1. Introduction

“All Children are different, and we need to know the reasons for, and significance of, those differences”

- Illingworth (1989)

During the initial two years of life, there is a sequential growth, phenomenal proliferation, and overproduction of axons, dendrites, and synapses in different regions of the brain. However, not all the synaptic connections survive, many being subsequently "pruned" due to lack of use. During this period of plasticity, or potential for change, the determination of which synaptic connections will persist is environmentally regulated, being dependent on information received by the brain. The progressive neuronal maturation and the establishment of synaptic connections are reflected in changes in the infant's increasing functional maturity.

Sensitive periods in brain and biological development start prenatally and continue throughout childhood and adolescence. The extent to which these processes lead to healthy development depends upon the qualities of stimulation, support, and nurturance in the social environments in which children live, learn and grow. Amongst the various social groups, the home occupies the first and the most significant place for the development of the individual. Home environment has been shown to be a major factor that influences the overall development of children. Availability of stimulating objects, books and play materials within the home are critical indicators for the overall quality of the home environment.

1.1 Child Development and Learning:

Three major theories of child development and learning include the maturationist, environmentalist, and constructivist perspectives of development.
1.1.1 Maturationist Theory:

The maturationist theory was advanced by the work of Arnold Gessell. Maturationists believe that development is a biological process that occurs automatically in predictable, sequential stages over time. This perspective leads many educators and families to assume that young children will acquire knowledge naturally and automatically as they grow physically and become older, provided that they are healthy.

1.1.2 Environmentalist Theory:

Theorists such as John Watson, B.F. Skinner, and Albert Bandura contributed greatly to the environmentalist perspective of development. Environmentalists believe the child's environment shapes learning and behavior; in fact, human behavior, development, and learning are thought of as reactions to the environment. This perspective leads many families, schools, and educators to assume that young children develop and acquire new knowledge by reacting to their surroundings.

1.1.3 Constructivist Theory:

The constructivist perspective of readiness and development was advanced by theorists such as Jean Piaget, Maria Montessori, and Lev Vygotsky. Although their work varies greatly, each articulates a similar context of learning and development. They are consistent in their belief that learning and development occur when young children interact with their environment and people around them. Constructivists view young children as active participants in the learning process. In addition, constructivists believe young children initiate most of the activities required for learning and development. Because active interaction with the
environment and people are necessary for learning and development, constructivists believe that children are ready for school when they can initiate many of the interactions they have with the environment and people around them.

1.2 Toddler Development:

The toddler years (one to three years of age) are ones of rapid change and can be among the most exciting and challenging for parents and clinicians. The development occurs in all the domains of development such as Gross motor, Fine motor, Language, Self-help and Personal-social skills. The most remarkable advances occur in language and interpersonal skills, but progress is evident in all areas as development proceeds along the traditional lines of affective, motor, cognitive, and physical growth. Themes in affective development include the toddler’s striving for autonomy and independence from caregivers, the continuing importance of attachment to family, and the initial work on achieving impulse control. In addition, the child’s behavior style, or temperament, is highly evident and shapes all social interactions. Cognitively, the toddler makes the transition in the second year from sensori-motor to preoperational thought, as defined by Piaget. The transition is characterized by the acquisition of language and the development of pretend play. The young toddler may know only a few words and relies primarily on motor skills to manipulate the environment. In contrast, the three-year-old can speak in sentences and uses these verbal skills to communicate and achieve goals. The dynamic changes in children’s development during the toddler years have important implications for child health supervision. Familiarity with toddler development will enable the clinicians and researchers to monitor children’s development effectively and to address common, age related behaviors with families during anticipatory guidance.15
1.2.1 Growth rate and Appearance:

Physical growth continues more slowly than during infancy, but at a predictable pace. In contrast, fine motor and gross motor skills progress quickly. The young toddler walks with a wide gait and somewhat hesitantly, but quickly will be running and jumping. The increasingly independent three-year-old can manipulate a fork and pour from a pitcher. Following the rapid growth of infancy, the speed of growth slows in the toddler years. After age two, toddlers gain about 5 lb in weight and 2.5 inches in height each year. Head circumference only increases by about 1 inch from 2 to 12 years. Growth does not increase steadily; rather, it often occurs in spurts. It is not unusual for a toddler’s weight to remain the same for weeks at a time. Increases in height of the preschool child result primarily from growth of the lower extremities and, to a lesser extent, elongation of the trunk. Body proportions change, with upper-to-lower segment ratios ranging from 1.40 at age two years to 1.15 to 1.20 at age five years. Between the ages of two and two and half years, the child will have reached 50% of his or her adult height. With a newly erect posture, the classic and endearing toddler pose includes lordosis and a protuberant abdomen. Growth of the lower extremities often is accompanied by tibial torsion and physiologic bowing of the legs, which usually corrects itself by age three years. The percentage of body fat steadily decreases from 22% at age one year to about 12.5% to 15% at age five years. By the end of toddlerhood, increased muscle tone and decreased body fat give the child the appearance of being leaner and muscular.15

1.2.2 Motor Development:

Motor development refers to changes in children’s ability to control their body’s movements, from infants’ first spontaneous waving and kicking movements to the adaptive
control of reaching, locomotion, and complex sport skills. The term ‘motor behavior’ describes all movements of the body, including movements of the eyes (as in the gaze), and the infant’s developing control of the head. Gross motor actions include the movement of large limbs or the whole body, as in walking. Fine motor behaviors include the use of fingers to grasp and manipulate objects. Motor behaviors such as reaching, touching, and grasping are forms of exploratory activity.

As infants develop increasing motor competence, they use perceptual information to inform their choices about which motor actions to take place. For example, they may adjust their crawling or walking in response to the rigidity, slipperiness, or slant of surfaces. Motor movements, including movements of the eyes, arms, legs, and hands, provide most of the perceptual information received by infants. Young children’s bodies undergo remarkable changes in the early childhood years. In describing this development, Adolph and Avolio state that, “Newborns are extremely top-heavy with large heads and torsos and short, weak legs. As infants grow, their body fat and muscle mass are redistributed. In contrast to newborns, toddlers’ bodies have a more cylindrical shape, and they have a larger ratio of muscle mass to body fat, especially in the legs.” These changes in weight, size, percentage of body fat, and muscle strength provide perceptual/motor challenges to infants as they practice a variety of actions.

It is important to recognize that, though developmental charts may show motor development unfolding in the form of a smooth upward progression toward mastery, the development of individual children often does not follow a smooth upward trajectory. In fact, “detours” and steps backward are common as development unfolds. Infant motor development can be understood as a process in which change occurs as the infant actively adapts to varying
circumstances and new tasks.\textsuperscript{21} Thelen\textsuperscript{22} demonstrated this experimentally in her well-known study in which three-month-old babies, still too young to coordinate their movements to be able to sit, reach, or crawl, learned to coordinate their kicks in order to engage in the novel task of making a mobile move. Cultural and historical factors, including caregivers’ behavior, also affect the ways in which infants engage in motor behaviors.

Gross motor skills develop rapidly during the toddler years. Complex gross motor patterns develop, while balance and coordination improve. Most children walk without assistance by 18 months. Soon, they begin to walk faster with few falls. At approximately age 2 years, the stiff, wide-leg gait of early toddlerhood becomes a flexible, steady walking pattern, with an adult-like heel-toe progression. By 36 months, they will develop their balance and can stand on one foot briefly. Toddlers delight in their new-found skills and often can be seen experimenting with them. As any person who has cared for a toddler can attest, they climb, they jump, and they run. Supervision is essential for preventing injury because toddlers sometimes test their skills beyond their abilities in an attempt to learn and do more.\textsuperscript{15}

Increasing fine motor abilities during toddlerhood result from refinements in reaching, grasping, and manipulating small objects. The average 18-month-old can make a tower of four blocks. Just one year later, with practice and improved control, he or she can stack eight blocks. Most 18-month olds have developed an interest in crayons and, if given the opportunity, will hold the crayon in a fist and scribble spontaneously on paper (or anywhere else). After one and half years, toddler will develop the control and sophistication to pick up a crayon by placing the thumb at the left and fingers at the right of the shaft and make a circle; by age three, the child even may begin to draw a primitive stick figure.\textsuperscript{15}
1.2.3 Language Development:

The acquisition of language and speech seems deceptively simple. Young children learn their mother tongue rapidly and effortlessly, from babbling at six months of age to full sentences by the end of three years, and follow the same developmental path regardless of culture. During the first six months of life, infants are better than adults at perceiving various types of contrasts in speech. According to Kuhl, the way in which the infant’s brain processes repeated experiences with speech explain language acquisition in a social and biological context. Children typically acquire their first 50 words between the ages of one and two. Infants’ use of nonverbal gestures as a form of communication appears to be a typical feature of early language development, although there is considerable variability among children. The use of communicative gestures appears to generally precede the child’s first words. As they develop, infants benefit from communicating with both peers and adults, very different conversational partners. According to Pan and Snow, “Interaction with peers, who are less competent and usually less cooperative partners than adults, requires use of more sophisticated conversational skills, such as knowing how and when to interrupt, how to remedy overlaps and interruptions by others, and how to make topic-relevant moves.”

Language is the classic example of the preoperational use of symbols. Beginning around age two years, toddlers use language to convey their thoughts and needs (such as hunger and pain). Language skills develop at an extraordinary pace. The average 18-month-old has a vocabulary of at least 20 words, consisting primarily of the names of familiar caregivers and favorite foods and activities, and may be starting to put two words together. His/her receptive language skills will be somewhat more advanced than the expressive skills; he/she will
understand the meaning of more complex instructions. Over the next few months, this child will experience a burst in vocabulary. He/she begins to put together phrases but often omits pluralization, prepositions, and adjectives. These early sentences are referred to as “telegraphic speech.” At this point, 50% of what the child says should be intelligible to strangers. By the age of three years, the vocabulary increases to about 500 words, and 75% of speech is understandable to strangers. He/she begins to make complete sentences and experiments with speech and language, varying word usage and changing the intensity, as well as intonation, of speech. He/she typically now begins a myriad of daily “why” questions, so characteristic of the preschool years. Progress in language development is influenced by environmental factors as well as by innate abilities. Bilingual children, for example, may mix languages initially but ultimately will “catch up” in their language skills by two to three years of age. Parents can be encouraged to provide an environment that will foster language growth. For example, parents or other caregivers can read aloud to toddlers every day.¹⁵

1.2.4 Cognitive Development:

The term cognitive development refers to the process of growth and change in intellectual/mental abilities such as thinking, reasoning and understanding. It includes the acquisition and consolidation of knowledge. Infants draw on social-emotional, language, motor, and perceptual experiences and abilities for cognitive development. Cultural context is important to young children’s cognitive development. There is substantial variation in how intelligence is defined within different cultures.²⁹ Everyday experiences—for example, crying and then being picked up or waving a toy and then hearing it rattle—provide opportunities for infants to learn about cause and effect. Even very young infants possess expectations about physical
events. Infants learn about spatial relationships in a variety of ways; for example, exploring objects with their mouths, tracking objects and people visually, squeezing into tight spaces, fitting objects into openings, and looking at things from different perspectives.

Infants exhibit a high level of interest in solving problems. Even very young infants will work to solve a problem, for example, how to find their fingers in order to suck on them. Older infants may solve the problem of how to reach an interesting toy that is out of reach by trying to roll toward it or by gesturing to an adult for help. Infants and toddlers solve problems by varied means, including physically acting on objects, using learning schemes they have developed, imitating solutions found by others, using objects or other people as tools, and using trial and error.

Imitation is broadly understood to be a powerful way to learn. Infants engage in both immediate imitation and delayed imitation. Immediate imitation occurs when infants observe and immediately attempt to copy or mimic behavior. The capacity to remember allows infants and toddlers to differentiate between familiar and unfamiliar people and objects, anticipate and participate in parts of personal care routines, learn language, and come to know the rules of social interaction. The infant’s memory system is quite remarkable and functions at a higher level than was previously believed. Infants exhibit long-term recall well before they are able to articulate their past experiences verbally.

Classification refers to the infant’s developing ability to group, sort, categorize, connect, and have expectations of objects and people according to their attributes. They demonstrate the ability to discriminate between smiling and frowning expressions. According to Mareschal and
French, “the ability to categorize underlies much of cognition.” Classification is a fundamental skill in both problem solving and symbolic play.

Symbolic play is a common early childhood behavior also called as pretend play, make-believe play, fantasy play... or imaginative play. Representational thinking is a core component of symbolic play. At around eight months of age, infants have learned the functions of common objects (for example, holding a play telephone to “hear” Grandma’s voice). By the time children are around 18 months of age, they use one object to stand for, or represent, another. For example, an 18-month-old may pretend a banana is a telephone. At around 36 months, children engage in make-believe play in which they represent an object without having that object, or a concrete substitute, available. For example, they may make a “phone call” by holding their hand up to their ear.

Toddlers make the transition from sensori-motor to preoperational thinking, as outlined by Piaget. During the sensori-motor period, the infant primarily learns about the world by touching, looking, and listening. Preoperational thought is marked by the development of symbolic thinking, as the child becomes capable of forming mental images and begins to solve problems by mental trial and error. This progression from sensori-motor to symbolic thought occurs typically between 18 and 24 months of age. The child’s recognition that one object can represent another becomes highly evident during play. A block conveniently serves as a car and a bucket becomes a hat. At this age, the toddler also uses symbols or actions to imitate past events. For example, hours after watching his/her parents do the dinner dishes, he might begin imitating the event with his own make shift sink and pans. In addition, he/she now develops complete object permanence, finding an object, such as a ball under a blanket, despite not seeing it hidden.
The older toddler continues to develop symbolic thinking. By three years, he/she can draw primitive figures that represent important people in her environment. In addition, he/she develops elaborate play and imagination. At this age, however, he/she still has a number of limitations in cognitive skills. He/She remains unable to take the viewpoint of another person, continuing to see the world egocentrically and assuming that others think and feel as he/she does. In addition, he/she can attend only to one aspect of a problem at a time, as illustrated by Piaget’s classic conservation experiment: When shown equal volumes of colored water, and one is poured into a tall, thin container and the other into a short, fat one, the three-year-old always will pick the tall, thin container as having more water because it appears “bigger” to him/her.15

1.2.5 Social-Emotional Development:

Social-emotional development includes the child’s experience, expression, and management of emotions and the ability to establish positive and rewarding relationships with others.38 It encompasses both intra- and interpersonal processes. Healthy social-emotional development for infants and toddlers unfolds in an interpersonal context, namely that of positive ongoing relationships with familiar, nurturing adults. Young children are particularly attuned to social and emotional stimulation. Even newborns appear to attend more to stimuli that resemble faces.39

Through nurturance, adults support the infants’ earliest experiences of emotion regulation. Close relationships with adults who provide consistent nurturance strengthen children’s capacity to learn and develop. Moreover, relationships with parents, other family members, caregivers, and teachers provide the key context for infants’ social-emotional
development. These special relationships influence the infant’s emerging sense of self and understanding of others.¹⁰

Through interactions with peers, infants explore their interest in others and learn about social behavior/social interaction. Interactions with peers provide the context for social learning and problem solving, including the experience of social exchanges, cooperation, turn-taking, and the demonstration of the beginning of empathy.¹¹ Howes’ research suggests that there are distinctive patterns of friendship for the infant, toddler, and preschooler age groups. The three groups vary in the number of friendships, the stability of friendships, and the nature of interaction between friends (for example, the extent to which they involve object exchange or verbal communication).

Infants’ social-emotional development includes an emerging awareness of self and others. Infants demonstrate this foundation in a number of ways. For example, they can respond to their names, point to their body parts when asked, or name members of their families. Even early in infancy, children express their emotions through facial expressions, vocalizations, and body language. The later ability to use words to express emotions gives young children a valuable tool in gaining the assistance or social support of others.¹²

During the first three years of life, children begin to develop the capacity to experience the emotional or psychological state of another person.¹³ Children’s ability to regulate their emotions appropriately can contribute to perceptions of their overall social skills as well as to the extent to which they are liked by peers.¹⁴
Children’s developing capacity to control impulses helps them adapt to social situations and follow rules. As infants grow, they become increasingly able to exercise voluntary control over behavior such as waiting for needs to be met, inhibiting potentially hurtful behavior, and acting according to social expectations, including safety rules.\textsuperscript{46}

During the infant/toddler years, children begin to develop an understanding of the responses, communication, emotional expression, and actions of other people. This development includes infants’ understanding of what to expect from others, how to engage in back-and-forth social interactions, and which social scripts are to be used for which social situations. At each age, social cognitive understanding contributes to social competence, interpersonal sensitivity, and an awareness of how the self relates to other individuals and groups in a complex social world.\textsuperscript{47} Recent research suggests that infants’ and toddlers’ social understanding is related to how often they experience adult communication about the thoughts and emotions of others.\textsuperscript{48}

1.2.6 Affective Development:

1.2.6.1 Autonomy and independence

Fostered by improved motor skills, the transition from infancy to toddlerhood is marked by a new drive for autonomy and independence. The child finds that he or she can move freely and easily away from the parent and begins to test boundaries and limits. Struggles over autonomy may occur daily. The toddler may refuse to eat unless allowed to feed him- or herself. In addition, the child no longer may be willing to try new foods, despite parental coaxing. The classic manifestation of the struggle for autonomy is the temper tantrum. The toddler develops unbridled opinions and preferences about everyday activities. If he does not get his way, he may cry, hit, or throw himself on the ground.\textsuperscript{15}
1.2.6.2 Impulse control

Toddlers also begin to develop impulse control, which may be described as “the process of becoming civilized.” The 18-month-old may have minimal impulse control and display several temper tantrums each day. Two-year-olds typically exhibit wide variations in impulse control, with the degree of control often varying with the struggle for autonomy. Most 3-year-olds have mastered some degree of self-control, in part because they are developing the ability to delay gratification. From experience, they learn that sometimes they must wait for rewards. Impulse control, improved motor skills, and the struggle for autonomy are highly evident during toilet training. Successful toileting usually occurs toward the end of the third year. At this time, the necessary physical skills (i.e., controlling the sphincter, walking to the bathroom, undressing, and getting onto the potty) come together with the emotional willingness to participate. Although toilet training may be introduced at an earlier age, success with consistent daytime dryness usually is not achieved until about 2.5 years of age.\textsuperscript{15}

1.2.6.3 Attachment

Although toddlers strive for autonomy, issues of attachment remain important developmental themes. Attachment refers to the bond that forms in time between an infant and a caregiver. A secure bond is important in both social and emotional development during infancy and the preschool years. The toddler who seeks autonomy and independence relies on secure parental ties for the confidence to venture out and explore the environment. Although he or she may wander, the toddler always is cognizant of the caregiver’s presence and intermittently returns for reassurance. If the caregiver cannot be found, the toddler likely will become distressed. Disorders of attachment may result from inconsistent care giving and are more common in the presence of family stressors, such as poverty, drug use, or emotional illness.
Affected toddlers may not show interest in exploring the environment, may display separation problems, or may distrust the primary caregiver. It should be particularly worrisome when a 2-year-old does not seek out the primary caregiver for reassurance in a stressful situation, such as during a physical examination or painful procedure.\textsuperscript{15}

\textbf{1.2.6.4 Temperament}

How a child approaches a given situation is influenced by his or her behavioral style, also known as temperament. Pediatric clinicians are acutely aware of the wide variability in behavioral style among toddlers during health supervision visits. Some two-year-olds sit close to their parents and shy away from the approaching stethoscope. Others bounce all over the room, showing a fleeting, although intense, interest in their surroundings but wanting no part of the physical examination. Then there are those who sit on the floor, methodically flipping the pages of their cardboard book, nearly unfazed by the examination. Temperament has strong genetic elements and often is apparent during earliest infancy. By the toddler years, the child’s behavioral style is generally evident and predictable. Temperament influences all toddler interactions.\textsuperscript{15}

Conflict, stress, and behavior difficulties may result when a toddler’s temperament conflicts with caregivers’ expectations and parenting style. For example, conflict may arise between a “slow-to-warm-up” two-year-old and an out-going parent who expects the child to adapt quickly to social situations. A positive social environment is created when a child’s temperament is compatible with the caregiver’s style and expectations, a situation referred to as “goodness of fit.” Families benefit from understanding the concept of temperament and realizing that, to a large extent, behavioral style is an intrinsic characteristic of a child. Parents should not feel that they have “created” a difficult child, particularly during the “terrible twos,” when the
struggle for autonomy may be accentuated by such temperamental traits as poor adaptability and negative mood.\(^4^9\)

1.3 Family/Home environment and Child development:

The family is the important primary group in all the societies known to us. It occupies a “nuclear position in the social structure.” The family is composed of persons who interact and communicate with each other in their social roles, such as husband and wife, mother and father, son and daughter, brother and sister. The most widely recognized function of family is to care and socialize the new generations. Social development is greatly influenced by our cultural and economic environment and by the members of the families. Parents are considered as the primary agents of socialization, because their influences begin early in life. Even though, the exact form of the family may vary from society to society there is no complete lack of family influence on the developing child, in any society.\(^5^0^-^5^2\)

The family is the group wherein society’s new members first learn the basic values and normative patterns of their society’s culture. In the course of development, the children learn from their parents and other elders how to share the behavioural ways of the particular society. The children also learn to distinguish between “right” and “wrong”, “good” and “bad” behaviours. These rules are reinforced by sanctions, such as praise and rewards. Thus, the family has been traditionally an educative unit.\(^5^0^-^5^3\)

Since many years, effort has been made to map the relationship between the home environment and selected aspects of the child’s development. For most children, interior of the home and its immediate surroundings are the first environments they experience throughout their early years.\(^2^2\) The ecological environment is defined by Bronfenbrenner and Ceci\(^5^4\) as a set of “nested structures” composed of microsystems, mesosystems, exosystems, macrosystems and
chronosystems. The microsystem is “a pattern of activities, roles and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics; the home environment including the parent-child relationship is an example of microsystem”. 

A mesosystem includes the interrelations among two or more microsystems in which the developing child participates (for example, the relations between parents and extended family members and friends). The exosystem refers to processes between or among two or more settings, only one of which contains the developing child (for example, relations between children and their mothers and between mothers and the gambling casino). The macrosystem includes influences of the broader cultural or socio-economic environments, such as the 1988 Indian Gaming and Regulatory Act (IGRA) and employment opportunities in the larger social environment that are available to families. The chronosystem accounts for the influence on the child’s development of consistency and change over the life course, such as consistency and stability of developmentally appropriate parenting behaviors and activities.

Family is the first environment for child growth and development. Good care from the family will enable children to have good physical, intellectual and psychosocial development. At the same time, other enabling and enforcing factors such as education of their fathers and mothers, economic condition of the family, family relationships, family crisis, family type and household conditions are also important.

Household environments which covered the physical condition of the house and provision of toys associated with development of children aged one to under three years because children at this age stay at home most of the time. Thus, household environment is an important factor enabling their development.
Many family factors influence the development of children aged between one and three years old such as parenting styles, parental education, family structure, parental occupation, socio-economic status of parents, living area (urban and rural), number of siblings, living standard, type of family (joint or nuclear family) single parent family etc.\textsuperscript{,69}

1.4 Parenting styles and Child development:

Isaranurug S et al\textsuperscript{70} found that appropriate child rearing was the major factor influencing development of children. Those with proper rearing had a 2.7 times better development than those with improper rearing. A study done by Nanthamongkolchai S et al\textsuperscript{71} on family factors influencing development of preschool children aged three to six years in four areas of Thailand confirmed that the children receiving good child care and child rearing had a 2.3 times higher chance to have normal development compared with those receiving poor child care and child rearing. Parenting styles have been described as the collection of parents’ behaviors which create an atmosphere of parent-child interactions across situations.\textsuperscript{72}

Baumrind outlined three typologies of parenting styles known as authoritative, authoritarian, and permissive parenting. Authoritative parenting offers a balance between high nurturance and high control, allowing the child room to exercise autonomy. Authoritarian parenting restricts autonomy through high coercive control and low nurturance and support. Permissive parenting is high in nurturance and support while being low in control, allowing an excess of autonomy without engendering responsibility.\textsuperscript{73,74}

Authoritative parents set reasonable demands on and have high expectations for their children while being warm and responsive.\textsuperscript{75} The authoritarian parent is demanding and unresponsive to the emotional needs of the child, as well as being controlling, and detached.\textsuperscript{57} In addition to high control and demand, authoritarian parents show little warmth, involvement,
support, or emotional commitment to their child. Permissive parents exhibit high levels of warmth and low levels of control. According to Baumrind children of permissive parents are often left to regulate their own activities, behavior, and emotions at a young age. Each style has a different influence to each child development areas.

1.5 Socio-economic status of family and Child development:

The socioeconomic status of the family and family relationship also influence the children’s development, for those with high economical status and good family relationship had better development than those in low economic status and poor family relationship. High SES families afford their children an array of services, goods, parental actions, and social connections that potentially redound to the benefit of children and a concern that many low SES children lack access to those same resources and experiences, thus putting them at risk for developmental problems. At two years of age a child’s problem solving and functioning capabilities begin to form, so SES (Socio-Economic Status) would surely bear significance at this time.

1.6 Stimulating home environment (Learning environment created by the family) and Child development:

Learning is an important component of socialization process of an individual. Learning is a process through which changes are being brought out in the behavior of a person either through experience or practice. Practice is the most important condition for motor learning. Practice during early learning allows the learner to discover a reasonable, effective approach to goal attainment. Practice during later learning allows the learner to concentrate on achieving skilled performance that includes expedient solutions characterized by economy of effort and successful action. The recent theories of early motor development suggest that the acquisition of new motor
abilities arises from the interaction of multiple elements of the infant, the environment and the task at hand through a process of exploration of movement options and selection of the optimal solution in a given context. The home should have manipulative that encourage the young child to have a variety of sensory experiences, and to be able to develop fine and gross motor skills.

Parents who expose their preschoolers to problem-solving strategies are more likely to have children who use them. Mothers who interact with preschool children in problem-solving tasks, and expose them to open-ended questions about that task, have children who later demonstrate greater independent performance with similar tasks requiring problem-solving skills.

High-achieving children have parents who read to them frequently and help them attain phonemic awareness. In homes where children participate in family discussions, children are better prepared for the language they will hear in classrooms. Parent-child interaction with reading materials is important during the preschool period because it is during these years that children become familiar with story structures, complex syntax, and vocabulary. They will be better prepared to develop concepts that are prerequisites to reading and listening comprehension. In order for reading ability to develop and remain constant throughout the elementary school years, children must hear and practice language from an early age.

The measures of environmental quality (orderliness, enrichment and overall stimulating quality) and of parent-infant interaction (mother-child interaction patterns, family habits, living patterns as described by the mother), taken in the first year of life are the best predictors of later IQ or language performance. In a three-year longitudinal study conducted with 119 children in the one to four-year age group, a positive correlation was found between cognitive development and the home stimulation variables measured on the HOME scale.
The early home environment is a significant prediction of mental development and at the same time the home is of extraordinary importance in the development of social intelligence.\textsuperscript{83-86} It is not only providing the hereditary transmission of basic potential for child development but also provides environmental conditions and personal relationships.\textsuperscript{87} Children from favorable environment homes are found to be warm-hearted, outgoing and socially more intelligent than children from unfavorable homes.\textsuperscript{88}

Families are the first environments with which children interact from birth. They are critically important in providing children with stimulation, support and nurturance.\textsuperscript{89} These qualities, in turn, are influenced by the resources that families have to devote to child-raising (strongly influenced by income), their style of parenting, and their tendency to provide a rich and responsive language environment (strongly influenced by parental levels of education).\textsuperscript{90}

A greater part of the Indian population lives in villages.\textsuperscript{91} The infants get fewer opportunities to develop their full prospective as their mothers lack knowledge regarding scientific child care, stimulatory activities and conducive environment which are essential for hale and hearty development. Appropriate care and right kind of development opportunities for this susceptible and immense section of population are decisive since these have a direct demeanor upon the future human resource development of a nation.\textsuperscript{92} The parents’ educational levels have an important impact on children’s achievement,\textsuperscript{93} and higher levels of adult education have a positive bearing on both the educational future and the income level of the children in a family.\textsuperscript{94} Further, the children of mothers with higher levels of education have greater early success and generally stay in school longer.\textsuperscript{95,96}

Examining three ethnic groups across the first three years of a child’s life Bradley\textsuperscript{97} found that measures of particular aspects of the child’s home environment, such as parental response,
and availability of stimulating play materials were strongly related to children’s developmental status.

More than 200 million children under five years of age in developing countries are not fulfilling their developmental potential. Development consists of linked domains of sensori-motor, cognitive-language, and social-emotional function.

Research from developed countries has identified three aspects of parenting that are consistently related to young children’s cognitive and social-emotional competence: cognitive stimulation, caregiver sensitivity and responsiveness to the child, and caregiver affect (emotional warmth or rejection of child). The effect of these factors is sensitive to contextual factors such as poverty, cultural values and practices. Nonetheless, these child-rearing dimensions affect children from developed and developing countries in similar ways.

The optimal development of a young child requires an environment ensuring gratification of all basic physical needs and careful provisions for health and safety. The development of a young child is fostered by the following: a relatively high frequency of adult contact involving a relatively small number of adults; a positive emotional climate in which the child learns to trust others and himself; an optimal level of need gratification; the provision of varied and patterned sensory input in an intensity range that does not overload the child's capacity to receive, classify, and respond; people who respond physically, verbally, and emotionally with sufficient consistency and clarity to provide uses as to appropriate and valued behaviours and to reinforce such behaviours when they occur; an environment containing a minimum of social restrictions on exploratory and motor behaviour; careful organization of the physical and temporal environment that permits expectancies of objects and events to be confirmed or revised; the provision of rich and varied cultural experiences rendered interpretable by consistent persons
with whom the experiences are shared; the availability of play materials that facilitate the coordination of sensorimotor processes and a play environment permitting their utilization; contact with adults who value achievement and who attempt to generate in the child secondary motivational systems related to achievement; the cumulative programming of experiences that provide an appropriate match for the child's current level of cognitive, social, and emotional organization.104

The interaction of children with adults and their peers is essential for an adequate stimulation in the family environment. The proximal processes serve as basic mechanisms of this interaction and help children to develop their perception, and guide and control their behaviors. In addition, it helps in gaining knowledge and skills by developing relationships and building up their own physical and social environment.53 Studies on the association between environment stimulation and cognition have showed that mothers who were advised to stimulate their babies through a variety of perceptive experiences with people, objects and symbols have contributed to their children's cognitive development and to favorable outcomes in the long term.105

The family acts as a mediator between children and the social community, promoting their socialization, which is essential to children's cognitive development. As an open system that evolves through the exchange of relationships with other systems, the family went through changes reflecting widespread social changes. Thus, there have arisen new dispositions, other than those of the formerly prevailing core family comprised by the couple and their children. No matter what it's structuring, the family remains the basic relational link between children and the world.106
Human development is affected by the nature of the existing interconnections with other complementary environments, which contextualize the developmental phenomena at the different social levels. Paradoxically, in the family environment, children can either get protection or be exposed to risks for their development. Reported risk factors are often associated to low socio-economic status and weak family ties, which could impair their ability for problem solving, language, memory and social skills.

1.7 Birth order and Child development:

Existing evidences suggest that being late in the birth order is detrimental for child development. The resource quantity dilution model suggests that growing up in a larger family is detrimental because a smaller share of the resources available at the family level at the time is allocated to the child. This model implies that being early in the birth order may be beneficial for attainment since a child that is early in the birth order lives in a smaller family for a longer time, hence may receive a larger share of the family resources when young than its later-born sibling(s).

The dilution may not be limited to amounts invested in a child but may also occur with regard to the quality of the investments received by a child. If the parent cannot provide the same quality in the interaction with each child upon the arrival of another child, then the latter reduces the quality of the parental services provided to older or all siblings. If older siblings become jealous of the younger sibling, they may affect his or her development in a negative way. In this case, being in a larger family is detrimental but the relative effect of being a certain birth rank depends on the exact nature of the interactions. For example, Zajonc and Markus argued in their 'Confluence Model' that being in a larger family is detrimental due to less quality interaction with the parent.
The investments received by children may also differ between siblings if the resources in the household increase over the family life course. For example, the parents’ child-rearing ability may increase with experience or maturing. Individual’s earnings’ profiles are increasing with age, suggesting that the family level income available for consumption may be greater when a later-born child enters the family. Also, older siblings may benefit from having access to both new and existing goods, such as toys and books previously purchased for an older sibling. In addition, children later in the birth order may receive more stimulation overall since they have more siblings around. However, older siblings may benefit from a larger family size as well since they have more opportunities to learn by instructing others. Overall, the investments per child may be greater later in the family life, implying that children late in the birth order may be better off than their older sibling(s).113

Interaction between siblings may benefit the younger sibling as well as the older sibling. Zajonc and Markus112 argued in the context of their 'Confluence Model' that older siblings benefit from teaching their younger siblings. At the same time, later-born children benefit from the presence of older siblings since the latter are intellectually more mature.

Differences (or similarities) in development and attainment of siblings may be the result of parental preference for certain characteristics such as the rank in the birth order, the sex of the child, or the child’s neediness. Historically, parents had an incentive to invest more in the first-born (especially male) child. However, nowadays parents may be more likely to invest towards achieving similar achievements across siblings.114-116

Birth order effects may also be the result of differential natural endowments of the child. Since later-born children are born to older mothers, higher birth order might be associated with birth defects and poorer health that may adversely affect other developmental outcomes.115
The present study is undertaken to assess the various developmental aspects of children aged between one and three years old brought up by literate and illiterate parents living in urban and rural areas of Bangalore and correlate the same with the family factors of these children, such as home environment, parenting style or practices, type of family, number of siblings, maternal employment and family income and finally to determine the most influencing factors among these variables by a suitable regression analysis.

1.8 Developmental Assessment:

To establish an accurate understanding of developmental progress, it is best to obtain information from a variety of sources (parents, teachers, other professionals) and to use a number of different methods of gauging progress (developmental history, current functioning by report and on specific tests). This may require input from a range of professionals (psychiatrists, psychologists, speech/language and occupational therapists, physiotherapists) and entail some form of multi-disciplinary evaluation.\(^{117}\)

There are several ways in which the significance of delays and deviations can be assessed. First, the age at which milestones in development were achieved can provide a yardstick to the pace of development. For example, the ages at which the child was first able to sit, walk and speak can be compared to the normal range, to determine whether or not they were out of the ordinary. Second, standardized tests of development can be administered to check how much the child’s current functioning is consistent with expectations. Ordinarily, these tests use some statistically determined cut-off point (often a score falling more than two standard deviations below the mean) to differentiate abnormal delays from normal variations in development. Third, the duration, pervasiveness and modifiability of symptoms and signs, as well as the extent to which they are associated with impairments in social role functioning, can
be used to judge the significance of any deviations from the normal path of behavioural development.\textsuperscript{117}

Interviewing parents or other informants about a child’s early developmental history should be approached with two issues in mind. First, there is the need to ensure that the interview is conducted in a way that helps the parent/informant to remember details of the child’s development and the timing of events as accurately as possible. Not surprisingly, perhaps, parents are better at recalling whether a milestone has been reached or behaviour exhibited than they are at recollecting the child’s age when this happened. To improve their recall for the timing of events, it can be helpful to forewarn parents that you will be asking about these details when you meet with them and that they may find it helpful to bring to the interview baby books, etc.\textsuperscript{117}

In addition, it is often helpful to get parents to focus on specific events that took place, as these can act as anchor points for dating milestones. For example, ask the parents to focus on events such as the first birthday, the birth of a sibling, move of home or change of job, and then to describe memories of the child’s behaviour and abilities on these occasions. Cross-checking that the details reported on one occasion are consistent with descriptions obtained about another event closely related in time is also a useful way of ensuring that the report is accurate. For example, when a sibling was born at around the time of the child’s second birthday, ask for descriptions of the child’s behaviour on both occasions and compare them.\textsuperscript{117}

The second issue concerns parents’ perceptions and preconceptions about the child’s developmental status and behaviour. Not infrequently, the meaning of behaviours or skills is not fully appreciated by parents, and achievements may be imbued with special but unwarranted significance. The onus is on the clinician, therefore, to obtain a descriptive account of the child’s behaviour rather than an account of the parents’ views on the abilities of their child. Clearly, the
clinician must be familiar with the key milestones in development, as well as the signs and symptoms of abnormal deviations from the developmental pathway. This ensures that appropriately focused questions are asked and that the coverage is comprehensive.\textsuperscript{117}

Rosenbaum PL et al\textsuperscript{118} proposed a motor development assessment protocol, where the phase I applied at key ages with the entire population, involves the use of parent-report screening tools that ask about specific age-appropriate motor skills, as well as any parental concerns about “quantity” or “quality” of their child’s motor function and about any loss of motor function. In phase II, children who “fail” the screening phase (at any stage) are evaluated with specified developmental motor assessments. Those who “pass” revert to the screening stream, while those who “fail” continue to phase III. In this third component of the study, children are referred to experts in child development formally engaged in the study (including developmental paediatricians, paediatric neurologists and developmental therapists). These experts will use protocol-based evaluations to ascertain whether a child has a problem in development, what the problem might be from a diagnostic perspective, how “severe” the problem is, and what management services are or should be provided. It is argued that this is an efficient approach to the study of a population that would enable investigators to detect specific relatively common developmental motor disorders (in particular, cerebral palsy and developmental coordination disorder).

The complex developmental and health problems of children represent significant challenges for clinical assessment of developmental status of children. In the developmental years, children are likely to manifest impairments, experience restrictions in activities, and be at risk for secondary conditions and a diminished quality of life.\textsuperscript{119} The Expansion of early intervention, special education, and related services for children with health and developmental
problems has highlighted the need for appropriate assessment of children’s characteristics and needs.\textsuperscript{120}

A significant premise of developmental assessment is that the physical, cognitive, communicative, emotional, and behavioral characteristics of children with developmental problems and disabilities and cannot be assessed in isolation. A comprehensive approach to developmental assessment must be built on a framework that integrates conceptions about the nature of child functioning, health, and development.\textsuperscript{120}

Three contributions seem particularly relevant to such a framework. One is recognition of the interactive nature of human functioning and development. Valuable contributions in this regard take the form of the “biopsychosocial model”\textsuperscript{121} in medicine, “ecobehavioral science”\textsuperscript{122} in psychology, and the “bioecological model”\textsuperscript{123} in child development. In complementary ways each of these models emphasizes the interactive nature of biological, psychological, and social dimensions of functioning and behavior.

The second contribution to an integrated framework is the fact that functioning is not static but dynamic, varying over time and across situations. The dynamic nature of these characteristics is consistent with a transactional conceptualization of child development.\textsuperscript{124,125} In a transactional model of development, ongoing interactions of the child with the environment across time account for the changing nature of the child’s status and the dynamic nature of developmental outcome. In contrast to a main-effects model, in which developmental outcomes are attributed either to biological factors or to environmental factors, a transactional approach defines developmental outcomes as the product of child-development interactions. In development, functioning and adaptation are defined by the fact that children continually act upon, and react to, the environment that surrounds them. The environment consists of things,
conditions, and circumstances that elicit responses, exert pressure, and provide stimulation or feedback to the child in ongoing interactions. Interaction with an environment that is adequate and accessible promotes development. Interactions with an environment of limited adequacy and accessibility contribute to disablement. Interactions thus reflect the child’s ongoing adaptation to the environment in process that contributes to either development or disablement. These interactions are manifested in the performance of daily activities and in participation in personal, social, and communal roles. The environment can be defined by its nature (Physical, Social, and Psychological) and by its proximity to the person. Bronfenbrenner has defined four successive systems with the first being the most immediate and proximal to the person and the fourth being the most distal.

The third contribution to an integrative framework for assessment is differentiating assessment in terms of the components of the person-environment interaction. A number of models have emerged in the past 20 years that reflect the changing perspective of disability within a dimensional framework. Two key contributions can be seen as synthesizing these changing views of disability. One is the publication of the “International Classification of Impairments, Disabilities, and Handicaps” (ICIDH) by the World Health Organization (WHO) in 1980. The second is the current draft version of that taxonomy in the form of “International Classification of Functioning and Disability (ICIDH 2 B-2; WHO, 1999).

1.8.1 Assessment Strategies:

The assessment of child’s characteristics through informal observation and evaluation has undoubtedly occurred in one form or another since societies first established expectations for children to learn and adapt. The development of more formal and precise assessment procedures, however, appears to be a product primarily of the past century.
Copper (1977) has traced the changing manner in which the development and behavior of children has been documented in the past 100 years, from informal baby diaries and anecdotal records to the later use of standardized tests and ethnograms. As the scope of psychological inquiry continues to evolve, the focus and nature of assessment practices will change as well. An analysis of existing practices suggests that contemporary psychological assessment procedures can be grouped into three major strategies on the basis of the underlying approach to assessment. These are the psychometric, eco-behavioral, and qualitative - developmental strategies. Although each strategy can be found in contemporary settings, they emerged sequentially in the history of psychological assessment. The psychometric strategy became established by the work of Terman on the Binet Scales early in the 20th century. The eco-behavioral strategy operationalized an understanding of the person in context, represented by the work of Barker. The qualitative - developmental approach, although drawing on contributions made by Piaget as early as the 1930s, only began to be advanced as an assessment approach in the late 1960s and early 1970s. Furthermore, domains of child behavior and communication have also emerged at different points in time, as their relevance to applied concerns was established.

1.8.1.1 Documentation of Intra-individual and Inter-individual differences:

Psychological and developmental assessment is variously concerned with both intra-individual and inter-individual differences. Assessment concerned with inter-individual differences typically focuses on the identification and measurement of factors that differentiate one child from another or from a group of children. Assessment concerned with intra-individual differences, on the other hand, seeks to identify and/or measure the variability of skills and characteristics unique to a particular child. Intra-individual differences reflect the pattern of
strengths and weaknesses of a single child relevant to prescribing and implementing intervention activities.120

1.8.1.2 A multivariate approach:

A second assessment strategy is to adopt a multivariate approach in assessing children with complex problems. This can involve analysis of subscores, profiles, and triangulation of data from several measures. A major limitation of traditional assessment with children, particularly intelligence testing, has been an excessive reliance on a single measure or measurement. Given that the characteristics of many children with developmental problems are discrepancy of skills across domains, the use of several measures is essential to maximize the validity of assessment. It is therefore important to administer two or more measures to compensate, at least in part, for the fact that only one-half of what is typically assessed by the measure has been assessed.120

1.9 Developmental Assessment Tools:

There are many tools available to assess the psychosocial development of children and most of them are comprehensive or multi-domain tools assessing Gross motor, Fine motor, Language, and Personal – Social, Self-help, and Cognitive developmental domains. The following are the important comprehensive developmental tools: Gesell developmental Schedules, Bayley Scales of Infant Development, and Denver II.

1.9.1 Comprehensive or Multi-domain developmental assessment tools:

1.9.1.1 Gesell Developmental Schedules:

The Gesell developmental Schedules were developed by Arnold Gesell and his associates in the early 1920s. The test assesses behaviour in the areas of adaptive, gross motor, fine motor, language, and personal-social development. The test is appropriate for children ages 4 weeks to
36 months. Test-retest reliability is reported to be 0.82 for 65 infants examined within two to three days of the initial date of testing. Correlations between infant and later examinations range from 0.5 to 0.85. This test is specifically useful in research. One disadvantage of the test is that the directions are quite involved and require extensive practice and use in order to ensure valid results.

1.9.1.2 Bayley Scales of Infant Development:

The Bayley Scales of Infant Development (BSID) were devised by Nancy Bayley and associates and are essentially a revision of Bayley’s earlier work. The Bayley scales are a comprehensive means of evaluating a child’s current developmental status at a particular age. The scales are composed of three parts (Mental scale, Motor scale and Behaviour scale), each of which is designed to assess a separate component of the child’s total development. The appropriate population for the BSID includes infants and toddlers between the ages of 1 and 30 months. This scale was standardized on the U.S. Population. Inter-observer reliability rates for the Mental scale and the Motor scale were 89.4 % and 93.4 % respectively. Test-retest reliability was 76.4 % for the Mental scale and 75.3 % for the Motor scale. The Bayley Motor scale contains a small number of items for each level of development and omits stages that are generally accepted in the motor developmental sequence. For example, the Bayley scales contain no items for running or kicking, and a single item incorporates all methods of the progression to walking. The Bayley scales, therefore, do not provide in-depth motor assessment nor do they delineate gross and fine motor development.

1.9.1.3 Denver II:

The Denver Developmental Screening Test (DDST), developed by Frakenberg and Dodds in 1967, has been widely used by health care providers to screen for developmental
delays. It has been adapted for use and restandardized in many countries. Both despite and because of its widespread usage, there have been many criticisms of this too, prompting a major revision and restandardization of the test. The result is Denver II.\textsuperscript{133,134} The Denver II has 125 items arranged on the test form in four sections: Personal-Social, Fine Motor-Adaptive, Language, and Gross Motor. Age scales across the top and bottom of the test form depict ages, expressed in months and years, from birth to 6 years. The inter-observer and test-retest reliability were 0.99 and 0.90 respectively.\textsuperscript{134} The authors of the Denver II stressed that care should be taken not to use the test to generate diagnostic labels. Rather, it is appropriately used as a “first step in tackling the problems of early detection, diagnosis, and treatment of developmental deviations in children.\textsuperscript{134}

1.9.2 Developmental Tools evaluating Motor Function:

The physiotherapist is concerned primarily with motor behaviour of children. A large number of assessment tools are available that examine gross and fine motor function. The Movement Assessment of Infants, the Alberta Infant Motor Scale, the Test of Infant Motor Performance, Gross Motor Function Measure, Gross Motor Performance Measure, Peabody Developmental Motor Scales, and Bruinincks-Oseretsky Test of Motor Proficiency are commonly used for clinical and research purposes.

1.9.2.1 Movement Assessment of Infants:

The Movement Assessment of Infants (MAI) test was developed by Chandler and associates in response to the need for a systematic approach to the evaluation of motor function in infants who had been treated in a neonatal intensive care unit.\textsuperscript{112} The appropriate population can be tested by using the MAI are children ages birth through 12 months. The inter-observer and test-retest reliability were 0.72 and 0.76 respectively.\textsuperscript{135} The MAI test is lengthy to
administer and requires extensive handling of the infant. Studies have reported that numerous items have questionable reliability\textsuperscript{136,137,138}; therefore, continued reliability and validity studies are needed to improve the usefulness of the MAI as a clinical tool.

1.9.2.2 Test of Infant Motor Performance:

The Test of Infant Motor Performance (TIMP) was developed by Campbell and colleagues\textsuperscript{139} to assess specifically the postural control and alignment needed for age-appropriate functional activities involving movement in early infancy. According to the authors the items are internally consistent (0.97). The correlation between post-conceptual age and TIMP performance measures was 0.83\textsuperscript{140}.

1.9.2.3 Alberta Infant Motor Scale:

The Alberta Infant Motor Scale (AIMS)\textsuperscript{141}, an observational assessment scale, was constructed by Piper and associates to measure gross motor maturation in infants from birth through independent walking. The focus of the assessment is on the evaluation of the sequential development of postural control relative to four postural positions: supine, prone, sitting, and standing. The test includes 58 items. The authors found an interrater reliability of 0.99 and a test-retest reliability of 0.99. Correlation coefficients reflecting concurrent validity with the Bayley and Peabody scales were determined to be $r = 0.98$ and $r = 0.97$, respectively\textsuperscript{142}.

1.9.2.4 Gross Motor Function Measure:

The Gross Motor Function Measure (GMFM)\textsuperscript{143,144} developed by the Gross Motor Measures Group, was designed for use by pediatric therapists as an evaluative measure for assessing change over time in gross motor function of children with cerebral palsy. The test includes 88 items that assess motor function in five dimensions: lying and rolling; sitting; crawling and kneeling; standing; and walking, running, and jumping. All items usually could be
accomplished by a 5 year old with normal motor abilities. The intra-observer reliability for the total score ranges from 0.92 to 0.99 and the inter-observer reliability ranges from 0.87 to 0.99.\textsuperscript{143} It is designed to assess function in a quantitative manner, without regard to the quality of performance; therefore, it is likely that the changes detected by the GMFM reflect only part of the “real” change in motor behaviour over time.\textsuperscript{144}

\textbf{1.9.2.5 Gross Motor Performance Measure:}

The Gross Motor Performance Measure (GMPM)\textsuperscript{145-147} was developed to evaluate the quality of movement of children with cerebral palsy. This measure was developed to be used in conjunction with the Gross Motor Function Measure (GMFM). The measure consists of 20 items derived from the GMFM, each of which is matched with three designated attributes of performance. Possible attributes to be assessed include alignment, satiability, coordination, weight shift and dissociation. The ICCs for the five attribute percent scores varied from 0.90 to 0.97 for intrarater reliability, from 0.84 to 0.94 for interrater reliability, and from 0.89 to 0.96 for test-retest reliability.\textsuperscript{146}

\textbf{1.9.2.6 Peabody Developmental Motor Scale:}

The Peabody Developmental Motor Scale (PDMS) was developed by Folio and Fewell between 1969 and 1982.\textsuperscript{148} This provides a comprehensive sequence of gross and fine motor skills from which the therapist can determine the relative developmental skill level of a child, identify skills that are not completely developed or not in the child’s repertoire, and plan an instructional program to develop those skills. Children from birth through 83 months are candidates for the test. Test-retest reliability for the total score is 0.99 and inter-observer reliability for the total score is 0.99.\textsuperscript{148} The Peabody kit does not provide all of the items
necessary for administration of the Fine Motor and Gross Motor scales, thus threatening standardization.\textsuperscript{130}

1.9.2.7 Bruininks–Oseretsky Test of Motor Proficiency:

The Bruininks-Osersky Test of Motor Proficiency (BOTMP) was developed by Dr. Robert H. Bruninks and is based partly on the American adaptation of the Oseretsky Tests of Motor Proficiency.\textsuperscript{149} It is designed to assess gross and fine motor functioning in children from 4.5 to 14.5 years of age. The complete battery includes 8 subtests comprising 46 separate items providing a comprehensive index of motor proficiency, as well as separate measures of both gross and fine motor skills. The test-retest reliability scores average 0.87 for the complete battery. Interobserver reliability is excellent, with the results of two studies showing a reliability of 0.98 and 0.90.\textsuperscript{149} One of the potential disadvantages of this test is that space required to administer this test may limit its usefulness.\textsuperscript{130}

The major motor milestones are attained by the children in the toddlerhood. Only a few tools are focusing primarily on Motor development of children aged between one and three years old (i.e., Toddlers) and also many of them are not suitable for toddlers being reared in Indian cultural context. Hence, as a part of this study a new developmental tool for assessing the Gross and Fine motor skills of toddlers is developed after considering the developmental theories, principles of contemporary test construction (i.e., a collaborative multicentre and multidisciplinary approach, use of standard methodological steps in instrument development, and use of consensual methods with therapists and experts in the field), and other already available tools like Denver II, Developmental Assessment Scale for Indian Infants (DASII), Alberta Infant Motor Scale, Bayley Scales of Infant Motor Development, and Peabody Developmental Motor Scale.