

International Journal of Health Science

Acceptance date: 25/02/2025

CHARACTERISTICS OF GIFTED BABIES

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Abstract: Gifted babies show early signs of advanced intellectual and motor development. Common characteristics include intense observation, accelerated motor development, early language skills, good memory, high curiosity, high energy, reduced sleep patterns and a strong personality. These babies can demonstrate specific food preferences and increased tactile sensitivity, as well as early social smiling and traits of anxiety and fear.

Keywords: Gifted babies, intellectual development, motor development, language skills, curiosity, strong personality.

INTRODUCTION

Gifted babies often display distinctive characteristics that set them apart from others from the first months of life. These signs can be observed in various areas of development, including cognitive, motor, linguistic and emotional. Early recognition of these characteristics can be crucial to providing adequate support and promoting healthy development. One of the first indications of giftedness in babies is intense observation and the ability to maintain focus on objects or people for prolonged periods. These babies often reach motor milestones, such as sitting, crawling and walking, earlier than their peers, demonstrating accelerated motor development. Fine motor skills also stand out, with babies being able to perform complex tasks, such as turning pages in a book, with precision. Early language skills are another common sign, with many gifted babies starting to speak and form simple sentences earlier than expected. Exceptional memory allows these babies to retain detailed information from stories and events, while insatiable curiosity leads them to dismantle and explore objects in order to understand how they work. However, these characteristics can also bring challenges. Gifted babies often display high energy levels and may have poor sleep patterns. They can also

demonstrate a strong personality, questioning rules and showing resistance to instructions they don't consider logical. Tactile sensitivity can lead to specific food preferences and the rejection of certain food textures. Recognizing and understanding these characteristics can help parents and caregivers to support the development of gifted babies effectively, ensuring that their intellectual and emotional needs are met.

DEVELOPMENT: TOPICS WITH THE MOST SIGNIFICANT CHARACTERISTICS

OBSERVER

Gifted babies tend to be very observant, paying more attention than others to everything that happens around them and focusing for longer than other children their age or even older on a particular object or person. Studies indicate that babies with high cognitive abilities show a longer observation time when exposed to new stimuli, suggesting a greater ability to translate sensations into cognition (Association for Psychological Science, 2020).

At one month old, many gifted babies are already following objects with their eyes and smiling or making sounds other than crying. One study reported that babies between 2 and 8 months showed increased observation time for scenarios that did not match their physical expectations, indicating an advanced perception of the world around them from an early age (Association for Psychological Science, 2020). At two months, some gifted babies are able to predict events, such as breastfeeding, before they even see the nipple, demonstrating anticipation based on routine and context, an advanced skill for their age (Verywell Family, 2022).

ACCELERATED MOTOR DEVELOPMENT

Gifted babies often show accelerated motor development compared to other children. These babies tend to reach motor milestones, such as sitting, crawling and walking, earlier than usual. Research shows that babies with advanced cognitive abilities can start crawling at around six months and walking between nine and twelve months of age, due to the early activation of the cerebellum and the primary motor cortex, which are responsible for motor coordination (Davidson Institute, 2024; You Are Mom, 2022).

As for gross motor skills, these babies often crawl before six months and walk before eleven months. Some gifted children can skip the crawling phase altogether and start walking at eight or nine months. This acceleration in motor development can be attributed to a combination of genetic factors and a stimulating environment that promotes early exploration and learning (Frontiers in Psychology, 2020).

As for fine motor skills, gifted babies show very advanced development (Davidson Institute, 2024). They are able to turn the pages of a book at nine months using their index finger and thumb. In addition, they are able to put together puzzles with a greater number of pieces compared to other children with normal development, demonstrating a superior ability to manipulate objects and spatial perception (Davidson Institute, 2024).

LANGUAGE

Gifted babies often show early signs of advanced language skills. Studies indicate that these babies tend to start speaking earlier than others and learn more complex words at a younger age. For example, many gifted babies show an early fascination with words and can begin to form simple sentences earlier than expected (Davidson Institute, 2024).

One of the most frequent signs that a baby is gifted is the speed with which they develop language. Research shows that babies with high cognitive abilities usually start speaking between 9 and 12 months of age, while the average is around 12 to 18 months (Renati et al., 2023). These babies not only learn words earlier, but are also able to understand and use more complex words from an early age (Association for Psychological Science, 2020).

It is important to note that early language acquisition is a significant indicator of giftedness. Studies indicate that these babies show an increased ability to recognize and use linguistic patterns in an advanced way compared to their peers (SpringerLink, 2023).

MEMORY

Gifted babies often stand out for their good memory from an early age. Research indicates that these babies have an advanced capacity for retaining and retrieving information. One study revealed that babies with advanced cognitive abilities can recall details of stories or events impressively, indicating a well-developed working memory from the first months of life (Fagan & McGrath, 1981). These babies demonstrate an early ability to recognize and retain visual and auditory stimuli, which can be observed in their ability to recall and detail stories told to them (Rovee-Collier & Lipsitt, 1982).

CURIOSITY

Gifted babies often display an above-normal curiosity. Research indicates that these babies have a natural tendency to explore and understand how things work, which can be observed in the way they take apart and assemble toys. This curiosity is a manifestation of their intense thirst for knowledge and desire to understand the world around them from an early age (Davidson Institute, 2024; Proactive Baby, 2023).

Scientific curiosity, defined as the intentional search for information to fill knowledge gaps, is a common characteristic among gifted babies. These babies demonstrate behaviors of active exploration and questioning that go beyond what is expected for their age group. For example, they can carefully observe phenomena and carry out simple experiments to understand causes and effects, such as dropping a toy repeatedly to see how it falls (Frontiers in Psychology, 2020).

Studies suggest that intense curiosity is a factor that promotes learning and creative problem solving (NAEYC, 2023). Gifted babies not only explore their toys and environments, but also ask complex questions and actively seek answers, which contributes significantly to their early intellectual development (NAEYC, 2023).

EASE OF LEARNING

Gifted babies often show a remarkable ease of learning. They tend to observe something new and are quickly able to replicate the action or understand the concept. This accelerated learning ability can be seen in various areas, from motor skills to language acquisition and problem solving.

Studies indicate that these babies have an advanced capacity for processing and retaining information, allowing them to learn quickly through observation and interaction with the environment (Association for Psychological Science, 2020). For example, they can disassemble and reassemble toys as part of their natural exploration of the world around them, reflecting their curiosity and desire to understand how things work (Davidson Institute, 2024; Springer, 2023).

Babies' neural plasticity allows them to adapt quickly to new information and experiences, which contributes to their ease of learning. This plasticity is particularly pronounced in gifted children, who tend to show a

great capacity to adjust their cognitive abilities in response to the environment (Geary, 2005; Association for Psychological Science, 2020).

It is important to note that these signs of rapid learning are not definitive in identifying a gifted baby. They can be indicative, but confirmation must be made through professional assessment. If you believe your child may be gifted, it is advisable to talk to a pediatrician to discuss the appropriate tests and evaluations.

INTENSE GAZE

Gifted babies often show intense gaze soon after birth. Studies indicate that these babies are particularly sensitive to eye contact and prefer to look at faces with a direct gaze rather than faces with averted eyes. This preference for faces with open eyes is an early indicator of their advanced visual and social processing skills (Farroni et al., 2005; Rigato et al., 2011).

Research shows that from birth, babies can recognize familiar faces and prefer faces that maintain direct eye contact, which facilitates the development of facial processing skills throughout the first year of life (Kim and Johnson, 2014; Bahrck et al., 2002). This early interaction with human faces, especially with direct eye contact, is essential for the development of social cognition and facial recognition skills (Kim and Johnson, 2014; Bahrck et al., 2002).

This ability to maintain an intense and focused gaze on human faces from a very early age suggests that gifted babies have a predisposition to develop social and cognitive skills more quickly, using eye contact as a crucial tool for learning about the world around them (PLOS ONE, 2020).

BEING VERY RESTLESS AND ENERGETIC

Gifted babies often display high levels of energy and can be very restless. This characteristic is often described as “psychomotor excitability”, a term that refers to high levels of energy, constant movement and a reduced need for sleep, common among gifted children. These children may always be on the move and demonstrate behaviours such as compulsive speech, compulsive organization, impulsivity and a preference for fast-paced activities and sports (Davidson Institute, 2024; Verywell Family, 2020).

These high energy levels can be mistaken for attention deficit hyperactivity disorder (ADHD). However, while some gifted children may be misdiagnosed with ADHD due to their high energy, it is important to note that these children are able to maintain concentration when sufficiently mentally stimulated (Davidson Institute, 2024). Lack of intellectual stimulation can lead to boredom, which can exacerbate agitation and restlessness

This high energy and constant need for stimulation can lead to challenging behaviors, such as disobedience and nonconformity, especially when established expectations or routines do not meet their intellectual and emotional needs. Gifted children often question authority and reject rules they consider illogical or unfair, which can be interpreted as disobedience (Verywell Family, 2020).

This abundant energy is not only physical, but also manifests itself in an intense curiosity and desire to explore and learn (Verywell Family, 2020). Gifted babies tend to seek out new experiences and constant challenges, which can be seen in their ability to dismantle and assemble toys to understand how they work (Verywell Family, 2020).

SLEEPING TOO FEW HOURS

Gifted babies often exhibit sleep patterns that differ significantly from other babies. These babies often sleep fewer hours, a characteristic that may be related to high energy levels and a constant need for mental stimulation.

Studies indicate that babies with high energy levels tend to need less sleep and may have difficulty sleeping for long continuous periods (Sleep Foundation, 2024). High energy, along with an active mind, can contribute to fragmented sleep patterns (Verywell Family, 2020). Psychomotor excitability, common in gifted children, is characterized by high levels of activity and a reduced need for sleep, which can lead to an increase in nocturnal wakefulness and shorter periods of consolidated sleep (Davidson Institute, 2024).

While normal babies usually begin to sleep for longer periods during the night between 6 and 12 months of age, gifted babies may continue to have frequent nocturnal awakenings due to their need for constant mental engagement and stimulation (Sleep Foundation, 2024).

HEIGHTENED INSTINCT

Gifted babies can manifest anxiety and fears more intensely than their peers. These babies often have heightened emotional sensitivity, which can lead them to experience anxiety more frequently. Studies show that gifted children tend to have more intense worries and fears due to their ability to understand complex situations from an early age. For example, they may worry excessively about existential issues or have an increased fear of failure, reflecting a perfectionism that can increase anxiety (Davidson Institute, 2024; SENG, 2023).

These babies can display keen instincts, showing an acute awareness of their surroundings. The combination of heightened sensory perception and intense curiosity means that

these children are constantly exploring and analyzing the world around them, which can contribute to both their anxiety and their advanced cognitive development (MDPI, 2023).

These characteristics can be challenging, but it is important to remember that they are not necessarily indicative of problems. If you believe your child may be gifted and is showing signs of anxiety or intense fears, it is advisable to seek advice from a specialist pediatrician or psychologist to carry out the appropriate tests and obtain strategies to support the child's healthy development.

APPRECIATION OF SOUR TASTES AND FOOD REJECTION DUE TO TEXTURE

Gifted babies often show unusual food preferences, such as an appreciation for sour tastes and a heightened sensitivity to the texture of food. Studies show that these babies may have a genetic predisposition that influences their preferences for intense tastes, such as sour, which is less common among babies with typical development (Liem & Mennella, 2002).

Sensitivity to the texture of food is a characteristic often observed in gifted children. These children may reject foods with certain textures, such as very crunchy, sticky or pasty foods, due to an increased tactile sensitivity. This aversion can be linked to differences in the way their brains process sensory information, which can cause exaggerated reactions to stimuli that other children do not find problematic (Verywell Health, 2020).

For example, children with high tactile sensitivity may show an aversion to foods with textures they find unpleasant, resulting in a limited diet if appropriate strategies are not introduced to diversify their food preferences (MDPI, 2023).

THE 'SOCIAL SMILE' APPEARS EARLY

Gifted babies often show the "social smile" early, before others. This behavior is an important indicator of emotional and social engagement. Studies show that social smiling can appear as early as the first few weeks of life, as a response to positive interactions with caregivers. These babies use smiling not only as an expression of pleasure, but also as a form of communication and social bonding, demonstrating advanced interaction skills from an early age (PLOS ONE, 2020; ScienceDirect, 2023).

STRONG PERSONALITY

They can show strong determination and assertiveness from an early age, characteristics that can manifest as stubbornness or resistance to following instructions that don't make sense to them (Davidson Institute, 2024). These characteristics are indicative of their advanced cognitive abilities and an intrinsic need for understanding and justice. They have a strong sense of justice and often have high expectations for themselves and others, which can lead to frustration when these expectations are not met (Davidson Institute, 2024; Cambridge Core, 1976).

Considerations of gifted babies and their distinctive characteristics indicate that these babies often show early signs of advanced cognitive and motor skills. From intense observation shortly after birth to the development of a strong personality, these babies show a capacity for rapid learning and an insatiable curiosity. Gifted babies tend to crawl and walk earlier than their peers, and have highly developed fine and gross motor skills, such as turning pages of a book with precision and putting together complex puzzles.

These babies often display an early social smile, demonstrating advanced social interaction skills. They can also display nonconformist behavior and disobedience, due to their need to understand and challenge rules they consider illogical. Another common feature is high energy and a reduced need for sleep, as well as a heightened sensitivity to sensory stimuli, such as specific food preferences and a rejection of certain textures.

It is important to note that these characteristics are not definitive for identifying a gifted child, but are indications that can be observed. Parents who suspect that their children may be gifted should seek professional advice for appropriate assessments and development support strategies.

REFERENCES

- ASSOCIATION FOR PSYCHOLOGICAL SCIENCE. Exploring Infant Cognition. Accessed on: July 4, 2024.
- ASSOCIATION FOR PSYCHOLOGICAL SCIENCE. The Littlest Linguists: New Research on Language Development. Accessed on: July 4, 2024.
- CAMBRIDGE CORE. Personality Characteristics of Gifted and Talented Children and their Parents: A Review. Accessed on: July 4, 2024.
- COLOMBO, J. *Infant Cognition: Predicting Later Intellectual Functioning*. Sage, Newbury Park, CA, 1993.
- DAVIDSON INSTITUTE. Anxiety and Gifted Children. Accessed on: July 4, 2024.
- DAVIDSON INSTITUTE. Exceptionally Gifted Children: Characteristics & Needs. Accessed on: July 4, 2024.
- DAVIDSON INSTITUTE. Exceptionally Gifted Children: Different Minds. Accessed on: July 4, 2024.
- DAVIDSON INSTITUTE. Extreme Intelligence in Toddlers and Preschoolers FAQ. Accessed on: July 4, 2024.
- DAVIDSON INSTITUTE. The highly gifted baby. Accessed on: July 4, 2024.
- FAGAN, J. F.; McGRATH, S. K. Infant recognition memory and later intelligence. *Intelligence*, v. 5, p. 121-130, 1981.
- FARRONI, Teresa et al. Perceiving eyes: Development of face processing skills. *Journal of Experimental Child Psychology*, v. 91, n. 3, p. 343-357, 2005.
- FRONTIERS IN PSYCHOLOGY. Supporting Early Scientific Thinking Through Curiosity. Accessed on: July 4, 2024.
- GEARY, D. C. Children's Evolved Learning Abilities and Their Implications for Education. *Educational Psychology Review*, 2005. Accessed on: July 4, 2024.
- KIM, K.; JOHNSON, S. P. Detecting Faces in Infant-Directed Speech. *Developmental Psychology*, v. 50, n. 7, p. 1-10, 2014.
- LIEM, D. G., & MENNELLA, J. A. Sweet and sour preferences in young children and adults: role of repeated exposure. *Developmental Psychobiology*, 41(4), 388-395, 2002.
- MDPI. Gifted Children through the Eyes of Their Parents: Talents, Social-Emotional Challenges, and Educational Strategies. Accessed on: July 4, 2024.

- MDPI. Texture Sensitivity and Consumer Food Preference and Behavior. Accessed on: July 4, 2024.
- PLOS ONE. Cues for Early Social Skills: Direct Gaze Modulates Newborns' Recognition of Talking Faces. Accessed on: July 4, 2024.
- PLOS ONE. Infants Time Their Smiles to Make Their Moms Smile. Accessed on: July 4, 2024.
- PROACTIVE BABY. Unleashing the Potential: Nurturing Intellectually Gifted Infants. Accessed on: July 4, 2024.
- RENATI, Roberta et al. Gifted Children through the Eyes of Their Parents: Talents, Social-Emotional Challenges, and Educational Strategies from Preschool through Middle School. *Children*, 10(1), 42, 2023. Accessed on: July 4, 2024.
- RIGATO, Silvia et al. The role of gauze in the development of face processing. *Developmental Review*, v. 31, n. 3, p. 200-210, 2011.
- ROVEE-COLLIER, C.; LIPSITT, L. P. Learning and Memory in Infants. *Journal of Experimental Child Psychology*, v. 34, n. 3, p. 460-473, 1982.
- SENG. The Interface of Overthinking, Anxiety, and Shame Among Gifted Children. Accessed on: July 4, 2024.
- SLEEP FOUNDATION. Babies and Sleep: What To Expect & Tips. Accessed on: July 4, 2024.
- VERY WELL HEALTH. Helping Children With Texture Aversions to Food. Accessed on: July 4, 2024.
- VERY WELL FAMILY. Dabrowski's Overexcitabilities in Gifted Children. Accessed on: July 4, 2024.
- VERY WELL FAMILY. 5 Characteristics of a Gifted Baby. Accessed on: July 4, 2024.
- YOU ARE MOM. How to Identify Gifted Babies. Accessed on: July 4, 2024.