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A Reassessment of Maslow's Theory in light of Neuropsychology: Digital Behavioural Guidance Mechanisms and Their Implications for the Child's Developmental Structure

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***Abstract*—**This study aims to analyse the extent to which Maslow's hierarchy of needs explains the needs of children aged 2 to 4 years in light of the growing prevalence of digital technologies, particularly smartphones, tablets, social networks, and visual content. It also highlights how early digital exposure affects the satisfaction of biological, psychological, and social needs, focusing on sleep, nutrition, attention, and emotional regulation. The study addresses digital need gratification as a means that provides children with immediate gratification of certain drives, such as pleasure, curiosity, and soothing, without ensuring integrated psychological, neural, and social development. It also draws on neuropsychology to understand how the digital environment influences the reward system, attention, and executive functions. The study concludes that Maslow's traditional hierarchical conception needs to be reconsidered and that an integrative approach should be adopted, one that takes into account the specificity of early childhood and the interaction between human needs, neural development, and modern technologies.

***Keywords*—**Maslow's hierarchy, digital need gratification, early childhood, physiological needs, modern communication technologies, neuropsychology, emotional regulation

Introduction

Early childhood, spanning the ages of 2 to 4 years, is a fundamental stage of physical, mental, emotional, and social development, during which perceptual, linguistic, and motor abilities develop and the earliest foundations of emotional and behavioural regulation are formed. Abraham Maslow (1943) proposed the hierarchy of human needs, which classifies needs into physiological, safety, belonging, and esteem needs, culminating in self-actualisation. However, contemporary technological developments, along with the early proliferation of smartphones, tablets, and digital content, raise questions about this theory's capacity to explain children's needs and behaviours in the digital environment. Digital media have become a means of entertainment, soothing, and distraction, and at times a substitute for certain family practices associated with feeding, sleep, and social interaction. This raises the question of digital need gratification and how it differs from the natural satisfaction necessary for balanced development.

Neuropsychology is particularly important in explaining this phenomenon by examining the effects of digital stimuli on the reward system, attention, emotional regulation, and executive functions, especially given that the brain at this stage is still growing and developing.

Research Problem

To what extent can Maslow's theory account for the needs of children aged 2 to 4 years in the context of early exposure to digital technologies, and for the effect of digital gratification on biological, psychological, and social

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needs in light of the neural mechanisms that guide behaviour?

Sub-Questions

1. What are the theoretical foundations of Maslow's hierarchy, and what are the principal criticisms levelled against it?
2. What is meant by digital need gratification, and how does it relate to the levels of the hierarchy?
3. How does digital exposure affect physiological needs, particularly sleep, nutrition, and appetite?
4. What are the implications of disrupted physiological needs for the child's psychological and social needs?
5. What role do the neural reward system, attention, and emotional regulation play in guiding the child's behaviour during screen exposure?

Objectives of the Study

- To analyse the theoretical foundations of Maslow's hierarchy and discuss the limits of its application to early childhood.
- To present the concept of digital need gratification and define its psychological and behavioural dimensions.
- To clarify the effect of screens on biological needs, particularly sleep, nutrition, and motor activity.
- To analyse the relationship between disrupted physiological needs and the remaining levels of the hierarchy.
- To highlight the role of neural mechanisms in explaining the attraction to digital stimuli.
- To propose an integrative framework for understanding children's needs in the contemporary digital environment.

Method

The study uses a descriptive-analytical method, reviewing the theoretical literature and scientific studies on Maslow's hierarchy, children's psychological and neural development, and early screen exposure, and analysing how these variables interact. It is a theoretical study that does not claim to establish empirical causal relationships; rather, it offers an explanatory framework that may be tested in subsequent studies.

Research Instrument

The study used a thematic content analysis card for scientific literature and reference documents to collect, classify, and analyse the scientific material. This instrument consists of a set of predefined axes against which studies, books, and scientific reports are read to extract ideas, findings, and concepts relevant to the research problem.

The analysis card was organised according to the axes presented in Table 1.

Table 1

Axes and Elements of the Thematic Content Analysis Card

Axis	Elements of analysis
Maslow's hierarchy	Levels of needs, their ordering, criticisms of the theory
Digital gratification	Pleasure, attention, curiosity, soothing, reward
Physiological needs	Sleep, nutrition, appetite, movement
Psychological and social needs	Safety, belonging, esteem, autonomy
Neural mechanisms	Reward system, dopamine, attention, executive functions, emotional regulation
Educational implications	Regulation of screen time, parental involvement, play, daily routine

The scientific material was analysed by identifying key concepts, classifying findings according to the study's axes, comparing conclusions in the literature, and deriving aspects of interaction among human needs, the digital environment, and neural mechanisms.

Steps in Analysing the Scientific Material

The scientific material was processed according to the following steps:

1. Collecting the literature on Maslow's theory and critiques of the hierarchical ordering of needs.

2. Classifying the literature related to digital exposure in early childhood.
3. Extracting data related to sleep, nutrition, and motor activity.
4. Analysing studies related to attention, the reward system, and emotional regulation.
5. Comparing the hierarchical explanation of needs with the neurodevelopmental explanation.
6. Constructing an integrative framework that clarifies the role of the digital environment in influencing the various levels of needs.

Theoretical Framework of Maslow's Hierarchy and a Critique of the Hierarchical Ordering of Needs

The Concept of Maslow's Hierarchy and Its Theoretical Basis

Abraham Maslow is regarded as one of the most prominent pioneers of the humanistic school of psychology. In 1943, he proposed his theory of human motivation, based on the premise that human behaviour is influenced by a set of needs the individual seeks to satisfy. He classified these needs into graded levels, beginning with the basic needs related to survival and ending with the needs related to growth and the realisation of individual potential (Maslow, 1943).

The five levels of the model are as follows:

1. Physiological needs: These include food, water, sleep, rest, breathing, and motor activity, and they constitute the basic needs essential for the continuation of life and growth.
2. Safety and stability needs: These relate to protection from danger, a sense of physical and psychological stability, and the presence of a safe and orderly family environment.
3. Love and belonging needs: These include emotional attachment to the parents, social interaction, and a sense of acceptance and belonging to the family and social milieu.
4. Esteem needs: These consist of a sense of competence, capability, and autonomy, and of receiving encouragement and appreciation from those in the child's surroundings.
5. Self-actualisation needs: These relate to the development of individual potential, creativity, exploration, and the expression of personal abilities.

When applying this model to children aged 2 to 4 years, keep in mind that these levels do not necessarily appear in the abstract form found among adults; rather, they are embodied in simple developmental behaviours. Self-actualisation, for instance, may manifest itself in the child's curiosity, exploration of objects, and attempts to accomplish tasks independently. In contrast, self-esteem appears in the child's sense of being able to eat, dress, or play with relative autonomy.

Scientific Critique of the Hierarchical Ordering of Needs

Despite the importance of Maslow's theory in explaining motivation and human behaviour, it has faced several criticisms, particularly regarding the fixed hierarchy of needs, since satisfaction does not always follow a single sequence for all individuals. An individual may seek to fulfil belonging or esteem needs even if not all physiological and safety needs have been fully satisfied. Moreover, priorities are influenced by psychological state, social and cultural circumstances, and stage of life, which calls for the hierarchy to be treated as a flexible explanatory framework rather than a fixed universal law (Baghoul & Atoui, 2017, pp. 9–27; Chaachoua, 2016, pp. 537–538, 549–550).

The theory has also been criticised for the stability of the ordering of needs and the requirement that a lower level be satisfied before progressing to a higher one. Wahba and Bridwell (1976) reviewed several empirical studies that tested the need hierarchy theory and concluded that the available evidence offers only partial support for the notion of a hierarchy; it does not sufficiently demonstrate that needs always follow a fixed order or that the satisfaction of lower needs inevitably leads to the activation of higher ones. Among the most important recent criticisms is the neglect of the contemporary technological environment: the original model did not address how digital media shape motives, guide behaviour, and change how needs are satisfied, given that it emerged before the spread of digital technology.

To develop the hierarchical conception, Kenrick et al. (2010) proposed reconsidering Maslow's structure from a contemporary evolutionary and psychological perspective, emphasising the importance of the relationship between fundamental motives and the environmental conditions and situations that activate them. Thus, criticism of Maslow's hierarchy does not deny the importance of the needs he identified; rather, it highlights the limitations of treating them as closed, sequential levels, particularly when analysing children's

behaviour in a changing digital environment.

Digital Need Gratification and Its Relationship With Maslow's Hierarchy

The Concept of Digital Need Gratification

The widespread proliferation of digital technologies has created new patterns of interaction between children and their environment, as electronic screens have become a means of obtaining entertainment and information and interacting with images, sounds, and digital content. This use may be seen as a form of digital gratification of certain needs, such as amusement, exploration, attention, and interaction; however, this virtual gratification does not necessarily compensate for the real-world experiences children need for psychological, social, and motor development. This article uses digital need gratification as an analytical concept proposed by the authors, not as a concept originally found in Maslow's theory (Chellabi, 2025, pp. 70–76).

Within the framework of this study, digital need gratification may be defined as the process whereby an individual turns to digital media, applications, and devices to obtain direct or indirect gratification of certain psychological, cognitive, social, or behavioural needs through the visual, auditory, and interactive stimuli provided by the digital environment.

This concept is advanced here as a proposed analytical concept, not as an established, independent psychological theory or a new level of Maslow's hierarchy. Its significance for children aged 2 to 4 years lies in the fact that digital devices may become a means of satisfying a range of drives, such as the desire for pleasure, curiosity, attention, soothing, and communication. A child may feel temporary satisfaction when watching cartoons or receiving a reward within an electronic game. In contrast, this experience does not necessarily compensate for the child's need for emotional connection, motor play, or regular sleep.

Immediate digital gratification involves the child gaining pleasure, attention, and soothing through digital stimuli. In contrast, integrated developmental gratification refers to meeting the child's physical, psychological, and social needs through nutrition, sleep, play, and family interaction. Although technology is useful for learning and entertainment, its excessive use or its substitution for real-world experiences may adversely affect the child's balanced development.

Manifestations of Digital Gratification in Children

The most prominent manifestations of digital gratification in children include sensory stimulation and attention capture, pleasure and entertainment, rewards, soothing during emotional arousal, and social communication via digital media. However, the speed and repetitiveness of this gratification may limit children's opportunities to learn patience and waiting, regulate their emotions, engage in direct interaction, and practise real-world activities that require effort and persistence.

The Relationship Between Digital Gratification and the Levels of Maslow's Hierarchy

Children's needs cannot be seen as separate levels, since human development is founded on the reciprocal interaction between physical, psychological, and social dimensions. An imbalance in the satisfaction of basic needs may affect the child's ability to interact with their surroundings and to benefit from opportunities for learning, play, and communication. Consequently, the regulated use of technology should not displace real-world activities that contribute to the child's sense of safety, belonging, social interaction, and gradual autonomy (Chaachoua, 2016, pp. 537–543; Chellabi, 2025, pp. 75–80).

Maslow's levels may be read in light of the concept of digital gratification as shown in Table 2.

Table 2

Maslow's Levels of Need in Light of Digital Gratification

Table 2 shows that technology may partially satisfy certain needs but does not guarantee their satisfaction in an integrated way. Visual content may arouse a child's curiosity, yet it does not compensate for the sensory experiences gained through real-world play; likewise, a game reward is not necessarily equivalent to the sense of competence that comes from accomplishing a genuine task.

Level of need	Form of digital gratification	Required developmental gratification
Physiological	Occupying the child during meals or before sleep	Mindful eating, regular sleep, and movement
Safety	Soothing with familiar content	Emotional containment, protection, and stability

Table 2 shows that technology may partially satisfy certain needs but does not guarantee their satisfaction in an integrated way. Visual content may arouse a child's curiosity, yet it does not compensate for the sensory experiences gained through real-world play; likewise, a game reward is not necessarily equivalent to the sense of competence that comes from accomplishing a genuine task. *(continued)*

Level of need	Form of digital gratification	Required developmental gratification
Love and belonging	Video calls and shared content	Emotional connection and direct play
Esteem	Digital rewards and points	Encouragement, autonomy, and real-world achievement
Self-actualisation	Creative and educational applications	Exploration, free play, and creativity

Digital gratification thus influences how needs are satisfied, rather than serving as an independent substitute for human needs themselves.

The Effect of Exposure to Modern Communication Technologies on Physiological Needs as the Base of Maslow's Hierarchy

Neuropsychology helps explain the relationship between brain function, behaviour, and cognitive and emotional processes, and it also allows examination of how environmental and technological experiences interact with nervous system activity. In this context, children's screen exposure may be approached as a recurrent environmental experience associated with patterns of attention, responsiveness, learning, and interaction, while avoiding categorical assertions of a specific neural effect without recourse to direct experimental studies (Mektout, 2022, pp. 393–395).

From this standpoint, the effect of technology on psychological and social needs should not be analysed in isolation from its effect on biological needs, since disturbances in sleep, nutrition, or motor activity may be reflected in emotional state, attention, social interaction, and learning.

Screen Exposure and Sleep Disturbance

Screen use, particularly before bedtime, may delay sleep onset and disrupt its regularity because of visual and auditory stimulation and the effects of light on biological rhythms. Insufficient sleep affects the child's development, concentration, emotional regulation, and social interaction. The World Health Organization (WHO, 2019) recommends that children aged 3 to 4 years sleep for 10 to 13 hours a day, including naps where necessary.

Eating in Front of Screens

Preoccupation with digital content during meals may weaken the child's attention to food and to hunger and satiety cues, and it may also affect the quantity of food consumed and patterns of dietary intake. A review by Tabares-Tabares et al. (2022) pointed to the influence of screens on eating behaviour, while noting the need for further studies on mobile devices.

Loss of Appetite and Weakened Responsiveness to Hunger and Satiety

Repeated reliance on screens during meals may lead to an association between eating and digital content, such that the child refuses to eat without watching the phone or television, or stops eating when it is switched off. This may undermine the child's autonomy in eating and in regulating mealtimes; however, it does not mean that screens inevitably cause loss of appetite, since multiple health-related, behavioural, and familial factors are involved.

Motor Activity and Screen-Related Inactivity

Children aged 2 to 4 years need movement, play, and sensory exploration to promote their physical, motor, and perceptual development. WHO (2019) recommends 180 minutes of physical activity per day for children aged 3 to 4 years, with at least 60 minutes at moderate-to-vigorous intensity. Excessive screen use may reduce opportunities for movement and real-world play, thereby affecting the development of motor skills, autonomy, and social interaction.

The Effect of Disrupted Physiological Needs on the Other Levels of Maslow's Hierarchy

Imbalances in physiological needs, such as sleep, nutrition, and motor activity, affect the child's other needs, as set out below:

- Safety and stability: Sleep disturbance may lead to increased irritability, crying, and difficulty adapting.

- Emotional regulation: Hunger, fatigue, and irregular nutrition may affect energy levels and the capacity to control emotions.
- Social belonging: Screen-related inactivity may reduce opportunities for group play and for learning to share and communicate.
- Esteem and autonomy: Continuous reliance on screens may limit opportunities to practise skills and to achieve simple accomplishments.
- Self-actualisation: Excessive screen use may reduce opportunities for exploration, experimentation, creativity, and the discovery of one's abilities.

Hence, satisfying physiological needs forms an important foundation for the child's balanced psychological, social, and cognitive development, and this relationship may be summarised in the explanatory chain presented in Figure 1.

Figure 1

Transmission of the Effects of Disrupted Physiological Needs to the Other Levels of Maslow's Hierarchy

Unregulated digital exposure
Screens during meals and before sleep, and physical inactivity
Imbalance in physiological needs
Sleep disturbance – irregular nutrition – reduced motor activity
Potential psychological and behavioural repercussions
Fatigue – irritability – distractibility – difficulty with emotional regulation
Effects on the higher levels
Safety – belonging – esteem – exploration and self-actualisation

Note. A hypothetical explanatory model illustrating potential pathways of influence, rather than a deterministic causal relationship between all stages.

Consequently, physiological needs form a functional foundation for psychological and social development, and any persistent imbalance may affect the child's capacity to satisfy the other levels. This underscores the need to analyse Maslow's hierarchy integratively rather than treating its levels as separate units.

Neural Mechanisms Guiding Behaviour in Early Childhood

Neural and Developmental Characteristics of Children Aged 2 to 4 Years

Early childhood is characterised by high neural plasticity, during which the brain continuously develops the neural networks responsible for perception, attention, language, memory, and emotional regulation. Environmental experiences and social interactions play a fundamental role in shaping these networks by forming, strengthening, and reorganising neural connections. Neuroplasticity is an important concept for understanding brain development, as it refers to the nervous system's capacity to change and adapt in response to experiences and environmental interactions. This property is particularly significant in early childhood, when a range of cognitive, social, and emotional functions form and develop through interaction with the environment. From this perspective, it is important to diversify the child's experiences across motor play, social interaction, real-world exploration, and age-appropriate digital activities to provide balanced opportunities for development (Mektout, 2022, p. 417).

This stage matters because the child is still developing executive functions, a set of cognitive processes that help the individual direct behaviour, control responses, regulate attention, and adapt to different situations (Diamond, 2013).

The most prominent of these functions are the following:

- Inhibitory control: the child's ability to resist responding immediately to stimuli and to defer certain desires.
- Working memory: holding information for a short period and using it while performing an activity.
- Cognitive flexibility: shifting from one activity to another and adapting to changes in the environment.
- Emotional regulation: gradually coping with anger, frustration, fear, and other emotions.

These capacities develop through neural maturation, daily experiences, and interactions with family and the social environment. Consequently, children at this stage depend more on their parents to regulate their emotions and behaviour than older children do (Diamond, 2013).

The Role of the Neural Reward System in Guiding Digital Behaviour

The reward system is a key neural system for explaining behaviour driven by desire, anticipation, and motivation. This system involves several neural structures, most notably the ventral tegmental area, the nucleus accumbens, and circuits connected to the prefrontal cortex.

Neurotransmitters, particularly dopamine, play a role in reward-related learning, anticipating outcomes, and orienting behaviour toward stimuli of motivational value.

In the digital environment, colours, movement, sounds, and continually changing scenes may capture a child's interest, and repeated rewards in games may reinforce the desire to keep interacting with the device.

Neural Mechanisms Associated With Attention and Concentration

Attention is a basic cognitive function that develops during the early years of life, as the child gradually progresses from brief, fluctuating attention to the ability to concentrate for longer periods on age-appropriate activities. Certain features of digital content, such as rapid scene transitions and multiple visual and auditory effects, may repeatedly capture attention; however, capturing attention does not necessarily mean developing sustained concentration.

In this context, Hutton et al. (2020) studied 47 preschool children aged 3 to 5 years. They found an association between higher digital media exposure scores and lower indicators of microstructural organisation in brain white matter pathways associated with language, executive functions, and emergent literacy skills. This study is important for understanding the relationship between digital exposure and neural development; however, its correlational design and small sample size do not show that screens directly caused the brain changes, and it calls for broader longitudinal studies.

Emotional Regulation and Its Relationship With Screen Exposure

Emotional regulation refers to the individual's ability to recognise their emotions, manage them, and control the behavioural responses associated with them. Children acquire this ability gradually through interaction with parents and caregivers: When a child feels anger, fear, or frustration, they need an adult who helps them to understand, name, and cope with the emotion. This process is known as emotional co-regulation.

However, some families resort to giving the child a phone or tablet whenever the child cries, becomes angry, or refuses to engage in a particular activity. Although this may provide momentary soothing, repeated reliance on the screen as a primary soothing strategy may reduce the child's opportunities to learn alternative strategies for regulating their emotions.

In a longitudinal study of children aged 3.5 to 5.5 years, Fitzpatrick et al. (2024) found that higher tablet use at 3.5 years was associated with more expressions of anger and frustration 1 year later, and that increased anger and frustration were, in turn, associated with greater subsequent tablet use. These findings support the possibility of a reciprocal relationship between digital use and difficulties in emotional regulation, without permitting causality to be generalised to all children. The findings of Radesky et al. (2023) likewise point to the importance of examining the repeated use of digital devices as a means of calming children and its relationship with emotional reactivity and executive functions.

Hence, it may be argued that the problem concerns not only the duration of screen use but also the function that the screen serves in the child's life: Is it an aid to learning and interaction, or has it become a permanent substitute for emotional containment and parental guidance?

The Interconnection Between Maslow's Hierarchy, Digital Gratification, and Neural Mechanisms

Linking Maslow's hierarchy, early exposure to technology, and neural mechanisms allows us to move beyond traditional explanations of behaviour by viewing the child's needs as an interactive system shaped by biological, psychological, social, and digital factors. If Maslow started from the premise that human beings seek to satisfy their needs according to graded levels, the digital environment introduces new patterns of satisfying these needs. It changes how the child seeks to fulfil them.

The Interaction Between the Neurobiological Dimension and Digital Gratification

Daily experiences influence brain growth and the development of neural networks, especially those associated with attention, learning, and emotion. Thus, the nature of the stimuli to which the child is exposed, whether digital or real-world, shapes their developmental experiences. Motor play, sensory exploration, and social interaction provide diverse patterns of neural stimulation, whereas excessive reliance on passive digital content may reduce the diversity of these experiences.

The study by Hutton et al. (2020) revealed an association between high digital media use and certain indicators of brain white matter, as well as linguistic and cognitive abilities, which reinforces the importance of examining the digital environment within the context of the child's neural development, without regarding it as a direct or sole cause of these differences.

The Interaction Between the Psychological and Motivational Dimensions

The digital environment may provide the child with rapid gratification of certain desires, such as pleasure, curiosity, and amusement; however, this gratification does not necessarily compensate for emotional and social needs. Watching an enjoyable video clip is not equivalent to the sense of security derived from a parent's embrace, nor is winning an electronic game necessarily equivalent to the sense of accomplishment that comes from learning a motor skill or solving a real-world problem. Here lies one shortcoming of applying Maslow's hierarchy rigidly: satisfying a need through a digital means does not necessarily mean it is satisfied psychologically in an integrated way.

The Interaction Between the Social and Technological Dimensions

At this stage, children learn through imitation, observation, participation, and direct interaction. Parents' constant preoccupation with their phones may therefore affect the quality of interaction between them and their child, even when the child is not using the device.

In a study of preschool children, Gath et al. (2023) found an association between increased screen time and lower indicators of language and parent–child closeness, noting that the decline in shared reading and direct interaction may account for part of this relationship.

This aspect is particularly important because the needs for love, belonging, and security are not fulfilled merely by the presence of people near the child but by the quality of the relationship, communication, and responsiveness to the child's needs.

Towards an Integrative Alternative to the Hierarchical Ordering

Based on the foregoing analysis, an integrative framework may be proposed that departs from the strict linear ordering of Maslow's needs and regards the needs of children aged 2 to 4 years as an interconnected system whose components interact simultaneously, as shown in Figure 2.

Figure 2

Proposed Integrative Framework of the Needs of Children Aged 2 to 4 Years

Biological and physiological needs
Food – sleep – rest – movement
Psychological and emotional needs
Safety – emotional containment – stability – emotional regulation
Social and cognitive needs
Belonging – communication – language – exploration – autonomy
The digital environment as a factor influencing all domains
Content – duration – timing – family involvement – digital gratification
Developmental and behavioural outcomes
Language – adaptation – attention – behavioural control – social skills and creativity

*Note.*The authors developed this proposed theoretical framework by integrating needs, neural mechanisms, and the digital environment.

Educational and Psychological Implications of Early Digital Exposure and Means of Prevention

Understanding the relationship between the child's needs, neural mechanisms, and modern technologies requires moving beyond warnings about screen use to establish educational practices that account for the specificity of development at this stage.

Regulating the Duration of Screen Exposure

WHO (2019) recommends that sedentary screen time should not exceed 1 hour per day for children aged 2 years, as well as for children aged 3 and 4 years, with less being better. This should be paired with set screen times, avoiding screens before sleep, and setting aside daily time for play and physical activity.

Maintaining Regular Sleep

A consistent routine for sleeping and waking should be established, and reliance on the phone or tablet as a means of making the child go to sleep should be avoided, while ensuring a calm environment that helps the child to relax.

Separating Mealtimes From Screens

Encourage the child to eat without watching the phone or television so they can focus on the food, its taste, and hunger and satiety cues. The screen should also not be used as a condition for finishing a meal.

Promoting Direct Family Interaction

Prioritize conversation, shared reading, cuddling, and interactive play, as these are essential experiences for developing language, emotional attachment, and a sense of security.

Using Technology Collaboratively

Parents should prefer to share in viewing digital content with the child by explaining, asking questions, and relating what the child watches to real life, rather than leaving the child to use devices alone.

Not Relying on the Screen as a Permanent Means of Soothing

Help the child express anger, sadness, and frustration, and gradually train them to cope with these emotions through containment, guidance, and play, rather than offering an electronic device in response to every emotional reaction.

Providing an Environment Rich in Sensory and Motor Experiences

Children need to play with building blocks, draw, colour, run, jump, and interact with objects and people, as these activities support the development of motor, sensory, cognitive, and social skills.

Conclusion

This study shows that Maslow's hierarchy, while important for explaining human motivation, is no longer sufficient on its own to understand children's needs in early childhood, particularly given the influence of digital technology on their behaviour and daily experiences. It is clear that the physiological, psychological, and social needs of children aged 2 to 4 years are intertwined and complementary and do not necessarily follow a rigid hierarchy. Furthermore, the digital gratification provided by devices, in the form of pleasure, curiosity, and soothing, does not compensate for the developmental gratification derived from family interaction, real-world play, and sensory and social experiences.

The importance of physiological needs, particularly sleep, nutrition, and movement, emerges as a foundation that influences emotional, cognitive, and social development. Neuropsychology further clarifies the role of brain maturation, the reward system, and executive functions in explaining children's attraction to digital stimuli and how their behaviour is influenced by them. Therefore, developing Maslow's theory does not mean abandoning it but rather rereading it in light of developmental psychology, neuroscience, and digital transformations. The study concludes that balanced development in children requires guided, moderate digital use; prioritising direct human interaction, free play, and sensory and social experiences; and ensuring basic needs are met in ways that support psychological, neural, and social development.

Findings of the Study

The principal theoretical findings may be summarised as follows: Maslow's hierarchy provides a general framework for understanding children's needs but does not adequately reflect their interconnectedness during

early childhood. Digital gratification explains the child's attraction to screens for pleasure, attention, and soothing, and screen use may affect mealtimes, sleep, and motor activity. Neural mechanisms associated with reward, attention, and emotional regulation help explain this attraction. Nevertheless, direct family interaction and real-world play remain an essential foundation for the child's development and integrated developmental gratification.

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