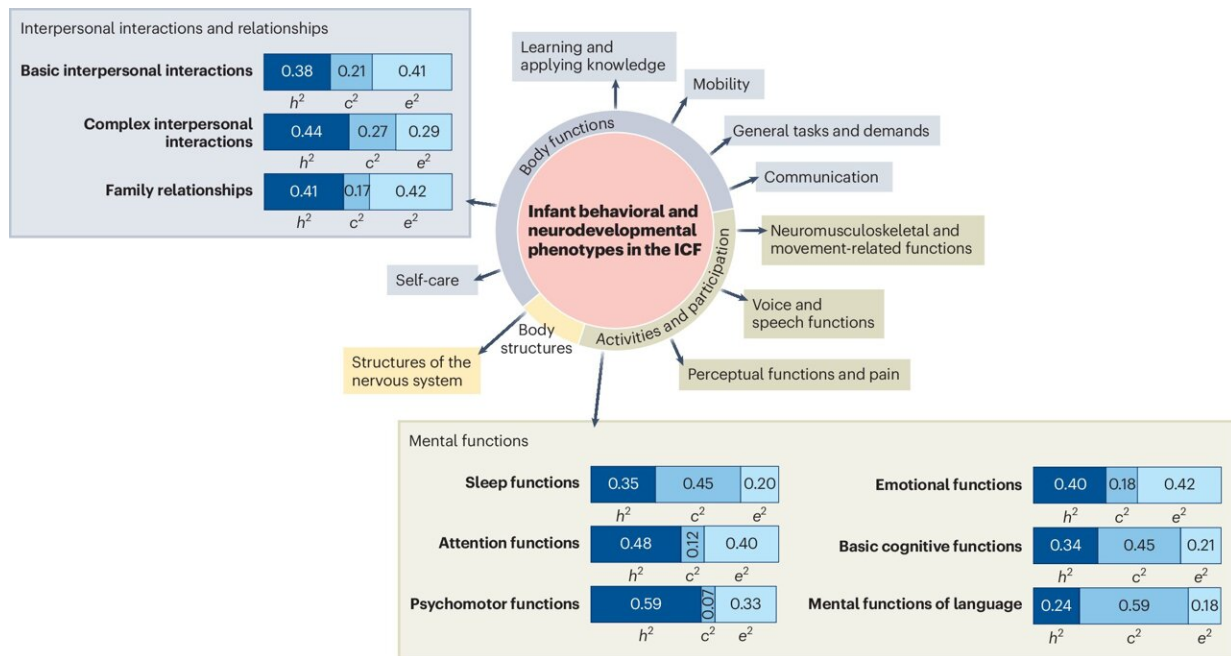


# Boost in infant genetics research could change lives, say researchers

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Infant phenotypes listed in the ICF. Credit: *Nature Genetics* (2024). DOI: 10.1038/s41588-024-01822-7

Investment in research into genetics could dramatically improve educational policies and understanding of parenting in ways that could help all children, according to a new paper led by the University of Surrey.

In a paper [published](#) in *Nature Genetics*, researchers describe a range of

evidence demonstrating that genetics play a role in influencing [infant development](#).

While much focus is already directed toward [rare genetic disorders](#), the researchers argue that differences in the DNA that are commonly found in children and constitute the individual's genetic make-up also have the potential to help support the development of early interventions and to aid better understanding of the infancy life stage in all children.

The researchers demonstrate that, compared to later life stages, infancy is largely under-researched despite the considerable benefits that genetic research can offer.

While it has long been recognized that environment plays a pivotal role in infant development, the research team analyzed published twin and molecular genetic studies.

They found evidence supporting the idea that genes are important for shaping children's development in the first three years after birth. However, more research is still needed to understand how DNA is linked to individual differences in development.

Professor Angelica Ronald, co-author of the paper from the School of Psychology at the University of Surrey, said, "Infant development is a crucial time, with rapid progress in motor, social and language skills, among others. Our research shows that genetics is critical in shaping these early characteristics.

"By understanding and identifying genetic influences early on, we can make a significant difference for many children and their families. This knowledge can help parents, health care providers, and educators offer better support for a child's development and create strategies to address potential challenges in the long term."

The researchers hope to encourage funders, [policy-makers](#) and their scientific peers to invest in research that focuses on the infancy life stage. The impact on the population, they argue, is huge because an infant has their whole life ahead of them.

Dr. Anna Gui, co-author of the paper and a Lecturer at the University of Essex, said, "Our findings provide strong evidence from twin studies, adoption research, [polygenic scores](#), and the examination of infant attributes that genetics significantly influence [early development](#)."

"Polygenic scores, which sum up the effects of many genetic variants, show how genetic influences impact key milestones like walking and talking. This type of knowledge can significantly benefit children's lives."

"With this understanding, we hope to develop better early education programs and early interventions, helping parents and professionals support children's development more effectively."

**More information:** Angelica Ronald et al, The potential and translational application of infant genetic research, *Nature Genetics* (2024). [DOI: 10.1038/s41588-024-01822-7](https://doi.org/10.1038/s41588-024-01822-7)

Provided by University of Surrey

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