

## Biological factors that influence child development

---

*Biological factors are a main influence in early development for young children (Haddad, 2020). These biological factors can affect young children in a positive and negative way. Haddad (2020) also adds that these factors play a significant part in the development of young children, especially during early childhood and the prenatal period. Biological factors involve the development of motor skills, prenatal development, brain development, genetic influences and nutrition.*

---

The development of motor skills is a key stage during childhood development. Crowley (2014, p.86) explains how motor skills develop rapidly in early childhood, from limited motor skills developing from birth to the capability to independently walk by twelve months old. Crowley (2014, p.86) adds that motor development is based on the advancement of gross and fine motor skills. Gross motor skills refer to skills that require the whole body to move, using the larger muscles to help complete everyday functions such as walking, jumping and running. Whereas fine motor skills involve the ability to use the smaller muscles of the hands, to be able to use a pencil, scissors, to place Lego blocks together and opening lunch boxes (Kid Sense, no date). Motor development is important during early childhood as it allows children to develop physically and cognitively by assisting in hand-eye coordination, confidence, balance and allowing children to have self-awareness of their own abilities (Baby Day, no date). Additionally, some children may experience delays with the development of their motor skills. These delays could be caused by health issues such as cerebral palsy, speech implications and environmental factors (Circlecare4kids, 2023).

Prenatal development involves three key stages including germinal, embryonic and fetal development. The germinal stage occurs at zero to two weeks of pregnancy, the embryonic stage occurs at three to eight weeks of pregnancy and fetal development occurs at nine weeks pregnant up until birth (Cherry, 2023). Prenatal development is significantly important during early childhood, healthy prenatal development is key for babies to develop healthy and functioning brains. There are many factors which contribute to a decrease in development during the prenatal period, these include drug use, age of mother, alcohol, maternal nutrition, infections and poverty. Prenatal stress can cause many issues within the foetus and once the child is born, if the mother is anxious or depressed during pregnancy this can increase a wide range of adverse outcomes including emotional problems. These problems may include symptoms of ADHD or impaired cognitive development (Glover, 2015).

Brain development is prominent during early childhood, Crowley (2014, p.89) breaks down how during birth the brain is near to being adult size and grows rapidly throughout childhood. Additionally, Crowley (2014, p.91) adds that neurons are a basic unit to transfer information in the brain and that the production of neurons is complete by the end of the second trimester. During childhood, distinct types of neurons become associated with serving different purposes within the brain. These can be

described as different brain systems which regulate different body functions and action our five senses which become habitual incredibly early on in childhood (UK Trauma Council, no date). Brain development is important during early childhood, as it has a lasting impact on the ability of the child during school and life and how well they succeed. Thus meaning, the quality of a child's life in the first few years, whether that be negative or positive, will assist the way their brain forms (First Things First, no date).

Another contributing biological factor is genetic influences. Starting from when children are conceived, the way they behave, and act is partly due to the genes they inherit (Ronald, 2018). However, not all genes are transferable such as behavioural and personality traits. The nature vs nurture debate plays a significant role within childhood development, nature refers to our genetics and includes the genes that we are born with and hereditary factors that can influence our personality which develop from early childhood throughout adulthood (Cherry, 2022). Whereas nurture refers to the environmental factors that influence who we are, this involves the way we are raised, social relationships, and the surrounding environment (Cherry, 2022). One theorist, Albert Bandura (1977) supports the argument for nurture with their famous social learning theory and well-known bobo doll experiment, which states that people learn through observation, imitation, and modelling behaviour. Contrastingly, another theorist, Freud (1856-1939) supports the reasoning behind the nature debate. Freud presented the psychoanalytic theory which explains that human behaviour is controlled by unconscious memories, thoughts and urges (Cherry, 2022). Freud (1856-1939) argued that children have biological motivation and innate drives that fuel this behaviour (Bee & Boyd, 2019, p.37-p.39).

Good nutrition is crucial during early childhood, as it is a time of constant growth, activity and development for young children (Public Health Agency, 2018, p.6). This is a pivotal time for healthy tooth development and avoidance of decay. Poor nutrition established in the early years can lead to an elevated risk of obesity, hypertension, diabetes and coronary heart disease (Public Health Agency, 2018, p.6). Children with poor eating habits may not receive the correct nutrients and vitamins that their bodies require, which may result in a lack of growth and development (HealthLink BC, 2023). Poorly nourished children tend to have weaker immune systems which make them vulnerable to long-term illnesses, including bone thinning and breathing difficulties such as asthma (HealthLink BC, 2023). Overweight children are at risk of developing liver issues, gallstones, early puberty, hip development issues and growth in legs (HealthLink BC, 2023).

To summarise all points that have been presented, there are many biological factors that contribute to early childhood development. Each factor explored all play a vital role with the growth and development of young children. Additionally, healthy development during early years means that children of all abilities involving those with health care needs, can grow up while their emotional, social and educational needs are met (CDC, 2023).

## How cognition acts on development

---

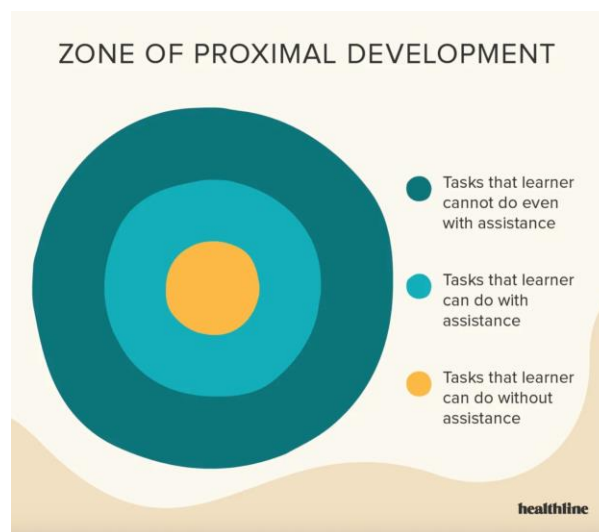
*To shape cognitive development, memories help individuals to understand their sense of self, decisions, thought process, emotional reactions and space to learn and develop. Memory is prominent to cognition and cognitive development (Pathman and Bauer, 2020, p.1). Cognitive*

Memory plays a crucial role within individual development. Memory is the main principle to information-processing and which is a key skill for everyday life (Crowley, 2014, p.66). For young children, memory development is prominent from an early age, it is a cognitive ability which is important in many aspects of learning and thinking. This includes literacy, language, problem solving, reflecting and imagining (Better Kid Care, no date). Despite the memory being able to develop from an early age there are some implications which may occur. For instance, children born to mothers who have blood sugar control issues during pregnancy may face perinatal brain iron deficiency which may cause complications for the development of the hippocampus (Pathman and Bauer, 2020). These children, in particular, show delayed recall compared to other infants of the same age category.

Crowley (2014, p.51) explores the ideas of one theorist, Piaget (1971), whom was a very influential figure within the research of children's cognitive development. Piaget's (1971) theory of cognitive development is still regarded today as the starting point for acknowledging the development of the child's mind and reasoning to think. This theory was built up through the careful observation of Piaget's children by giving them problem-solving tasks and noting their responses each time (Crowley, 2014, p.51). Piaget's (1971) influential theory was broken down into four different stages, including sensorimotor, preoperational, concrete operational and formal operational. During the sensorimotor stage, from birth to eighteen months old, infants discover the world through senses and reflexes. Throughout the preoperational stage, from eighteen months to six years old, children learn to use language and images to differentiate between objects and thinking is egocentric. Additionally, during this stage, children can identify objects by a single feature, specifically playing red blocks together regardless of the shape of the block. Through the concrete operational stage, from six to twelve years old, children can think logically about concrete objects and understands conversations. Lastly, the formal operational stage, from twelve years old to adolescence, the adolescent can think in hypothetical terms and reason abstractly. They also become concerned with the future and ideological problems (Lifespan Development, no date). Piaget (1971) also adds the concept of the schema theory. The schema theory can be defined as the cognitive science which relates to how the brain structures knowledge (Pankin, 2013, p.1). An example of the schema theory could involve children recognising that green leaves belong on trees and they see an orange leaf on the floor, so therefore they adapt the schema theory to understand that leaves can be assorted colours and sizes. Contrastingly, Babakr *et al.* (2019) suggested some criticisms of Piaget's (1971) theory. It is suggested that there are bias problems as he studied his own children and based his theory of their responses. It is also added that his theory failed to provide for cultural and social interaction factors in the role of benefiting children's cognition and ability to think.

Like Piaget, Crowley (2014, p.61) investigates another theorist, Vygotsky (1978). Similarly, to Piaget (1971) Vygotsky saw children as active adventurers of their own worlds. Despite this, while Piaget supported the idea of children developing their knowledge on their own, Vygotsky implied that the importance of social interaction was prominent for individual development. This theory was known as a sociocultural theory. Vygotsky (1978) implied that the end point of development for an individual should be to have the ability to think and reason for themselves, and by doing so, this ability is a social process. Vygotsky (1978) characterised development from a stage in which children can do things with other peers to a concluding stage when they can do things individually. This stage is also referred to as the social plane to the psychological plane which is further known as internalisation. The zone of proximal development is a key concept within Vygotsky's (1978) theory,

this concept is described as the space between what the learner can achieve individually versus what the learner can achieve with adult guidance or within a group of peers (Billings and Walqui, 2017). Vygotsky (1978) did not specifically determine how children and adults work together within this zone of proximal development, however other researchers have developed on this idea. For instance, Bruner (1983) whom is a cognitive and developmental psychologist, who studied interactions between mothers and their younger children over a six-month period and discovered the idea of scaffolding. This is a process in which adults continually and progressively adjust the support provided to their child over time. They may adjust the way instructions are presented to the child if they are struggling to grasp an idea of the skill that is presented to them. Bruner (1983) also adds that once the child gains an understanding of the skills, the number of instructions will be reduced for them to complete the task individually. This analogy of scaffolding is like the construction of a building. Eventually, the scaffolding is removed once the building is complete and contrastingly, once the child can develop their skills and achieve a task alone, in which that task and skill will then be engraved in their memory for the future. Despite this, there are some negative views of Vygotsky's (1978) theory. This theory is criticised due to some children, regardless of how much help and guidance they receive from other adults, they may still develop at a slower rate cognitively (Brown, 2021). It is also added that Vygotsky's (1978) work was far from empirical and simply relied on observation and testing (Brown, 2021).



1 - Healthline (2020) Zone of Proximal Development.

To conclude, there are many theories which act on the development of cognition. Both theorists, Piaget (1971) and Vygotsky (1978) present important theories to support the development of cognition within an individual. Although there are some implications with these theories, it is important to note that they both play a role within helping to develop each individual needs.

## The impact of poverty on emotional wellbeing

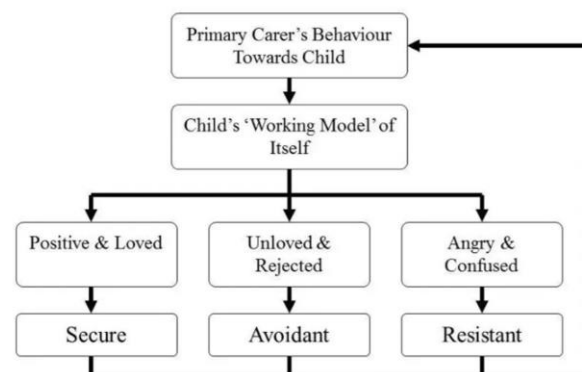
---

*Emotional wellbeing involves learning what feelings and emotions are, establish one's identity as a unique person, recognise your own and other's feelings and finding effective ways to manage those feelings (Beyond Blue, 2021). Poverty has a significant impact on emotional wellbeing. Poverty during childhood and throughout adulthood can cause poor mental health issues, including trauma, social*

*stresses and stigma. As well as this, mental health problems can lead to loss of employment or fragmentation on relationships (Knifton and Inglis, 2020, p.193-196).*

---

Bowlby's (1969) attachment theory plays a big role within the emotional wellbeing of an individual. The attachment theory proposes that the emotional and social development of a child is formed by their relationships from their parents or guardians (Main, 2023). Bowlby's (1969) theory is a key idea that children are biologically fixed to form relationships and attachments, which is described as a survival strategy. There are four stages of the attachment theory, Bowlby (1969) proposes that from birth to six weeks, the 'pre-attachment' stage occurs which involves the child having no significant attachment. The second stage is from six weeks old to seven months old, which is known as the 'indiscriminate' stage where the child starts to develop preferences towards primary and secondary caregivers. The third stage is from seven months onwards, which is known as the 'discriminate' stage which is when the child starts to form a strong attachment towards one caregiver. Lastly, the fourth stage, which grows from ten months onwards is known as the 'multiple' stage, this involves the child growing a closer bond with secondary caregivers. Despite many children developing throughout this stage and creating relationships with their caregivers, some children may not develop these relationships due to the environment around them and the way they are brought up due to poverty (Main, 2023). Bowlby (1969) suggested that the impact of maternal deprivation plays a crucial role with the development of these relationships. Bowlby (1969) also added that if the child is separated from the primary caregiver due to poverty or mental health problems, this can cause a wide range of issues for the child including increased aggression, reduced intelligence and little to no affection given to the child therefore not developing the attachment and relationships that they require. In addition to this, Bowlby (1969) explores the different attachment styles which include secure, avoidant, resistant and disorganised. These four attachment styles can cause a disadvantage to an individual to form healthy relationships, regulate emotions and cope with stress. Individuals who form better attachments and relationships, usually have better emotion regulation skills whereas those who struggle to form these relationships, struggle with having insecure attachments (Main, 2023).



In addition to this, there are some criticisms of Bowlby's (1969) attachment theory. Some critics may argue that Bowlby's (1969) theory primarily focuses on the attachment and relationship between the mother and the child, rather than the role of other caregivers and overlooks the role of other significant individuals in the child's life, including the father and siblings (Main, 2023). Another criticism of the attachment theory is the longitudinal validity of the attachment styles. It is suggested that attachment styles change over time and therefore are not stable (Main, 2023).

Another theorist, Erikson (1950) presented the stages of psychosocial development which focuses on emotions and personality, which links back to the emotional wellbeing of an individual. This theory of psychosocial development involves eight personality stages, from birth up until death. Not every individual will experience these traits, there are many reasons as to why an individual will not development from stage to stage (Weebly, 2020). Between levels seven and eight of Erikson's (1950) stages of psychosocial development, the impact of poverty becomes apparent and frequent during these stages. During stage seven, generativity vs. stagnation, Erikson (1950) suggested that adults discard the care for themselves as they tend to care for others during this stage, for example their elderly parents. During this stage, poverty does not allow for oneself to take care of others as they have their own issues that need to be addressed (Weebly, 2020). During stage eight, the final stage of life, integration vs. despair. This stage of life is where an individual will reflect on their past life, what they have accomplished and the failures that they have endured. During this stage, if an individual has endured poverty their whole life, they reflect and look back on their life with regret. Poverty can ruin a person who is well-lived during this stage and fill them with fear and regret regardless of their life so far (Weebly, 2020). Poverty in older adults is more prominent than younger adults and which has a greater psychological impact on them during this stage. This often leads to depression during the final years of their life, one could feel like they are being punished for their past issues (Weebly, 2020).



3 - Source: Career Research (No date) Stages of Psychosocial Development.

There are some criticisms of Erikson's (1950) psychosocial theory, the mechanisms used for Erikson's (1950) theory, which move from stage to stage, are not very well described and are very vague. This theory fails to explain each stage in more detail and what type of experiences are necessary to move

onto the next stage (Cherry, 2021). Another criticism of this theory is that it focuses on the social expectations within different cultures but fails to represent them all (Lumen Learning, no date).

To summarise all points that have been made, there are many theories which contribute to the emotional development and wellbeing of an individual. It is clear that poverty plays a significant role within the social and emotional development and each theory that has been explored, poverty plays into a role and can affect the individual both mentally and physically. Which leads to several mental illnesses including depression, anxiety, loss of employment and restraints on many relationships. This later creates a stigma around the topic of mental illness.

## References

Babakr, Z.H., Mohamedamin, P. and Kakamad, K. (2019) 'Piaget's Cognitive Developmental Theory: Critical Review'. *Education Quarterly Reviews*, 2(3), pp.517–524. Available at: <https://eric.ed.gov/?id=EJ1274368#:~:text=Piaget%27s%20theory%20has%20some%20shortcomings>. (Accessed: 12 January 2024).

Baby Day. (No date) *Motor Development*. Available at: <https://babyday.us/motor-development/#:~:text=The%20Science,sense%20of%20their%20own%20abilities>. (Accessed: 22 December 2023).

Bandura, A. (1977) *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.

Better Kid Care. (No date) *Developing Memory*. Available at: <https://extension.psu.edu/programs/betterkidcare/early-care/tip-pages/all/developing-memory#:~:text=Memory%20development%20not%20only%20takes,ability%20to%20form%20a%20positive> (Accessed: 15 January 2024).

Beyond Blue (2021). *Emotional development*. Available at: <https://beyou.edu.au/fact-sheets/social-and-emotional-learning/emotional-development#:~:text=Emotional%20development%20involves%20learning%20what> (Accessed: 15 January 2024).

Billings, E. and Walqui, A. (2017) *Zone of Proximal Development: An Affirmative Perspective in Teaching ELLs*. Available at: <https://www.wested.org/resources/zone-of-proximal-development/#:~:text=The%20Zone%20of%20Proximal%20Development>. (Accessed: 12 January 2024).

Boyd, D. and Bee, H.L. (2019). *Lifespan Development*. 8th edn. Harlow: Pearson.

Bowlby, J. (1969) *Attachment and Loss*. New York: Basic Books.

Bruner, J. (1983) *Child's Talk: Learning to Use Language*. Oxford: Oxford University Press.

Brown, D. (2021). *LibGuides: Educational Learning Theories: Chapter 4 Required Reading*. Available at:  
<https://libguides.daltonstate.edu/c.php?g=722740&p=5486084#:~:text=One%20criticism%20is%20Vygotsky%27s%20view> (Accessed: 15 January 2024).

Career Research (No date) *Stages of Psychosocial Development image*.

Centres for Disease Control and Prevention. (2023) *Child Development Basics*. Available at:  
<https://www.cdc.gov/ncbddd/childdevelopment/facts.html#:~:text=The%20early%20years%20of%20a, and%20educational%20needs%20are%20met.> (Accessed: 10 January 2024).

Cherry, K. (2023) *Stages of Prenatal Development*. Available at:  
<https://www.verywellmind.com/stages-of-prenatal-development-2795073> (Accessed: 2 January 2024).

Cherry, K. (2022) *The Nature vs. Nurture Debate*. Available at: <https://www.verywellmind.com/what-is-nature-versus-nurture-2795392> (Accessed: 9 January 2024).

Cherry, K. (2022) *Sigmund Freud's Psychoanalytic Theories in Psychology*. Available at:  
<https://www.verywellmind.com/freudian-theory-2795845#:~:text=In%20simple%20terms%2C%20Sigmund%20Freud%27s.> (Accessed: 11 January 2024).

Cherry, K. (2021) *Understanding Erikson's Stages of Psychosocial Development*. Available at:  
<https://www.verywellmind.com/erik-eriksons-stages-of-psychosocial-development-2795740#:~:text=One%20major%20weakness%20of%20psychosocial> (Accessed: 16 January 2024).

Circlecare4kids. (2023) *The Importance of Motor Skills in Child Development*. Available at:  
<https://circlecare4kids.com/the-importance-of-motor-skills-in-child-development/> (Accessed: 22 December 2023).

Crowley, K. (2014) *Child Development*. London: SAGE Publications.

Douglas, H. (2020) *Biological Factors that influence Child development*. Available at: <https://www.verywellfamily.com/biological-factors-affecting-child-development-2162219-#:~:text=Biological factors can play a,prenatal period and early childhood.> (Accessed: 6 December 2023).

Erikson, E. (1950) *Child and society*. New York: Penguin Books Ltd.

First Things First. (No date) *Brain Development*. Available at: <https://www.firstthingsfirst.org/early-childhood-matters/brain-development/#:~:text=And%20early%20brain%20development%20has,shape%20how%20their%20brain%20develops.> (Accessed: 7 January 2024).

Glover, V. (2015) *Prenatal stress and its effects on the fetus and the child: possible underlying biological mechanisms*. Available at: [https://pubmed.ncbi.nlm.nih.gov/25287545/#:~:text=Many%20prospective%20studies%20have%20shown,ADHD\)%20or%20impaired%20cognitive%20development.](https://pubmed.ncbi.nlm.nih.gov/25287545/#:~:text=Many%20prospective%20studies%20have%20shown,ADHD)%20or%20impaired%20cognitive%20development.) (Accessed: 6 January 2024).

HealthLink BC. (2023) *Healthy Eating in Children: Problems Caused by Poor Nutrition*. Available at: <https://www.healthlinkbc.ca/health-topics/healthy-eating-children-problems-caused-poor-nutrition#:~:text=Children%20with%20poor%20eating%20habits,increases%20their%20chances%20of%20illness.> (Accessed: 10 January 2024).

Healthline (2020) *Zone of Proximal Development image*.

Kid Sense. (No date) *Gross Motor Skills*. Available at: <https://childdevelopment.com.au/areas-of-concern/gross-motor-skills/> (Accessed: 20 December 2023).

Kid Sense. (No date) *Fine Motor Skills*. Available at: <https://childdevelopment.com.au/areas-of-concern/fine-motor-skills/> (Accessed: 20 December 2023).

Knifton, L. and Inglis, G. (2020) 'Poverty and mental health: policy, practice and research implications', *BJPsych Bulletin*, 44(5), pp.193–196. DOI: <https://doi.org/10.1192/bjb.2020.78>.

Lumen Learning. (No date) *Lifespan Development*. Available at: <https://courses.lumenlearning.com/wm-lifespandevelopment/chapter/erikson-and-psychosocial->

[theory/#:~:text=Erikson%27s%20theory%20has%20been%20criticized,cultures%2C%20but%20not%20in%20all. \(Accessed: 16 January 2024\).](#)

Lifespan Development. (No date) *Cognitive Development*. Available at: <https://lifespandevlopmentac.weebly.com/cognitive-development.html> (Accessed: 12 January 2024).

Main, P. (2023) *Bowlby's attachment theory*. Available at: [Main \(2023\) \*John Bowlby Maternal Deprivation image\*.](https://www.structural-learning.com/post/bowlbys-attachment-theory#:~:text=This%20theory%20proposes%20that%20the. (Accessed: 16 January 2024).</a></p></div><div data-bbox=)

Nees, K. (2023) *Cognitive Development in Children: Advice for Parents*. Available at: [Public Health Agency. \(2018\) 'Nutrition Matters for the Early Years Guidance for Feeding under Fives in the Childcare Setting'. \*Public Health Agency\*, p.6. Available at: \[Pankin, J. \\(2013\\) \\*Schema Theory Basic Concepts\\*. Available at: \\[Pathman, T. and Bauer, P.J. \\\(2020\\\). 'Memory and Early Brain Development'. \\\*Encyclopaedia on Early Childhood Development\\\*, p.1. Available at: \\\[Piaget, J. \\\\(1971\\\\) \\\\*The Theory of stages in cognitive development: Measurement and Piaget\\\\*. New York: McGraw-Hill.\\\]\\\(https://www.child-encyclopedia.com/brain/according-experts/memory-and-early-brain-development#:~:text=Memory%20is%20a%20fundamental%20capacity. \\\(Accessed: 11 January 2024\\\).</a></p></div><div data-bbox=\\\)\\]\\(https://web.mit.edu/pankin/www/Schema%20Theory%20and%20Concept%20Formation.pdf \\(Accessed: 12 January 2024\\).</a></p></div><div data-bbox=\\)\]\(https://www.publichealth.hscni.net/sites/default/files/Nutrition%20Matters%20for%20the%20early%20years%200118.pdf. \(Accessed: 10 January 2024\).</a></p></div><div data-bbox=\)](https://www.cincinnatichildrens.org/health/c/cognitive-development#:~:text=What%20is%20Cognitive%20Development%3F. (Accessed: 12 January 2024).</a></p></div><div data-bbox=)

Ronald, A. (2018) *How do Nature and Nurture affect my child's development?*. Available at: [https://www.nct.org.uk/baby-toddler/emotional-and-social-development/how-do-nature-and-nurture-affect-my-childs-development#:~:text=Starting%20from%20when%20they%20were,Polderman%20et%20al%2C%202015\).](https://www.nct.org.uk/baby-toddler/emotional-and-social-development/how-do-nature-and-nurture-affect-my-childs-development#:~:text=Starting%20from%20when%20they%20were,Polderman%20et%20al%2C%202015).) (Accessed: 9 January 2024).

UK Trauma Council. (No date) *Early childhood and the developing brain*. Available at: <https://uktraumacouncil.org/resource/early-childhood-and-the-developing-brain#:~:text=During%20childhood%20and%20adolescence%2C%20different,established%20very%20early%20in%20life.> (Accessed: 7 January 2024).

Vygotsky, L.S. (1978) *Mind in Society: The Development of Higher Mental Processes*. Cambridge, MA: Havard University Press.

Weebly. (2020) *Erikson's Theory*. Available at: <https://teampounce.weebly.com/eriksons-theory.html> (Accessed: 16 January 2024).