# INTRODUCTION

# 2.0. Stages of Growth and Development

## 2.1. Infancy (0–1 year)

The growth path during infancy becomes incredibly fast because infants experience substantial increases in weight and height (Morioka et al., 2025). Orenstein and Lewis (2022) explained that by five months old, infants achieve their birth weight double and reach triple their birth weight before their first birthday arrives. Children become capable of controlled physical activities while developing their motor skills during their first year of growth (Campbell, 2021). The development of motor skills receives its essential formation during this stage because early motor experiences and appropriate nutrition strongly impact future physical activity and health outcomes(Morioka et al., 2025).

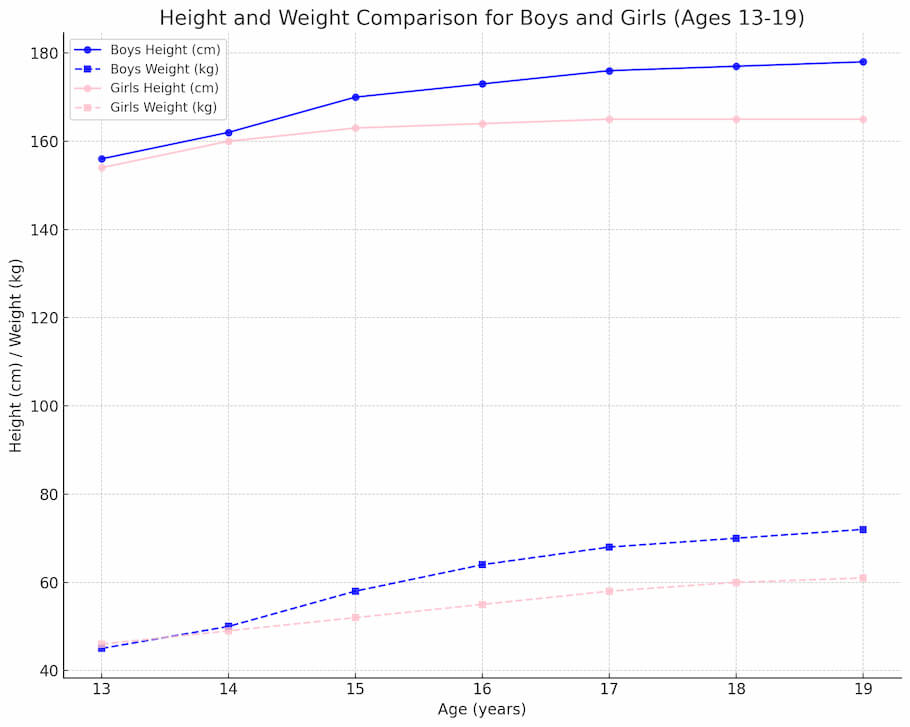


Figure 2.1: Height-to-Weight Ratio Chart for Infants to Teens

According to Ulijaszek et al. (2025), infants' neurological systems develop rapidly to generate cognitive abilities that begin with sensory processing and end with symbolic thought capabilities. For Burri (2024), sensorimotor development spans when infants learn from environmental contact until they reach object permanence status. Children primarily understand their environment through direct exploration, leading them to generate advanced mental representations.



Figure 2.2: Visual timeline showing key motor development milestones such as rolling over, sitting up, crawling, and walking.

The initial twelve months of life are essential for emotional growth since they create fundamental relationships that shape future social bonds (Burri, 2024). Developing secure attachments through sensitive caregiving produces better emotional control and enhanced social abilities (Mumford, 2021). Basic emotional processes and social interaction abilities emerge when infants produce smiling behaviours because of their encounters with parents, demonstrating how social development depends on emotional growth (Campbell, 2021).

## 2.2. Childhood (2–12 years)

Childhood involves continuous height and weight growth while children learn essential gross and fine motor abilities (Oesterdiekhoff, 2021). Students can improve their physical confidence and coordination through playing activities, drawing, and school-based physical education. These activities help develop essential skills. Active physical activity is more likely during this stage because the refinement of motor skills leads to better physical development (Eze et al., 2021).

Furthermore, cognitive abilities develop substantially as children advance from concrete operational stages to solve complex problems (Ulijaszek et al., 2025). School education is important during this stage because it moulds students' thinking abilities, reasoning capabilities, and knowledge retention (Ulijaszek et al., 2025). The ability to handle information, learn abstract ideas, and boost memory performance and attention capacity develops in children (Orenstein & Lewis, 2022).

As per Mumford's (2021) research, social skills progress toward advanced levels when children establish friends and develop peer connections. Children advance in emotional maturity through their improved ability to understand, express, and control emotions (Bogin, 2020). Children develop social-emotional capacity through their school environment because they learn conflict resolution skills and social interaction techniques with different people (Morioka et al., 2025).

## 2.3. Adolescence (12–18 years)

Hormonal changes during puberty transform adolescents into entirely new beings with their physical attributes (Loid et al., 2024). Huang (2024) posited that adolescents experience fast physical growth and the emergence of secondary sex characteristics while their bodies rapidly gain height and weight. Motor skills attain full development through notable improvements in strength, agility, and coordination, frequently leading teenagers to participate in sports and other physical events (Cameron, 2024).

Adolescents develop higher-level reasoning skills, including abstract thinking and hypothetical and deductive reasoning (Cameron, 2024). During adolescence, young individuals examine moral questions, philosophical matters, political issues, and social problems, and their emotional connection to others becomes more profound (Eze et al., 2021). Additionally, the study of Orenstein and Lewis (2022) further concluded that developing advanced cognitive capacity enables adolescents to understand complex ideas better and use their acquired knowledge in real-world applications.

During adolescence, individuals go through the vital development of their identity while simultaneously seeking independence (Beckett & Taylor, 2024). During this developmental phase, the most significant relationships stem from peer associations. The emotional development of adolescents includes heightened emotional awareness and more profound emotional experiences alongside hormonal fluctuations that may produce more conflicts and unstable moods (Pérez-Cano et al., 2024).

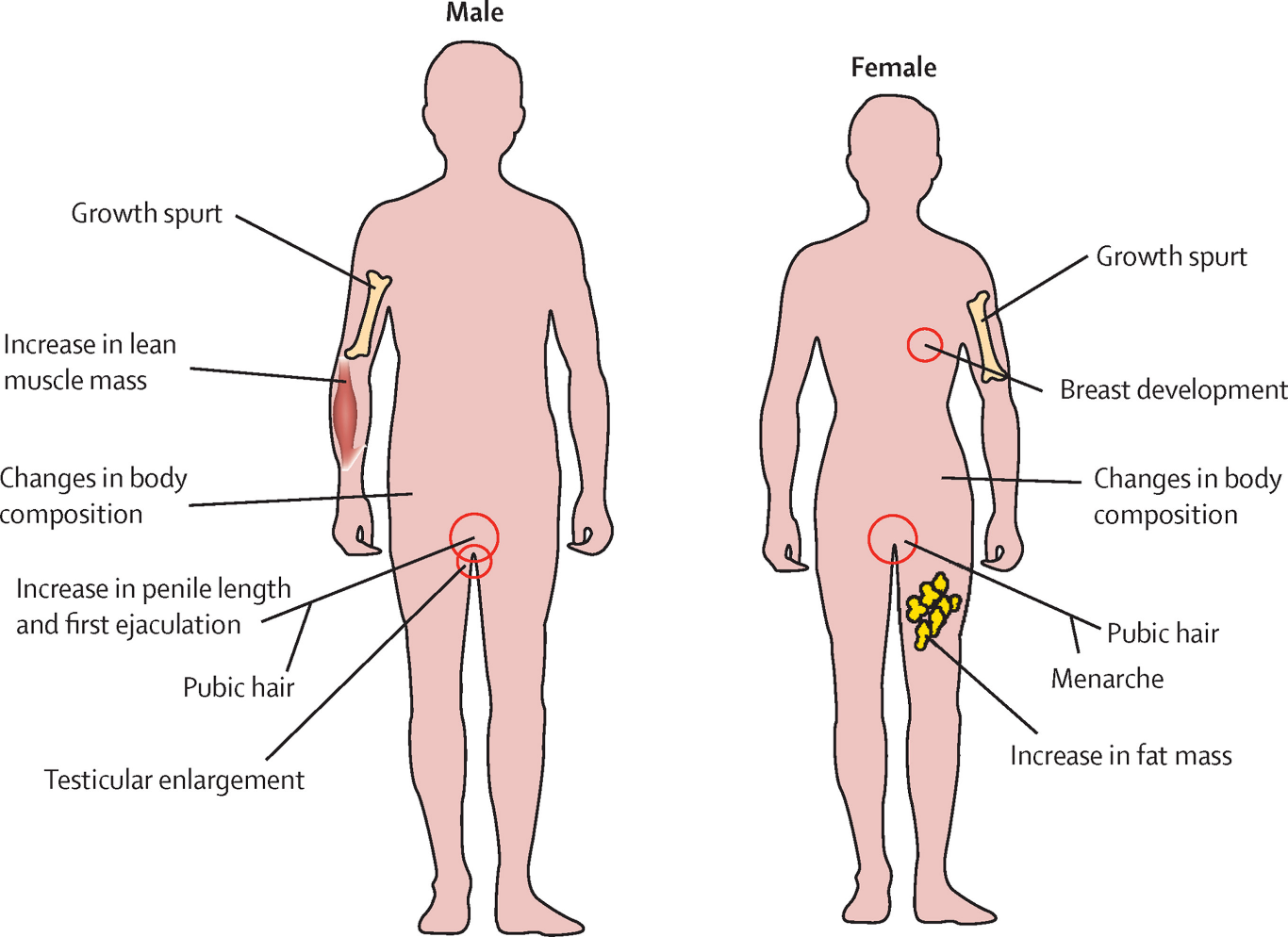


Figure 2.3: Major pubertal changes, including secondary sexual characteristics and their typical age of onset

## 2.4. Early to Late Adulthood (20+ years)

During early adulthood, people typically reach maximum physical wellness while experiencing their strongest muscles. According to Loid et al. (2024), physical capabilities show signs of deterioration throughout the aging process, starting from middle age to late adulthood, because muscle decreases, bones weaken, and strength levels drop. The changes emphasize how regular physical activity helps fight against growing older-related physical deterioration (Ren et al., 2025). Adult mental growth includes growing mastery with more profound understanding, but processing speed decreases after middle age (Trigueros et al., 2025). Adults maintain learning abilities as they use their experience along with gained knowledge to tackle problems while making decisions. Learning throughout life is essential for maintaining and developing cognitive functions throughout adulthood (Morioka et al., 2025).

Bogin (2020) explained that adults' emotional experiences become more defined as emotional regulation improves and individuals place more emphasis on significant relationships. Adults undergo substantial social role transformations, from family formation to career development, and eventually retire (Pérez-Cano et al., 2024). The different life stages introduce social identity transformations and emotional welfare modifications.

## 2.5. Developmental Norms and Milestones

The developmental stages include meaningful growth indicators that affect future development. Knowledge of these developmental markers enables professionals to detect regular developmental advancement and identify cases where intervention becomes necessary (Loid et al., 2024). Physical, intellectual, and emotional/social development continuously influence one another throughout life (Huang, 2024). Each stage of development depends on the accomplishments of those that preceded it, so initial physical and cognitive abilities evolve into more complicated social connection abilities (Burri, 2024). Examining such linked developmental pathways reveals the complete nature of human growth.

# 3.0. Effects of Life Factors and Events on Growth and Development

## 3.1. Life Factors and Events

Human development depends significantly on mutual interactions among genetic inheritance, genetics, and socioeconomic status (SES), together with major life events. All biological traits, including appearance attributes and disease risk factors, together with cognitive abilities, exist through DNA-encoded genetic inheritance. Procopio et al. (2025) argue that genetic inheritance establishes maximum developmental limits that environmental elements ultimately determine through their interactions. Socioeconomic status operates as a fundamental resource pathway that affects developmental outcomes through its elements of income, education, and occupation (Bradley & Corwyn, 2021). The life path of individuals becomes disrupted through major life events, including traumatic occurrences and critical transitions such as parental divorce and severe illnesses, according to Masten (2023).

## 3.2. Impact of These Factors on Development

### 3.2.1. Genetic Influences:

Development begins with genetic influences, which determine the natural boundaries for physical and psychological traits that can be expressed by individuals. According to Silventoinen et al. (2020), certain diseases with genetic predispositions affect both the physical development and early-life health of people. Intellectual capacities receive genetic influence together with Down syndrome, which stems from chromosomal anomalies leading to distinct educational requirements (Hagerman et al., 2021). Genetic background determines how people behave emotionally by affecting mental impulses that could limit emotional control abilities (Caldani et al., 2020). The genetic basis leads to autism spectrum disorder, among other disorders, which create social interaction challenges for individuals (Chen & Geschwind, 2022).

### 3.2.2. Socioeconomic Status:

Socioeconomic status influences developmental outcomes through access to nutrition, healthcare, educational opportunities, and stable living conditions. Children from lower socioeconomic backgrounds develop more developmental delays along with chronic health issues because they cannot access proper nutritious food or healthcare services (Duncan et al., 2021). The mismatch of educational resources between wealthy and disadvantaged families produces major gaps between the academic achievements and mental development of children (Levine et al., 2020). Persistent stress from poverty leads to the development of long-lasting psychological conditions that produce depression and anxiety (Evans & Kim, 2021). Social differences caused by SES create problems regarding interaction quality between people which reduces both physical movement possibilities and social networking potential (Lareau et al., 2023).

### 3.2.3. Major Life Events:

Life events of significant magnitude serve simultaneously as development enhancers and obstacles against typical developmental progression. Physical experiences, including long-term diseases or wounds, frequently modify bodily processes as well as the natural patterns of physical development (Hamai & Felitti, 2021). The intellectual development of children is affected by migration, together with family disturbances that disrupt educational progression and cognitive growth (Betancourt et al., 2024). The death of someone close to them, along with parental breakdown, creates intense emotional suffering that shapes how a child matures emotionally (Amato et al., 2021). The social development of children receives a positive or negative impact through their participation in community events or exposure to social isolation situations (Werner et al., 2021).

# 4.0. Physical and Psychological Changes of Ageing

## 4.1. Physical Changes of Ageing: Musculoskeletal and Respiratory Systems

Old age triggers substantial alterations throughout the musculoskeletal system as well as the respiratory system while affecting both structure and functionality (Beckett & Taylor, 2024). Amato et al. (2021) explained that sarcopenia affects the musculoskeletal system of elderly patients by causing muscle mass reduction as well as strength and bone density decline, which results in poor mobility while raising fracture danger. Postmenopausal women most commonly develop bone density decline because of osteoporosis, causing them to become more susceptible to fractures from simple falls (Seydakova, 2024). Osteoarthritis develops due to joint cartilage degeneration, thus causing movement restrictions and pain that impact daily routines and decrease life quality (Werner et al., 2021).

The aging process causes noticeable deterioration within the respiratory system. The aging respiratory function experiences three main changes, which lead to decreased lung compliance while reducing vital capacity and diffusion capacity to lower oxygen exchange efficiency (Braun & Hill, 2025b). The combined effects of structural changes in a thoracic cage and lung parenchyma worsen functional decline that reduces breathing efficiency because respiratory muscles weaken (Cai et al., 2025). In the study of Seydakova (2024), older individuals face challenges with their respiratory tract functioning in responding to hypoxia and hypercapnia, which impacts the management of COPD among smokers.

## 4.2. Psychological Changes

When people grow older, their cognitive ability shows specific patterns of reduction, including processing speed, which slows down and diminishes executive capabilities for multitasking and problem-solving (Gunes et al., 2025). Crystallized intelligence demonstrates stable or improved performance over time as people accumulate knowledge and experience, thereby helping them maintain other cognitive functions (Caldani et al., 2020). The impact of cognitive function on self-esteem demonstrates intricate patterns even while cognitive aging takes place. self-esteem does not suffer directly from cognitive decline, yet it responds to changes in social roles and social functioning (Evans & Kim, 2021). This means that Cognitive deterioration fails to reduce self-esteem in elderly adults because positive social experiences and appreciation for family dynamics show strong correlations to increased self-esteem.

## 4.3. Impact of Physical Changes on Self-Esteem and Lifestyle Choices

Self-esteem decreases in older individuals because of physical and cognitive aging changes, which result in deteriorated abilities that may produce diminished self-perception along with a weakened quality of life (Hagerman et al., 2024). The negative impact of ageing on self-esteem can be offset by the proper selection of lifestyle behaviours. Per Procopio et al. (2025) research, the combination of exercise activities along with social interaction patterns both enhance physical self-awareness and raise overall self-perception. Serious mental activity involving reading as well as puzzles helps protect cognitive abilities and self-esteem while proving the essential relationship between health and mental wellness in older people (Williams, 2025).