prompting, and shaping.

Chomsky: Language Acquisition Device

Noam Chomsky's work discusses the biological basis for language and claims that children have innate abilities to learn language. Chomsky terms this innate ability the “**language acquisition device**.” He believes children instinctively learn language without any formal instruction. He also believes children have a natural need to use language, and that in the absence of formal language children will develop a system of communication to meet their needs. He has observed that all children make the same type of language errors, regardless of the language they are taught. Chomsky also believes in the existence of a “universal grammar,” which posits that there are certain grammatical rules all human languages share. However, his research does not identify areas of the brain or a genetic basis that enables humans' innate ability for language.

Piaget: Assimilation and Accommodation

Jean Piaget's theory of language development suggests that children use both assimilation and accommodation to learn language. **Assimilation** is the process of changing one's environment to place information into an already-existing schema (or idea). **Accommodation** is the process of changing one's schema to adapt to the new environment. Piaget believed children need to first develop mentally before language acquisition can occur. According to him, children first create mental structures within the mind (schemas) and from these schemas, language development happens.

Vygotsky: Zone of Proximal Development

Lev Vygotsky's theory of language development focused on social learning and **the zone of proximal development (ZPD)**. The ZPD is a level of development obtained when children engage in social interactions with others; it is the distance between a child's *potential* to learn and the *actual learning* that takes place. Vygotsky's theory also demonstrated that Piaget underestimated the importance of social interactions in the development of language. Piaget's and Vygotsky's theories are often compared with each other, and both have been used successfully in the field of education.



Figure 7.10.1: This park ranger is using the ZPD to increase these boys understanding. (Image by the [National Park Service](#) is in the public domain)

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7.11: Learning to Read

A huge milestone in middle childhood is learning to read and write. While the foundations of this were laid in infancy and early childhood, formal instruction on this process usually happens during the school-age years. There isn't always complete agreement on how children are best taught to read. The following approaches to teaching reading are separated by their methodology, but today, models of reading strive for a balance between the two types of reading methods because they are both recognized as essential for learning to read.

- A **phonics-based approach** teaches reading by making sure children can understand letter-sound correspondences (how letters sound), automatically recognize familiar words, and decode unfamiliar words. This ability to break the code of reading allows children to read words they have never heard spoken before.
- The **whole-language approach** attempts to teach reading as naturally as possible. As the sounds of words don't have meaning, the focus is on reading words and sentences in context (such as real books), rather than learning the sounds and phonemes that makeup words.⁶⁰

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7.12: Learning Difficulties

When children don't seem to be developing or learning in the typical pattern one might be assessed for a disorder or disability. What is a learning disorder or disability? In the next section we'll learn about the spectrum of disorders and how they may impact many areas of the child's life.

- A **learning disorder** is a classification of disorders in which a person has difficulty learning in a typical manner within one of several domains. Types of learning disorders include difficulties in reading (dyslexia), mathematics (dyscalculia), and writing (dysgraphia). These disorders are diagnosed with certain criteria.
- A **learning disability** has problems in a specific area or with a specific task or type of activity related to education.

Children with learning challenges are usually identified in school because this is when their academic abilities are being tested, compared, and measured. In the Diagnostic and Statistical Manual of Mental Disorders -DSM-5, a qualified person will make a diagnosis, identified causes, and will make a treatment plan for disorders and disabilities. The diagnosis of specific learning disorder was added to the DSM-5 in 2013.

The DSM does not require that a single domain of difficulty (such as reading, mathematics, or written expression) be identified—instead, it is a single diagnosis that describes a collection of potential difficulties with general academic skills, simply including detailed specifics for the areas of reading, mathematics, and writing. Academic performance must be below average in at least one of these fields, and the symptoms may also interfere with daily life or work. In addition, the learning difficulties cannot be attributed to other sensory, motor, developmental, or neurological disorders.⁶¹

The following is an example of the DSM-5 - learning disorders.

Learning Disorders:

- Dyslexia - Reading
- Dyscalculia - Mathematics
- Dyspraxia - Motor Coordination
- Dysgraphia - Writing
- Auditory Processing Disorder - Hearing
- Visual Processing Disorder - Visual

Speech and Language Disorders:

- Aphasia - Loss of language - expressive and receptive
- Articulation Disorder - An articulation disorder
- Fluency Disorders - Fluency disorders
- Voice Disorders - Disorders of the voice ⁶²

Learning Disorders or Disabilities

Dyslexia

Dyslexia, sometimes called “reading disorder,” is the most common learning disability; of all students with specific learning disabilities, 70%–80% have deficits in reading. The term “developmental dyslexia” is often used as a catchall term, but researchers assert that dyslexia is just one of several types of reading disabilities. A reading disability can affect any part of the reading process, including word recognition, word decoding, reading speed, prosody (oral reading with expression), and reading comprehension.

Dyscalculia

Dyscalculia is a form of math-related disability that involves difficulties with learning math-related concepts (such as quantity, place value, and time), memorizing math-related facts, organizing numbers, and understanding how problems are organized on the page. Dyscalculics are often referred to as having poor "number sense."

Dyspraxia

Children who have motor skills substantially below what is expected for their age are diagnosed with **dyspraxia** – or developmental coordination disorder (DCD) as it is more formally known. They are not lazy, clumsy or unintelligent – in fact, their intellectual ability is in line with the general population – but they do struggle with everyday tasks that require coordination.



Figure 7.12.1: Children with learning challenges are usually identified in school because this is when their academic abilities are being tested, compared, and measured. (Image by [pan xiaozhen](#) on [Unsplash](#))

Dysgraphia

The term **dysgraphia** is often used as an overarching term for all disorders of written expression. Individuals with dysgraphia typically show multiple writing-related deficiencies, such as grammatical and punctuation errors within sentences, poor paragraph organization, multiple spelling errors, and excessively poor penmanship. 64

Auditory Processing Disorder

A processing deficit in the auditory modality that spans multiple processes is **auditory processing disorder** (APD). To date, APD diagnosis is mostly based on the utilization of speech material. Unfortunately, acceptable non-speech tests that allow differentiation between an actual central hearing disorder and related disorders such as specific language impairments are still not adequately available.

Visual Processing Disorder

Difficulty processing or interpreting visual information is referred to as **visual processing disorder** (VPD). Kids with visual processing issues may have difficulty telling the difference between two shapes or finding a specific piece of information on a page.65

Table 7.12.1: Summary of Learning Disabilities (Dyspraxi by [The Conversation](#) is licensed under [CC BY-ND 4.0](#))

Disability	Difficulties	Effects
Dyslexia	Difficulty with reading	Problems reading, writing, spelling

Disability	Difficulties	Effects
Dyscalculia	Difficulty with math	Problems doing math problems, understanding time, using money
Dyspraxia (Sensory Integration Disorder)	Difficulty with fine motor skills	Problems with hand-eye coordination, balance manual dexterity
Dysgraphia	Difficulty with writing	Problems with handwriting, spelling, organizing ideas
Auditory Processing Disorder	Difficulty hearing difference between sounds	Problems with reading, comprehension, language
Visual Processing Disorder	Difficulty interpreting visual information	Problems with reading, math, maps, charts, symbols, pictures

Speech and Language Disorders

Aphasia

A loss of the ability to produce or understand language is referred to as **aphasia**. Without the brain, there would be no language. The human brain has a few areas that are specific to language processing and production. When these areas are damaged or injured, capabilities for speaking or understanding can be lost, a disorder known as aphasia. These areas must function together in order for a person to develop, use, and understand language.

Articulation Disorder

An **articulation disorder** refers to the inability to correctly produce speech sounds (phonemes) because of imprecise placement, timing, pressure, speed, or flow of movement of the lips, tongue, or throat (NIDCD, 2016). Sounds can be substituted, left off, added or changed. These errors may make it hard for people to understand the speaker. They can range from problems with specific sounds, such as lisping to severe impairment in the phonological system. Most children have problems pronouncing words early on while their speech is developing. However, by age three, at least half of what a child says should be understood by a stranger. By age five, a child's speech should be mostly intelligible. Parents should seek help if by age six the child is still having trouble producing certain sounds. It should be noted that accents are not articulation disorders (Medline Plus, 2016a).

Fluency disorders

Fluency disorders affect the rate of speech. Speech may be labored and slow, or too fast for listeners to follow. The most common fluency disorder is stuttering.

Stuttering is a speech disorder in which sounds, syllables, or words are repeated or last longer than normal. These problems cause a break in the flow of speech, which is called dysfluency (Medline Plus, 2016b). About 5% of young children, aged two-five, will develop some stuttering that may last from several weeks to several years (Medline Plus, 2016c). Approximately 75% of children recover from stuttering. For the remaining 25%, stuttering can persist as a lifelong communication disorder (National Institute on Deafness and other Communication Disorders, NIDCD, 2016). This is called developmental stuttering and is the most common form of stuttering.

Brain injury, and in very rare instances, emotional trauma may be other triggers for developing problems with stuttering. In most cases of developmental stuttering, other family members share the same communication disorder. Researchers have recently identified variants in four genes that are more commonly found in those who stutter (NIDCD, 2016).

Voice disorders

Disorders of the voice involve problems with pitch, loudness, and quality of the voice (American Speech-Language and Hearing Association, 2016). It only becomes a disorder when problems with the voice make the child unintelligible. In children, voice

disorders are significantly more prevalent in males than in females. Between 1.4% and 6% of children experience problems with the quality of their voice. Causes can be due to structural abnormalities in the vocal cords and/or larynx, functional factors, such as vocal fatigue from overuse, and in rarer cases psychological factors, such as chronic stress and anxiety.⁶⁷



Figure 7.12.2: Speech therapy. (Image by EU Civil Protection and Humanitarian Aid Operations is licensed under CC BY-SA 2.0)

Children with Disabilities: Legislation

Since the 1970s political and social attitudes have moved increasingly toward including people with disabilities into a wide variety of “regular” activities. In the United States, the shift is illustrated clearly in the Federal legislation that was enacted during this time. Three major laws were passed that guaranteed the rights of persons with disabilities, and of children and students with disabilities in particular. The third law has had the biggest impact on education.

The Rehabilitation Act of 1973, Section 504

This law, the first of its kind, required that individuals with disabilities be accommodated in any program or activity that receives Federal funding (PL93-112, 1973). Although this law was not intended specifically for education, in practice it has protected students' rights in some extra-curricular activities (for older students) and in some childcare or after-school care programs (for younger students). If those programs receive Federal funding of any kind, the programs are not allowed to exclude children or youths with disabilities, and they have to find reasonable ways to accommodate the individuals' disabilities.

Americans with Disabilities Act of 1990 (or ADA)

This legislation also prohibited discrimination on the basis of disability, just as Section 504 of the Rehabilitation Act had done (PL 101-336, 1990). Although the ADA also applies to all people (not just to students), its provisions are more specific and “stronger” than those of Section 504. In particular, ADA extends to all employment and jobs, not just those receiving Federal funding.

It also specifically requires accommodations to be made in public facilities such as with buses, restrooms, and telephones. ADA legislation is therefore responsible for some of the “minor” renovations in schools that you may have noticed in recent years, like wheelchair-accessible doors, ramps, and restrooms, and public telephones with volume controls.



Figure 7.12.3: President George H. W. Bush Signs the Americans with Disabilities Act, 07/26/1990. (Image is in the public domain)

Individuals with Disabilities Education Act (or IDEA)

As its name implied this legislation was more focused on education than either Section 504 or ADA. It was first passed in 1975 and has been amended several times since, including most recently in 2004 (PL 108-446, 2004). In its current form, the law guarantees the following rights related to education for anyone with a disability from birth to age 21.

The first two rights influence schooling in general, but the last three affect the work of classroom teachers rather directly:

- **Free, appropriate education:** An individual or an individual's family should not have to pay for education simply because the individual has a disability, and the educational program should be truly educational; i.e., not merely caretaking or babysitting.
- **Due process:** In case of disagreements between an individual with a disability and the schools or other professionals, there must be procedures for resolving the disagreements that are fair and accessible to all parties, including the person himself or herself or the person's representative.
- **Fair evaluation of performance in spite of disability:** Tests or other evaluations should not assume test taking skills that a person with a disability cannot reasonably be expected to have, such as holding a pencil, hearing or seeing questions, working quickly, or understanding and speaking orally. Evaluation procedures should be modified to allow for these differences. This provision of the law applies both to evaluations made by teachers and to school-wide or "high-stakes" testing programs.
- **Education in the "least restrictive environment":** Education for someone with a disability should provide as many educational opportunities and options for the person as possible, both in the short term and in the long term. In practice, this requirement has meant including students in regular classrooms and school activities as much as possible.
- **An Individualized Educational Plan (IEP):** Given that every disability is unique, instructional planning for a person with a disability should be unique or individualized as well. In practice, this provision has led to classroom teachers planning individualized programs jointly with other professionals (like reading specialists, psychologists, or medical personnel) as part of a team.⁷⁰

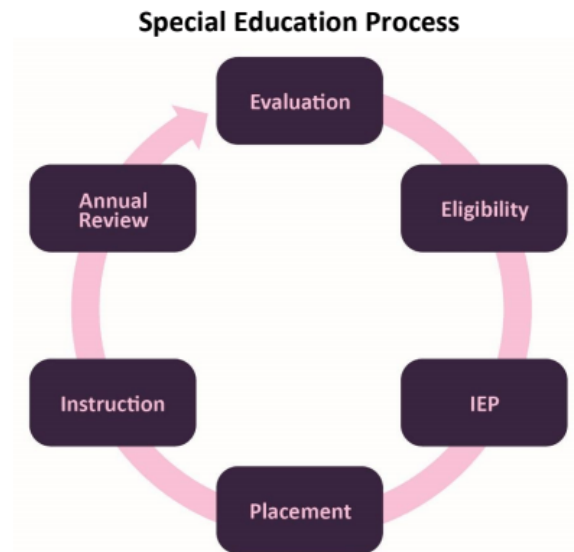


Figure 7.12.4: The special education process. (Image by Ian Joslin is licensed under [CC BY 4.0](#))

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65. Ludwig, A. A., Fuchs, M., Kruse, E., Uhlig, B., Kotz, S. A., & Rübsamen, R. (2014). [Auditory processing disorders with and without central auditory discrimination deficits](#). *Journal of the Association for Research in Otolaryngology: JARO*, 15(3), 441-64.

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7.S: Summary

In this chapter we looked at:

- Piaget's concrete operational stage of cognitive development.
- Theories of intelligence.
- How children process information.
- Intelligence testing.
- The spectrum of intellectual abilities.
- Language and communication development.
- Learning difficulties.

In the next chapter, we will be examining school-aged children's developing understanding of themselves and the world around them and the widening influences on their social and emotional development.

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8: MIDDLE CHILDHOOD - SOCIAL EMOTIONAL DEVELOPMENT

Learning Objectives

After this chapter, you should be able to: 1. Describe the social emotional theories of development 2. Examine the importance of positive friendships and peer relationships 3. Describe self-understanding in childhood 4. Identify the types of families children are part of 5. Explain aggression, antisocial behavior, and bullying

As children get older, their experiences allow them to develop a more realistic understanding of themselves, including both their strengths and weaknesses. This developing self-concept is influenced by messages they receive from their peers, their family, and the media.

8.1: Social Emotional Theories of Development

8.2: Self-Understanding

8.3: Motivation as Self-Efficacy

8.4: Gender Identity

8.5: Child and the Family

8.6: Friendships, Peers, and Peer groups

8.7: Peer Relationships

8.8: Aggression, Antisocial Behavior, Bullies, and Victims

8.S: Summary

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8.1: Social Emotional Theories of Development

Erik Erikson- Industry vs. Inferiority

Erik Erikson proposed that we are motivated by a need to achieve competence in certain areas of our lives. As we've learned in previous chapters, Erikson's psychosocial theory has eight stages of development over the lifespan, from infancy through late adulthood. At each stage, there is a conflict, or task, that we need to resolve. Successful completion of each developmental task results in a sense of competence and a healthy personality. Failure to master these tasks leads to feelings of inadequacy.

During the elementary school stage (ages 6-12), children face the task of *Industry versus Inferiority*. Children begin to compare themselves to their peers to see how they measure up.



Figure 8.1.1: The academic award this boy is receiving may contribute to his sense of industry. (Image by Janarthanan kesavan is licensed under CC BY-SA 4.0)

They either develop a sense of pride and accomplishment in their schoolwork, sports, social activities, and family life, or they feel inferior and inadequate when they don't measure up.²

According to Erikson, children in middle childhood are very busy or industrious. They are constantly doing, planning, playing, getting together with friends, achieving. This is a very active time and a time when they are gaining a sense of how they measure up when compared with friends. Erikson believed that if these industrious children can be successful in their endeavors, they will get a sense of confidence for future challenges. If not, a sense of inferiority can be particularly haunting during middle childhood.³

Sigmund Freud - Psychoanalytic Theory

The great psychoanalyst Sigmund Freud (1856-1939) focused on unconscious, biological forces that he felt shape individual personality. Freud (1933) thought that the personality consists of three parts: the id, the ego, and the superego. The id is the selfish part of the personality and consists of biological instincts that all babies have, including the need for food and, more generally, the demand for immediate gratification. As babies get older, they learn that not all their needs can be immediately satisfied and thus develop the ego, or the rational part of the personality. As children get older still, they internalize society's norms and values and thus begin to develop their superego, which represents society's conscience. If a child does not develop normally and the superego does not become strong enough, the individual is more at risk for being driven by the id to commit antisocial behavior.⁴



Figure 8.1.2: Development of the superego helps children overcome their unconscious desire to behave antisocially. (Image by Annie Spratt on Unsplash)

Lawrence Kohlberg's Stages of Moral Development

Kohlberg (1963) built on the work of Piaget and was interested in finding out how our moral reasoning changes as we get older. He wanted to find out how people decide what is right and what is wrong. Just as Piaget believed that children's cognitive development follows specific patterns, Kohlberg (1984) argued that we learn our moral values through active thinking and reasoning, and that moral development follows a series of stages. Kohlberg's six stages are generally organized into three levels of moral reasons. To study moral development, Kohlberg looked at how children (and adults) respond to moral dilemmas. One of Kohlberg's best known moral dilemmas is the Heinz dilemma:

In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make but the druggist was charging ten times what the drug cost him to make. He paid \$200 for the radium and charged \$2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money but he could only get together about \$1,000, about half of what the drug cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said: "No, I discovered the drug and I'm going to make money from it." Heinz got desperate and broke into the man's store to steal the drug for his wife. Should the husband have done that? (Kohlberg, 1969, p. 379) 6

Level One - Preconventional Morality

In stage one, moral reasoning is based on concepts of punishment. The child believes that if the consequence for an action is punishment, then the action was wrong. In the second stage, the child bases his or her thinking on self-interest and reward ("You scratch my back, I'll scratch yours"). The youngest subjects seemed to answer based on what would happen to the man as a result of the act. For example, they might say the man should not break into the pharmacy because the pharmacist might find him and beat him. Or they might say that the man should break in and steal the drug and his wife will give him a big kiss. Right or wrong, both decisions were based on what would physically happen to the man as a result of the act. This is a self-centered approach to moral decision-making. He called this most superficial understanding of right and wrong **preconventional morality**. Preconventional morality focuses on self-interest. Punishment is avoided and rewards are sought. Adults can also fall into these stages, particularly when they are under pressure.

Level Two - Conventional Morality

Those tested who based their answers on what other people would think of the man as a result of his act were placed in Level Two. For instance, they might say he should break into the store, then everyone would think he was a good husband, or he should not because it is against the law. In either case, right and wrong is determined by what other people think. In stage three, the person wants to please others. At stage four, the person acknowledges the importance of social norms or laws and wants to be a good member of the group or society. A good decision is one that gains the approval of others or one that complies with the law. This he called **conventional morality**, *people care about the effect of their actions on others*. Some older children, adolescents, and adults use this reasoning.

Level Three, post-conventional morality, is not included because it focuses on adolescence and adulthood. However, it is in the

table below if you'd like an overview of Level Three - Stages 5 and 6.

Preconventional Morality (young children)

Table 8.1.1: Lawrence Kohlberg's Levels of Moral Reasoning

Stage	Description
Stage 1	Focus is on self-interest and punishment is avoided. The man shouldn't steal the drug, as he may get caught and go to jail.
Stage 2	Rewards are sought. A person at this level will argue that the man should steal the drug because he does not want to lose his wife who takes care of him.

Conventional Morality (older children, adolescents, most adults)

Stage	Description
Stage 3	Focus is on how situational outcomes impact others and wanting to please and be accepted. The man should steal the drug because that is what good husbands do.
Stage 4	People make decisions based on laws or formalized rules. The man should obey the law because stealing is a crime.

Post Conventional Morality (rare in adolescents, a few adults)

Stage	Description
Stage 5	Individuals employ abstract reasoning to justify behaviors. The man should steal the drug because laws can be unjust and you have to consider the whole situation.
Stage 6	Moral behavior is based on self-chosen ethical principles. The man should steal the drug because life is more important than property.

Although research has supported Kohlberg's idea that moral reasoning changes from an early emphasis on punishment and social rules and regulations to an emphasis on more general ethical principles, as with Piaget's approach, Kohlberg's stage model is probably too simple. For one, people may use higher levels of reasoning for some types of problems but revert to lower levels in situations where doing so is more consistent with their goals or beliefs (Rest, 1979). Second, it has been argued that the stage model is particularly appropriate for Western, rather than non-Western, samples in which allegiance to social norms, such as respect for authority, may be particularly important (Haidt, 2001). In addition, there is frequently little correlation between how we score on the moral stages and how we behave in real life. Perhaps the most important critique of Kohlberg's theory is that it may describe the moral development of males better than it describes that of females (Jaffee & Hyde, 2000). 7

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8.2: Self-Understanding

Children in middle childhood have a more realistic sense of self than do those in early childhood. That exaggerated sense of self as “biggest” or “smartest” or “tallest” gives way to an understanding of one’s strengths and weaknesses. This can be attributed to greater experience in comparing one’s own performance with that of others and to greater cognitive flexibility. A child’s self-concept can be influenced by peers and family and the messages they send about a child’s worth. Contemporary children also receive messages from the media about how they should look and act. Movies, music videos, the internet, and advertisers can all create cultural images of what is desirable or undesirable and this too can influence a child’s self-concept.



Figure 8.2.1: Interactions with the media children’s perception of themselves. (Image by Lucélia Ribeiro is licensed under CC BY-SA 2.0)

Remarkably, young children begin developing social understanding very early in life and are also able to include other peoples’ appraisals of them into their self-concept, including parents, teachers, peers, culture, and media. Internalizing others’ appraisals and creating social comparison affect children’s **self-esteem**, which is defined as an evaluation of one’s identity. Children can have individual assessments of how well they perform a variety of activities and also develop an overall, global self-assessment. If there is a discrepancy between how children view themselves and what they consider to be their ideal selves, their self-esteem can be negatively affected.⁹

Self-concept refers to beliefs about general personal identity (Seiffert, 2011). These beliefs include personal attributes, such as one’s age, physical characteristics, behaviors, and competencies. Children in middle and late childhood have a more realistic sense of self than do those in early childhood, and they better understand their strengths and weaknesses. This can be attributed to greater experience in comparing their own performance with that of others, and to greater cognitive flexibility. Children in middle and late childhood are also able to include other peoples’ appraisals of them into their self-concept, including parents, teachers, peers, culture, and media.

Another important development in self-understanding is **self-efficacy**, which is the belief that you are capable of carrying out a specific task or of reaching a specific goal (Bandura, 1977, 1986, 1997). Large discrepancies between self-efficacy and ability can create motivational problems for the individual (Seifert, 2011). If a student believes that he or she can solve mathematical problems, then the student is more likely to attempt the mathematics homework that the teacher assigns.

Unfortunately, the converse is also true. If a student believes that he or she is incapable of math, then the student is less likely to attempt the math homework regardless of the student’s actual ability in math. Since self-efficacy is self-constructed, it is possible for students to miscalculate or misperceive their true skill, and these misperceptions can have complex effects on students’ motivations. It is possible to have either too much or too little self-efficacy, and according to Bandura (1997) the optimal level seems to be either at, or slightly above, true ability.¹⁰



Figure 8.2.2: Families can support children's social and emotional skills. (Image is in the public domain)

As we have seen, children's experience of relationships at home and the peer group contributes to an expanding repertoire of social and emotional skills and also to broadened social understanding. In these relationships, children develop expectations for specific people (leading, for example, to secure or insecure attachments to parents), understanding of how to interact with adults and peers, and self-concept based on how others respond to them. These relationships are also significant forums for emotional development.¹²

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8.3: Motivation as Self-Efficacy

In addition to being influenced by their goals, interests, and attributions, students' motives are affected by specific beliefs about the student's personal capacities. In **self-efficacy theory** the beliefs become a primary, explicit explanation for motivation (Bandura, 1977, 1986, 1997). **Self-efficacy** is the belief that you are capable of carrying out a specific task or of reaching a specific goal. As mentioned previously, the optimal level seems to be either at or slightly above true capacity (Bandura, 1997). As we indicate below, large discrepancies between self-efficacy and ability can create motivational problems for the individual.¹³

Motivation

Motivation refers to a desire, need, or drive that contributes to and explains behavioral changes. In general, motivators provide some sort of incentive for completing a task. One definition of a motivator explains it as a force "acting either on or within a person to initiate behavior." In addition to biological motives, motivations can be either intrinsic (arising from internal factors) or extrinsic (arising from external factors).

Extrinsic vs. Intrinsic Motivation

Intrinsically motivated behaviors are performed because of the sense of personal satisfaction that they bring. According to Deci (1971), these behaviors are defined as ones for which the reward is the satisfaction of performing the activity itself. Intrinsic motivation thus represents engagement in an activity for its own sake. For example, if comforting a friend makes a child feel good, they are intrinsically motivated to respond to their friend's distress.

Extrinsically motivated behaviors, on the other hand, are performed in order to receive something from others or avoid certain negative outcomes. The extrinsic motivator is outside of, and acts on, the individual. Rewards—such as a sticker, or candy—are good examples of extrinsic motivators. Social and emotional incentives like praise and attention are also extrinsic motivators since they are bestowed on the individual by another person.



Figure 8.3.1: A lollipop can be an extrinsic motivator. (Image by strausadolf on Pixabay)

Learned Helplessness and Self-Efficacy

If a person's sense of self-efficacy is very low, he or she can develop learned helplessness, a perception of complete lack of control in mastering a task. The attitude is similar to depression, a pervasive feeling of apathy and a belief that effort makes no difference and does not lead to success. Learned helplessness was originally studied from the behaviorist perspective of classical and operant conditioning by the psychologist Martin Seligman (1995). In people, learned helplessness leads to characteristic ways of dealing with problems. They tend to attribute the source of a problem to themselves, to generalize the problem to many aspects of life, and to see the problem as lasting or permanent. More optimistic individuals, in contrast, are more likely to attribute a problem to outside sources, to see it as specific to a particular situation or activity, and to see it as temporary or time-limited. Consider, for example, two students who each fail a test. The one with a lot of learned helplessness is more likely to explain the failure by saying something like: "I'm stupid; I never perform well on any schoolwork, and I never will perform well at it." The other, more optimistic student is more likely to say something like: "The teacher made the test too hard this time, so the test doesn't prove anything about how I will do next time or in other subjects."



Figure 8.3.2: If this girl thinks that studying won't help her do well on the test, her low self-efficacy may develop into learned helplessness.
(Image by [amenclinicsphotos ac](#) is licensed under [CC BY-SA 2.0](#))

What is noteworthy about these differences in perception is how much the more optimistic of these perspectives resembles high self-efficacy and how much learned helplessness seems to contradict or differ from it. As already noted, high self-efficacy is a strong belief in one's capacity to carry out a specific task successfully. By definition, therefore, self-efficacy focuses attention on a temporary or time-limited activity (the task), even though the cause of successful completion (oneself) is "internal."¹⁶

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8.4: Gender Identity

The development of gender and gender identity is likewise an interaction among social, biological, and representational influences (Ruble, Martin, & Berenbaum, 2006). Young children learn about gender from parents, peers, and others in society, and develop their own conceptions of the attributes associated with maleness or femaleness (called gender schemas). They also negotiate biological transitions (such as puberty) that cause their sense of themselves and their sexual identity to mature.



Figure 8.4.1: Social influences such as cultural norms impact children's interests, dress, style of speech and even life aspirations. (Image by Amanda Westmont is licensed under [CC BY-NC-SA 2.0](#))

Each of these examples of the growth of social and emotional competence illustrates not only the interaction of social, biological, and representational influences but also how their development unfolds over an extended period. Early influences are important, but not determinative because the capabilities required for mature moral conduct, gender identity, and other outcomes continue to develop throughout childhood, adolescence, and even the adult years.

As the preceding sentence suggests, social and personality development continues through adolescence and the adult years, and it is influenced by the same constellation of social, biological, and representational influences discussed for childhood. Changing social relationships and roles, biological maturation and (much later) decline, and how the individual represents both experience and the self continue to form the bases for development throughout life. In this respect, when an adult looks forward rather than retrospectively to ask, “What kind of person am I becoming?”—A similarly fascinating, complex, multifaceted interaction of developmental processes lies ahead.¹⁸

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8.5: Child and the Family

The reason we turn out much like our parents, for better or worse, is that our families are such an important part of our socialization process. When we are born, our primary caregivers are almost always one or both of our parents. For several years we have more contact with them than with any other adults. Because this contact occurs in our most formative years, our parents' interaction with us and the messages they teach us can have a profound impact throughout our lives. During middle childhood, children spend less time with parents and more time with peers. Parents may have to modify their approach to parenting to accommodate the child's growing independence. Using reason and engaging in joint decision-making whenever possible may be the most effective approach (Berk, 2007).¹⁹



Figure 8.5.1: When children grow up to love reading, may have been influenced by the positive experiences of being read to in their families. (Image by San José Public Library is licensed under CC BY-SA 2.0)

Family Atmosphere

One of the ways to assess the quality of family life is to consider the tasks of families. Berger (2005) lists five family functions: 1. Providing food, clothing and shelter 2. Encouraging learning 3. Developing self-esteem 4. Nurturing friendships with peers 5. Providing harmony and stability

Notice that in addition to providing food, shelter, and clothing, families are responsible for helping the child learn, relate to others, and have a confident sense of self. The family provides a harmonious and stable environment for living. A good home environment is one in which the child's physical, cognitive, emotional, and social needs are adequately met. Sometimes families emphasize physical needs but ignore cognitive or emotional needs. Other times, families pay close attention to physical needs and academic requirement, but may fail to nurture the child's friendships with peers or guide the child toward developing healthy relationships. Parents might want to consider how it feels to live in the household. Is it stressful and conflict-ridden? Is it a place where family members enjoy being? ²¹



Figure 8.5.2: This mother is helping her son navigate using a tablet. (Image by Intel Free Press is licensed under CC BY-SA 2.0)

The Family Stress Model

Family relationships are significantly affected by conditions outside the home. For instance, the **Family Stress Model** describes how financial difficulties are associated with parents' depressed moods, which in turn lead to marital problems and poor parenting that contributes to poorer child adjustment (Conger, Conger, & Martin, 2010). Within the home, parental marital difficulty or divorce affects more than half the children growing up today in the United States. Divorce is typically associated with economic stresses for children and parents, the renegotiation of parent-child relationships (with one parent typically as primary custodian and the other assuming a visiting relationship), and many other significant adjustments for children. Divorce is often regarded by children as a sad turning point in their lives, although for most it is not associated with long-term problems of adjustment (Emery, 1999).

Family Forms

As discussed previously in chapter 9, the sociology of the family examines the family as an institution and a unit of socialization. Sociological studies of the family look at demographic characteristics of the family members: family size, age, ethnicity and gender of its members, social class of the family, the economic level and mobility of the family, professions of its members, and the education levels of the family members.

Currently, one of the biggest issues that sociologists study are the changing roles of family members. Often, each member is restricted by the gender roles of the traditional family. These roles, such as the father as the breadwinner and the mother as the homemaker, are declining. Now, the mother is often the supplementary provider while retaining the responsibilities of child rearing. In this scenario, females' role in the labor force is "compatible with the demands of the traditional family." Sociology studies have examined the adaptation of males' role to caregiver as well as provider. The gender roles are becoming increasingly interwoven and various other family forms are becoming more common.

What Families Look Like



Figure 8.5.3: a childless family (Image by Adam Jones is licensed under CC BY-SA 2.0)



Figure 8.5.4: a single parent (father) family (Image is licensed under [CC0](#))



Figure 8.5.5: an extended family (Image by Joint Base Elmendorf-Richardson is in the public domain)



Figure 8.5.6: a same-sex family (Image by Surrogacy-UK is licensed under [CC BY-SA 3.0](#))



Figure 8.5.7: a single parent (mother) family (Image is in the public domain)



Figure 8.5.8: a two-parent (nuclear) family (Image by Army Medicine is licensed under CC BY 2.0)

Throughout this textbook and in the preceding images, you can see a variety of types of families. A few of these family types (the ones that are not bolded) were introduced in Chapter 9. Here is a list of some of the diverse types of families:

Families Without Children

Singlehood family contains a person who is not married or in a common-law relationship. He or she may share a relationship with a partner but lead a single lifestyle.

Couples that are **childless** are often overlooked in the discussion of families.

Families with One Parent

A single-parent family usually refers to a parent who has most of the day-to-day responsibilities in the raising of the child or children, who are not living with a spouse or partner, or who is not married. The dominant caregiver is the parent with whom the children reside for the majority of the time; if the parents are separated or divorced, children live with their custodial parent and have visitation with their noncustodial parent. In western society in general, following a separation a child will end up with the

primary caregiver, usually the mother, and a secondary caregiver, usually the father.

Single parent by choice families refer to a family that a single person builds by choice. These families can be built with the use of assisted reproductive technology and donor gametes (sperm and/or egg) or embryos, surrogacy, foster or kinship care, and adoption.

Two Parent Families

The nuclear family is often referred to as the traditional family structure. It includes two married parents and children. While common in industrialized cultures (such as the U.S.), it is not actually the most common type of family worldwide. 29

Cohabitation is an arrangement where two people who are not married live together in an intimate relationship, particularly an emotionally and/or sexually intimate one, on a long-term or permanent basis. Today, cohabitation is a common pattern among people in the Western world. More than two-thirds of married couples in the U.S. say that they lived together before getting married.

Gay and lesbian couples with children have same-sex families. While now recognized legally in the United States, discrimination against same-sex families is not uncommon. According to the American Academy of Pediatrics, there is “ample evidence to show that children raised by same-gender parents fare as well as those raised by heterosexual parents. More than 25 years of research have documented that there is no relationship between parents' sexual orientation and any measure of a child's emotional, psychosocial, and behavioral adjustment. Conscientious and nurturing adults, whether they are men or women, heterosexual or homosexual, can be excellent parents. The rights, benefits, and protections of civil marriage can further strengthen these families.” 30

Blended families describe families with mixed parents: one or both parents remarried, bringing children of the former family into the new family 31. Blended families are complex in a number of ways that can pose unique challenges to those who seek to form successful stepfamily relationships (Visher & Visher, 1985). These families are also referred to as stepfamilies.

Families That Include Additional Adults

Extended families include three generations, grandparents, parents, and children. This is the most common type of family worldwide.32

Families by choice are relatively newly recognized. Popularized by the LGBTQ community to describe a family not recognized by the legal system. It may include adopted children, live-in partners, kin of each member of the household, and close friends. Increasingly family by choice is being practiced by those who see benefit to including people beyond blood relatives in their families.33

While most families in the U.S. are **monogamous**, some families have more than two married parents. These families are **polygamous**. 34 Polygamy is illegal in all 50 states, but it is legal in other parts of the world.35

Additional Forms of Families

Kinship families are those in which the full-time care, nurturing, and protection of a child is provided by relatives, members of their Tribe or clan, godparents, stepparents, or other adults who have a family relationship to a child. When children cannot be cared for by their parents, research finds benefits to kinship care.36

When a person assumes the parenting of another, usually a child, from that person's biological or legal parent or parents this creates **adoptive families**. Legal adoption permanently transfers all rights and responsibilities and is intended to affect a permanent change in status and as such requires societal recognition, either through legal or religious sanction. As introduced in Chapter 3, adoption can be done privately, through an agency, or through foster care and in the U.S. or from abroad. Adoptions can be closed (no contact with birth/biological families or open, with different degrees of contact with birth/biological families). Couples, both opposite and same-sex, and single parents can adopt (although not all agencies and foreign countries will work with unmarried, single, or same-sex intended parents).37

When parents are not of the same ethnicity, they build **interracial families**. Until the decision in *Loving v Virginia* in 1969, this was not legal in the U.S. There are other parts of the world where marrying someone outside of your race (or social class) has

legal and social ramifications.³⁸ These families may experience issues unique to each individual family's culture.

Changes in Families - Divorce

The tasks of families listed above are functions that can be fulfilled in a variety of family types—not just intact, two-parent households. Harmony and stability can be achieved in many family forms and when it is disrupted, either through divorce, or efforts to blend families, or any other circumstances, the child suffers (Hetherington & Kelly, 2002). Changes continue to happen, but for children they are especially vulnerable. Divorce and how it impacts children depends on how the caregivers handle the divorce as well as how they support the emotional needs of the child.



Figure 8.5.9: How divorce impacts children largely depends on how parents handle it. (Image by Tony Guyton is licensed under CC BY 2.0)

Divorce

A lot of attention has been given to the impact of divorce on the life of children. The assumption has been that divorce has a strong, negative impact on the child and that single-parent families are deficient in some way. However, 75-80 percent of children and adults who experience divorce suffer no long-term effects (Hetherington & Kelly, 2002). An objective view of divorce, repartnering, and remarriage indicates that divorce, remarriage and life in stepfamilies can have a variety of effects.⁴⁰

Factors Affecting the Impact of Divorce

As you look at the consequences (both pro and con) of divorce and remarriage on children, keep these family functions in mind. Some negative consequences are a result of financial hardship rather than divorce per se (Drexler, 2005). Some positive consequences reflect improvements in meeting these functions. For instance, we have learned that a positive self-esteem comes in part from a belief in the self and one's abilities rather than merely being complimented by others. In single-parent homes, children may be given more opportunity to discover their own abilities and gain independence that fosters self-esteem. If divorce leads to fighting between the parents and the child is included in these arguments, their self-esteem may suffer.

The impact of divorce on children depends on a number of factors. The degree of conflict prior to the divorce plays a role. If the divorce means a reduction in tensions, the child may feel relief. If the parents have kept their conflicts hidden, the announcement of a divorce can come as a shock and be met with enormous resentment. Another factor that has a great impact on the child concerns financial hardships they may suffer, especially if financial support is inadequate. Another difficult situation for children of divorce is the position they are put into if the parents continue to argue and fight—especially if they bring the children into those arguments.

Short-term consequences: In roughly the first year following divorce, children may exhibit some of these short-term effects:

1. Grief over losses suffered. The child will grieve the loss of the parent they no longer see as frequently. The child may also grieve about other family members that are no longer available. Grief sometimes comes in the form of sadness but it can also be experienced as anger or withdrawal. Older children may feel depressed. **2. Reduced Standard of Living.** Very often,

divorce means a change in the amount of money coming into the household. Children experience new constraints on spending or entertainment. School-aged children, especially, may notice that they can no longer have toys, clothing or other items to which they've grown accustomed. Or it may mean that there is less eating out or being able to afford cable television, and so on. The custodial parent may experience stress at not being able to rely on child support payments or having the same level of income as before. This can affect decisions regarding healthcare, vacations, rents, mortgages and other expenditures. And the stress can result in less happiness and relaxation in the home. The parent who has to take on more work may also be less available to the children. **3. Adjusting to Transitions.** Children may also have to adjust to other changes accompanying a divorce. The divorce might mean moving to a new home and changing schools or friends. It might mean leaving a neighborhood that has meant a lot to them as well.

Long-Term consequences: Here are some effects that go beyond just the first year following divorce.

1. Economic/Occupational Status. One of the most commonly cited long-term effects of divorce is that children of divorce may have lower levels of education or occupational status. This may be a consequence of lower income and resources for funding education rather than to divorce per se. In those households where economic hardship does not occur, there may be no impact on economic status (Drexler, 2005). **2. Improved Relationships with the Custodial Parent (usually the mother):** Most children of divorce lead happy, well-adjusted lives and develop stronger, positive relationships with their custodial parent (Seccombe and Warner, 2004). Others have also found that relationships between mothers and children become closer and stronger (Guttman, 1993) and suggest that greater equality and less rigid parenting is beneficial after divorce (Steward, Copeland, Chester, Malley, and Barenbaum, 1997). **3. Greater emotional independence in sons.** Drexler (2005) notes that sons who are raised by mothers only develop an emotional sensitivity to others that is beneficial in relationships. **4. Feeling more anxious in their own love relationships.** Children of divorce may feel more anxious about their own relationships as adults. This may reflect a fear of divorce if things go wrong, or it may be a result of setting higher expectations for their own relationships. **5. Adjustment of the custodial parent.** Furstenberg and Cherlin (1991) believe that the primary factor influencing the way that children adjust to divorce is the way the custodial parent adjusts to the divorce. If that parent is adjusting well, the children will benefit. This may explain a good deal of the variation we find in children of divorce.⁴¹



Figure 8.5.10: Jeanette Wilinski is the mother of Elizabeth, Logan and Alexis. As a single mom, she has to find a balance between taking care of the Air Force mission and taking care of her children. (Image by the Scott Air Force Base is in the public domain)

Families are the most important part of the 6 to 11-year-old life. However, peers and friendships become more and more important to the child in middle childhood.

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8.6: Friendships, Peers, and Peer groups

Parent-child relationships are not the only significant relationships in a child's life. Friendships take on new importance as judges of one's worth, competence, and attractiveness. Friendships provide the opportunity for learning social skills such as how to communicate with others and how to negotiate differences. Children get ideas from one another about how to perform certain tasks, how to gain popularity, what to wear, say, and listen to, and how to act. This society of children marks a transition from a life focused on the family to a life concerned with peers. Peers play a key role in a child's self-esteem at this age as any parent who has tried to console a rejected child will tell you. No matter how complimentary and encouraging the parent may be, being rejected by friends can only be remedied by renewed acceptance. 43



Figure 8.6.1: Peers influence a child's self-esteem. (Image by Robins Air Force Base is in the public domain)

Children's conceptualization of what makes someone a "friend" changes from a more egocentric understanding to one based on mutual trust and commitment. Both Bigelow (1977) and Selman (1980) believe that these changes are linked to advances in cognitive development. Bigelow and La Gaipa (1975) outline three stages to children's conceptualization of friendship 45

Table 8.6.1: Three Stages to Children's Conceptualization of Friendship (*Lifespan Development - Module 6: Middle Childhood* by Lumen Learning references *Psyc 200 Lifespan Psychology* by Laura Overstreet, licensed under CC BY 4.0)

Stage	Descriptions
Stage One	In stage one, reward-cost , friendship focuses on mutual activities. Children in early, middle, and late childhood all emphasize similar interests as the main characteristics of a good friend.
Stage Two	In stage two, normative expectation , focuses on conventional morality; that is, the emphasis is on a friend as someone who is kind and shares with you. Clark and Bittle (1992) found that fifth graders emphasized this in a friend more than third or eighth graders.
Stage Three	In stage three, empathy and understanding , friends are people who are loyal, committed to the relationship, and share intimate information. Clark and Bittle (1992) reported eighth graders emphasized this more in a friend. They also found that as early as fifth grade, girls were starting to include the sharing of secrets and not betraying confidences as crucial to someone who is a friend.

Friendships are very important for children. The social interaction with another child who is similar in age, skills, and knowledge provokes the development of many social skills that are valuable for the rest of life (Bukowski, Buhrmester, & Underwood, 2011). In these relationships, children learn how to initiate and maintain social interactions with other children. They learn skills for managing conflict, such as turn-taking, compromise, and bargaining. Play also involves the mutual, sometimes complex, coordination of goals, actions, and understanding. Through these experiences, children develop friendships that provide

additional sources of security and support to those provided by their parents.⁴⁷

Five Stages of Friendship from Early Childhood through Adulthood 48

Selman (1980) outlines five stages of friendship from early childhood through to adulthood.

- In stage 0, **momentary physical interaction**, *a friend is someone who you are playing with at this point in time*. Selman notes that this is typical of children between the ages of three and six. These early friendships are based more on circumstances (e.g., a neighbor) than on genuine similarities.
- In stage 1, **one-way assistance**, *a friend is someone who does nice things for you*, such as saving you a seat on the school bus or sharing a toy. However, children in this stage, do not always think about what they are contributing to the relationships. Nonetheless, having a friend is important and children will sometimes put up with a not so nice friend, just to have a friend. Children as young as five and as old as nine may be in this stage.
- In stage 2, **fair-weather cooperation**, children are very concerned with fairness and reciprocity, and thus, *a friend is someone who returns a favor*. In this stage, if a child does something nice for a friend there is an expectation that the friend will do something nice for them at the first available opportunity. When this fails to happen, a child may break off the friendship. Selman found that some children as young as seven and as old as twelve are in this stage.
- In stage 3, **intimate and mutual sharing**, typically between the ages of eight and fifteen, *a friend is someone who you can tell them things you would tell no one else*. Children and teens in this stage no longer “keep score,” and do things for a friend because they genuinely care for the person. If a friendship dissolves in this stage it is usually due to a violation of trust. However, children in this stage do expect their friend to share similar interests and viewpoints and may take it as a betrayal if a friend likes someone that they do not.
- In stage 4, **autonomous interdependence**, *a friend is someone who accepts you and that you accept as they are*. In this stage children, teens, and adults accept and even appreciate differences between themselves and their friends. They are also not as possessive, so they are less likely to feel threatened if their friends have other relationships or interests. Children are typically twelve or older in this stage.

Peer Groups

However, peer relationships can be challenging as well as supportive (Rubin, Coplan, Chen, Bowker, & McDonald, 2011). Being accepted by other children is an important source of affirmation and self-esteem, but peer rejection can foreshadow later behavior problems (especially when children are rejected due to aggressive behavior). With increasing age, children confront the challenges of bullying, peer victimization, and managing conformity pressures. Social comparison with peers is an important means by which children evaluate their skills, knowledge, and personal qualities, but it may cause them to feel that they do not measure up well against others. For example, a boy who is not athletic may feel unworthy of his football-playing peers and revert to shy behavior, isolating himself and avoiding conversation. Conversely, an athlete who doesn’t “get” Shakespeare may feel embarrassed and avoid reading altogether.



Figure 8.6.2: Social comparison with peers is an important means by which children evaluate their value. (Image by the U.S Army is in the public domain)

Also, with the approach of adolescence, peer relationships become focused on psychological intimacy, involving personal disclosure, vulnerability, and loyalty (or its betrayal)—which significantly affect a child's outlook on the world. Each of these aspects of peer relationships require developing very different social and emotional skills than those that emerge in parent-child relationships. They also illustrate the many ways that peer relationships influence the growth of personality and self-concept.⁵⁰

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8.7: Peer Relationships

Most children want to be liked and accepted by their friends. Some popular children are nice and have good social skills. These popular-prosocial children tend to do well in school and are cooperative and friendly. Popular-antisocial children may gain popularity by acting tough or spreading rumors about others (Cillessen & Mayeux, 2004). Rejected children are sometimes excluded because they are shy and withdrawn. The withdrawn-rejected children are easy targets for bullies because they are unlikely to retaliate when belittled (Boulton, 1999). Other rejected children are ostracized because they are aggressive, loud, and confrontational. The aggressive-rejected children may be acting out of a feeling of insecurity. Unfortunately, their fear of rejection only leads to behavior that brings further rejection from other children. Children who are not accepted are more likely to experience conflict, lack confidence, and have trouble adjusting.



Figure 8.7.1: Peer relationships are particularly important for children. They can be supportive but also challenging. Peer rejection may lead to behavioral problems later in life. (Image by [tup wanders](#) is licensed under [CC BY 2.0](#))

Peer Relationships are studied using **sociometric assessment** (which measures attraction between members of a group). Children are asked to mention the three children they like to play with the most, and those they do not like to play with. The number of times a child is nominated for each of the two categories (like and do not like) is tabulated. Based on those tabulations, children are categorized into the following:

Table 8.7.1: Categories in Peer Relationships (*Lifespan Development: A Psychological Perspective* by Martha Lally and Suzanne Valentine-French is licensed under [CC BY-NC-SA 3.0](#))

Category	Description
Popular Children	Receive many votes in the “like” category, and very few in the “do not like” category.
Rejected children	Receive more unfavorable votes, and few favorable ones.
Controversial children	Mentioned frequently in each category, with several children liking them and several children placing them in the do not like category.
Neglected children	Rarely mentioned in either category.
Average children	Have a few positive votes with very few negative ones.
Popular-prosocial children	Are nice and have good social skills; tend to do well in school and are cooperative and friendly.
Popular-antisocial children	May gain popularity by acting tough or spreading rumors about others.

Rejected-withdrawn children	Are shy and withdrawn and are easy targets for bullies because they are unlikely to retaliate when belittled.
Rejected-aggressive children	Are ostracized because they are aggressive, loud, and confrontational. They may be acting out of a feeling of insecurity.

Unfortunately for rejected children, their fear of rejection only leads to behavior that brings further rejection from other children. Children who are not accepted are more likely to experience conflict, lack confidence, and have trouble adjusting. (Klima & Repetti, 2008; Schwartz, Lansford, Dodge, Pettit, & Bates, 2014). 53

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8.8: Aggression, Antisocial Behavior, Bullies, and Victims

Aggression and Antisocial Behavior

Aggression may be physical or verbal/emotional. Aggression is activated in large part by the amygdala and regulated by the prefrontal cortex.



Figure 8.8.1: This boy is threatening physical aggression. (Image by Philippe Put is licensed under CC BY 2.0)

Testosterone is associated with increased aggression in both males and females. Aggression is also caused by negative experiences and emotions, including frustration, pain, and heat. As predicted by principles of observational learning, research evidence makes it very clear that, on average, people who watch violent behavior become more aggressive. Early, antisocial behavior leads to befriending others who also engage in antisocial behavior, which only perpetuates the downward cycle of aggression and wrongful acts. 55

Bullying and Victims

According to Stopbullying.gov (2016), a federal government website managed by the U.S. Department of Health & Human Services, **bullying** is defined as unwanted, aggressive behavior among school aged children that involves a real or perceived power imbalance. Further, the aggressive behavior happens more than once or has the potential to be repeated. There are different types of bullying, including verbal bullying, which is saying or writing mean things, teasing, name-calling, taunting, threatening, or making inappropriate sexual comments. Social bullying, also referred to as relational bullying, involves spreading rumors, purposefully excluding someone from a group, or embarrassing someone on purpose. Physical bullying involves hurting a person's body or possessions.

A more recent form of bullying is **cyberbullying**, which involves electronic technology. Examples of cyberbullying include sending mean text messages or emails, creating fake profiles, and posting embarrassing pictures, videos or rumors on social networking sites. Children who experience cyberbullying have a harder time getting away from the behavior because it can occur any time of day and without being in the presence of others (Stopbullying.gov, 2016). 56



Figure 8.8.2: Cyberbullying can be devastating for children. (Image on Pixabay)

Those at Risk for Bullying

Bullying can happen to anyone but some students are at an increased risk for being bullied, including lesbian, gay, bisexual, transgendered (LGBT) youth, those with disabilities, and those who are socially isolated. Additionally, those who are perceived as different, weak, less popular, overweight, or having low self-esteem, have a higher likelihood of being bullied.

Those Who are More Likely to Bully

Bullies are often thought of as having low self-esteem, and then bully others to feel better about themselves. Although this can occur, many bullies in fact have high levels of self-esteem. They possess considerable popularity and social power and have well-connected peer relationships. They do not lack self-esteem, and instead lack empathy for others. They like to dominate or be in charge of others.

Bullied Children

Unfortunately, most children do not let adults know that they are being bullied. Some fear retaliation from the bully, while others are too embarrassed to ask for help. Those who are socially isolated may not know who to ask for help or believe that no one would care or assist them if they did ask for assistance. Consequently, it is important for parents and teachers to know the warning signs that may indicate a child is being bullied. These include: unexplainable injuries, lost or destroyed possessions, changes in eating or sleeping patterns, declining school grades, not wanting to go to school, loss of friends, decreased self-esteem and/or self-destructive behaviors.

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8.S: Summary

In this chapter we looked at:

- Erikson's fourth stage of industry vs. inferiority
- Kohlberg's stages of moral development
- How school-age children continue to develop their self-understanding
- The role of the family and different forms of families
- Divorce and how it changes the family
- The importance of peers and friendships
- Children in peer groups and types of friendships
- Consequences of peer acceptance or rejection

In the next chapter we will be moving on to our last period of development and examining physical development in adolescence.

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9: ANCILLARY MATERIALS

9.1: Powerpoint Presentations

9.2: Videos

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9.1: Powerpoint Presentations

Attachments

File	Description	Last Modified
Childbirth Mini-Lecture.pptx		February 25, 2021
Cognitive Development in Infancy and Toddlerhood.pptx		February 25, 2021
Concrete Operational Thought.pptx		February 25, 2021
Early Childhood Education.pptx		February 25, 2021
Heredity.pptx		February 25, 2021
Language Development in Early Childhood.pptx		February 25, 2021
Language Development in Middle Childhood.pptx		February 25, 2021
Newborn Mini-Lecture.pptx		February 25, 2021
Personality.pptx		February 25, 2021
Physical Development in Early Childhood.pptx		February 25, 2021
Physical Development in Infancy _ Toddlerhood.pptx		February 25, 2021
Physical Development in Middle Childhood.pptx		February 25, 2021
Piaget_s Preoperational Stage.pptx		February 25, 2021
Prenatal Development.pptx		February 25, 2021
Principles of Development.pptx		February 25, 2021
Understanding the Self in Early Childhood.pptx		February 25, 2021

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9.2: Videos

Mini-Lecture Videos for Child Growth and Development OER Textbook

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Questions: Email me at jennifer.paris@canyons.edu

Chapter 1:

Periods of Development (1:50): <https://www.3cm mediasolutions.org/privid/126899?key=bea14ea9cfaef0cc9732ed5545cd28695bd97dc7>

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Issues in Child Development (0:43): <https://www.3cm mediasolutions.org/privid/126838?key=e3ab6966fb0b4bcfad41253f78c43240a94a80b6>

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Principles of Development (3:11): <https://www.3cm mediasolutions.org/privid/126900?key=db61c0c07e3eec764087a2dc6cbc02fb8cf46e85>

Embed Code: `<iframe title="Principles of Development mini-lecture" src="https://vod.ccctechconnect.org/veo/1...bc02fb8cf46e85" width="640" height="360" scrolling="no" allowfullscreen frameborder="0"></iframe>`

Chapter 2:

Heredity (12:40): <https://www.3cm mediasolutions.org/privid/128420?key=b27e280dede3f9482d46e11fe28a92cf10af7b2b>

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Prenatal Development (23:12)

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Chapter 3:

Childbirth (7:46): <https://www.3cm mediasolutions.org/privid/128852?key=45714191b38806314291ba7149953b2d8ee1a8a1>

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The Newborn (6:30): <https://www.3cm mediasolutions.org/privid/128853?key=1484b10d86c9e91560ddb7a05423a950a442cfc7>

Embed Code: `<iframe title="The Newborn Mini-Lecture" src="https://vod.ccctechconnect.org/veo/1...23a950a442cfc7" width="640" height="360" scrolling="no" allowfullscreen frameborder="0"></iframe>`

Chapter 4:

Physical Development During Infancy and Toddlerhood (8:48): <https://www.3cm mediasolutions.org/privid/129472?key=9a47e416c29948b3cf64431c17dbd160c4f6126a>

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Nutrition in Infancy and Toddlerhood (8:25): <https://www.3cm mediasolutions.org/privid/129473?key=5252264eac2c923018134e9f7e8a1ff099ed6d7>

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Safety in Infancy

and Toddlerhood (5:46): <https://www.3cm mediasolutions.org/privid/129475?key=8faa280d935d12433a664e0064c897f0beea0816>

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Health in Infancy and Toddlerhood (8:06)

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Chapter 5:

Theories of Learning and Memory (8:57): <https://www.3cm mediasolutions.org/privid/129784?key=209522ed332365bc37297dee2fe984d27b90a9a8>

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Language Development in Infancy and Toddlerhood (8:17): <https://www.3cm mediasolutions.org/privid/129783?key=8edb041a68efa70e170829a4836e72d54104d7f4>

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Cognitive Development in Infancy and Toddlerhood (8:16)

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Chapter 6:

Personality (4:07): <https://www.3cm mediasolutions.org/privid/151034?key=1ca46f4aacdab4b18e3ed8c1684f29b4382fc157>

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Chapter 7:

Physical Development in Early Childhood (9:27): <https://www.3cm mediasolutions.org/privid/151132?key=fc9905dce18f0527a4d920f0e76e4190f6a5646d>

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Chapter 8:

Piaget's Preoperational Intelligence (6:52)

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Embed Code: `<iframe title="Piaget's Preoperational Intelligence" src="https://www.3cm mediasolutions.org/pri...640&height=360" width="640" height="360" scrolling="no" allowfullscreen frameborder="0"></iframe>`

Language Development in Early Childhood (5:38)

<https://www.3cm mediasolutions.org/privid/268547?key=4718f5bfed62f6ed9607d8f20f2c250f153dba08>

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Early Childhood Education (11:06): <https://www.3cm mediasolutions.org/privid/153037?key=5b1e32bdda8782b2fdd794f9dcf6aea03bc395b9>

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<https://www.3cm mediasolutions.org/privid/268548?key=d651d4fe1c360d25d06482204cb684c921cc69dd>

Embed Code: `<iframe title="Understanding the Self in Early Childhood" src="https://www.3cm mediasolutions.org/pri...640&height=360" width="640" height="360" scrolling="no" allowfullscreen frameborder="0"></iframe>`

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<https://www.3cm mediasolutions.org/privid/276088?key=e8f0f94031c2a35ebb37c6f9e0f9d140f3abf9ae>

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Chapter 11:

Concrete Operational Thought (4:26)

<https://www.3cm mediasolutions.org/privid/276089?key=effacd266498d30fc876c5cc5fda05b28892141d>

Embed Code: <iframe title="Concrete Operational Thought" src="https://vod.ccctechconnect.org/veo/2...da05b28892141d" width="640" height="360" scrolling="no" allowfullscreen frameborder="0"></iframe>

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<https://www.3cm mediasolutions.org/privid/276090?key=4ce3569e19f00cb83a645f830d256c9932c433fb>

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