

All Alaska  
Pediatric Partnership (A2P2)  
&  
Help Me Grow Alaska

# The Science of the Developing Brain

Legislative Lunch & Learn  
April 16<sup>th</sup>, 2026

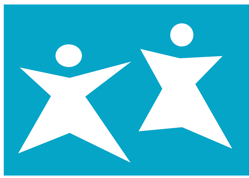


ALL ALASKA  
PEDIATRIC  
PARTNERSHIP



**Help Me Grow**  
Alaska

*A program of the All Alaska  
Pediatric Partnership*



ALL ALASKA  
PEDIATRIC  
PARTNERSHIP

The All Alaska Pediatric Partnership (A2P2) is a catalyst for improvements in Alaska's systems and services for children and their families.

## MISSION

**A2P2 transforms systems of care and increases equitable access to health care and related services to ensure all Alaska's children reach their full potential.**

Learn more at [a2p2.com](https://a2p2.com) or by scanning the QR code



## Core Values



### Innovation & Excellence

We employ a data-driven approach and seek creative solutions and opportunities to advance high standards of care for children and families in Alaska.



### Partnership

We build connections and recognize the power in collective voice. We encourage and value cross-communication, shared learning, and the unique knowledge, roles and diversity that all Alaska's people, communities and organizations bring.



### Systems-approach

We approach our work through the lens of systems-change and engage in big picture thinking. We seek constant improvement in the systems of care to effectively support children and families.



### Equity & Inclusion

The needs of all Alaska's kids and families are at the center of our work. We believe all Alaska's children deserve to thrive and have equitable access to health, social services and opportunities. We believe their diverse voices and perspectives are critical to meeting the needs that exist throughout the state, and to achieving our overarching goal of health equity and equitable access to care and services.



### Individualized Solutions

We recognize there is not a one-size-fits-all approach that meets all Alaskans' needs, and therefore support flexible, individualized, and targeted approaches in order to offer universal services in an equitable way.

Partnerships

Help Me Grow  
Alaska

Pediatric Health  
Communication &  
Training

Data & Policy



**PAL-PAK**  
Partnership Access Line -  
Pediatric Alaska

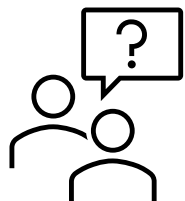


Alaska Home Visitors Alliance

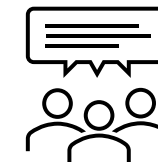


# Introduction to Brain Science

Brain Architecture  
&  
Healthy Development

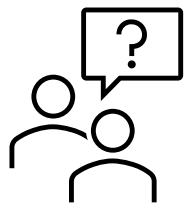


# Trivia Question



In the first few years of life, how often are 1 million new neural connections formed?

- A. Every Second
- B. Every Hour
- C. Every Day

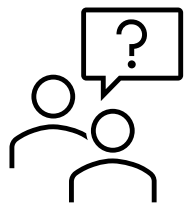


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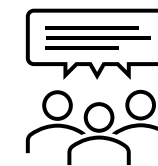


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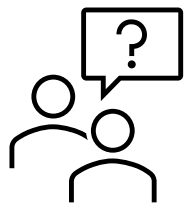


# Trivia Question



Do experiences in early childhood change the actual structure of a child's brain?

- A. Yes
- B. No
- C. The science is unclear

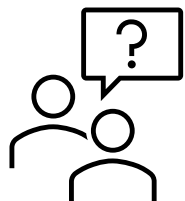


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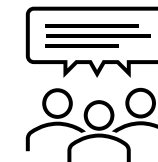


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# Trivia Question



Do experiences in early childhood change the actual structure of a child's brain?

- A. Yes
- B. No
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Early experiences play a pivotal role in **shaping the neural architecture of infants' brains**. This process, known as experience-dependent plasticity, highlights how **interactions with the environment influence the formation and refinement of neural circuits**.

Zero to Three

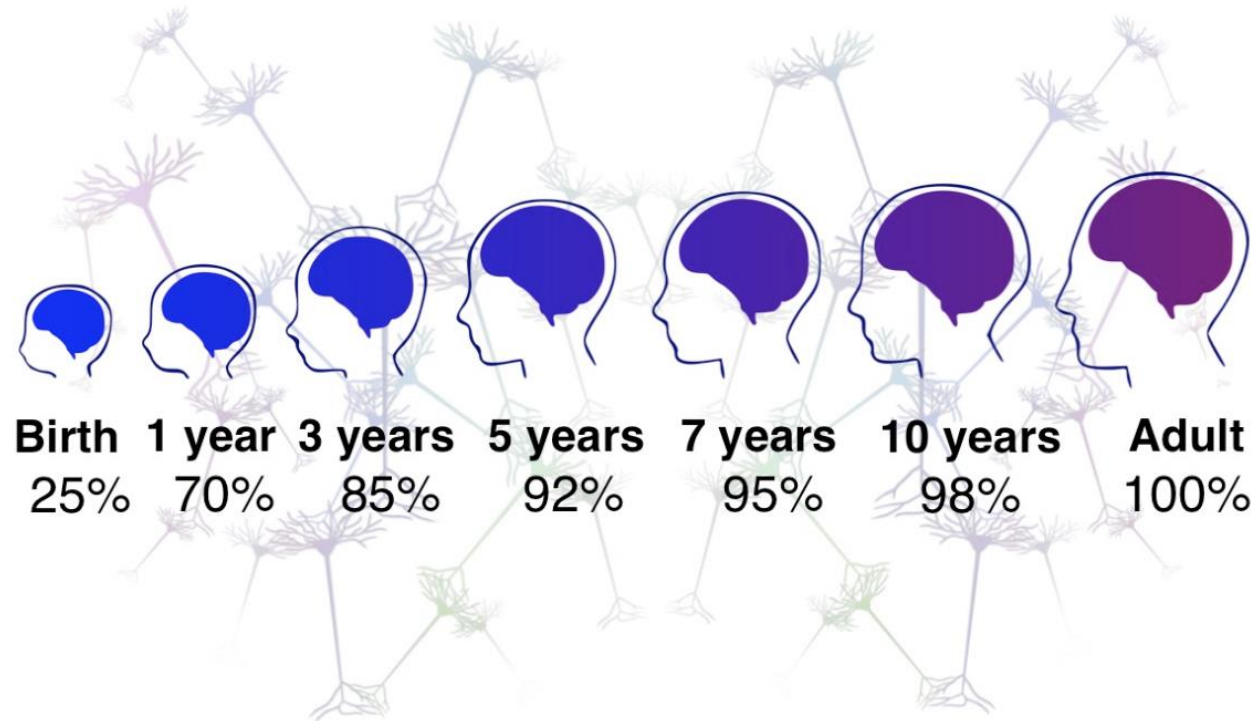
<https://www.zerotothree.org/resource/distillation/does-experience-change-the-actual-structure-of-the-brain/>

# How We Grow an Emotionally Healthy Brain



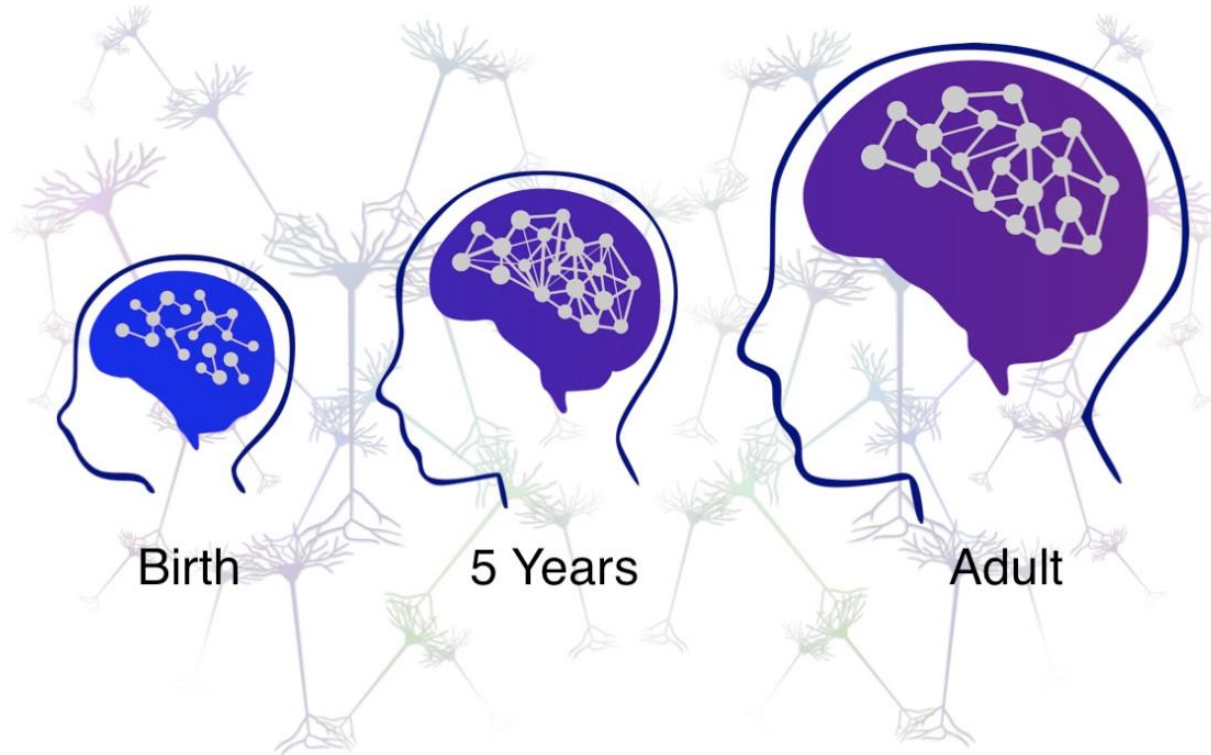
Royal Foundation Center for Early Childhood  
<https://youtu.be/j2DaerplHgk>

# Brain Growth in the First Five Years of Life



Alaska Service Highlight:  
**Infant Learning Program (ILP)**

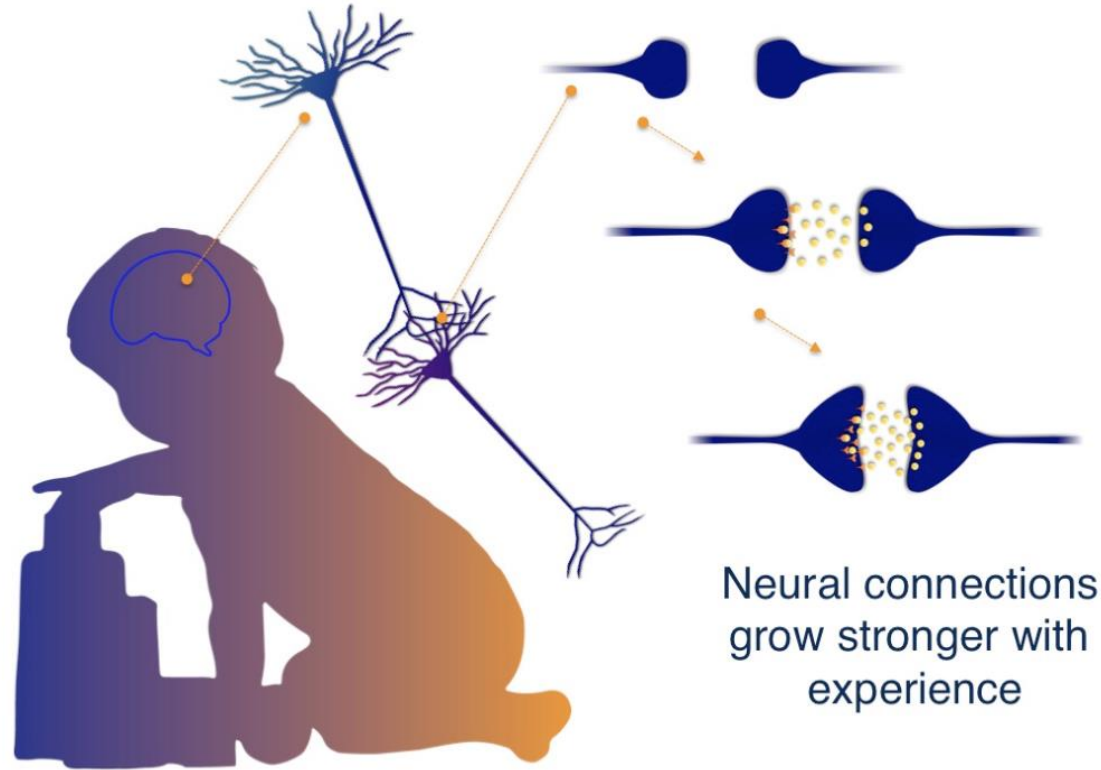
# The Brain Removes Unused Connections



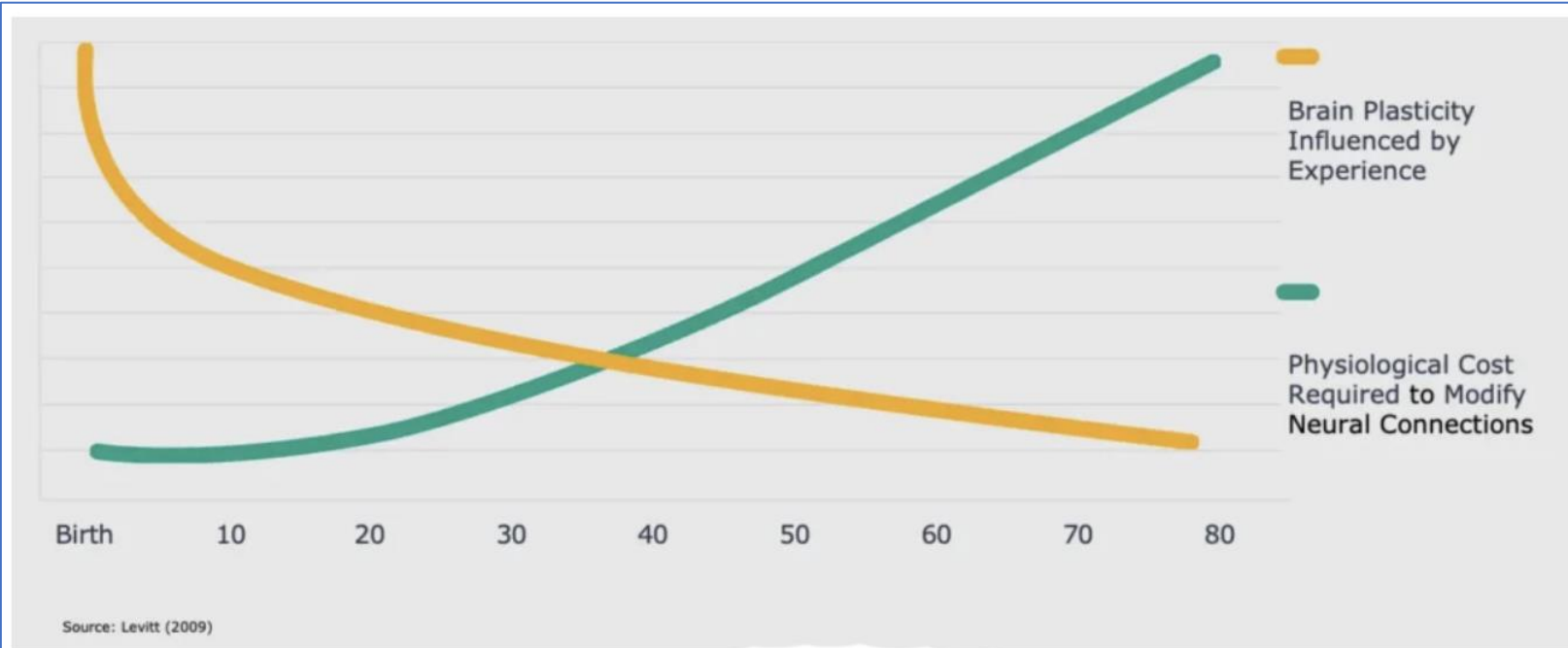
# Biology + Experience Build the Brain



## Alaska Service Highlight: Head Start



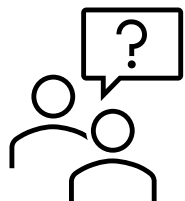
# Brain Architecture



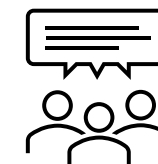
**The brain is more influenced by experience in a child's earliest years. The brain's ability to adapt—known as brain plasticity—declines as we age.** Adapted from a graph created by Pat Levitt in collaboration with the Center on the Developing Child at Harvard University (2009).

## Key Takeaways

- Brains are built over time, from the bottom up, through an ongoing process that begins before birth. Simple neural connections form first, followed by more complex circuits.
- The connections that form early provide either a strong or weak foundation for the connections that form later.
- Our early experiences shape our brain architecture, which provides the foundation for all future learning, behavior, and health.

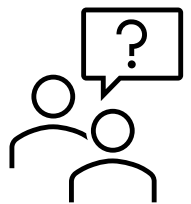


# Trivia Question



Peek-a-boo is, fundamentally...

- A. Something to keep parents entertained when they don't know what else to do with their baby
- B. Critically important for how children learn
- C. Really annoying, kids should get more respect



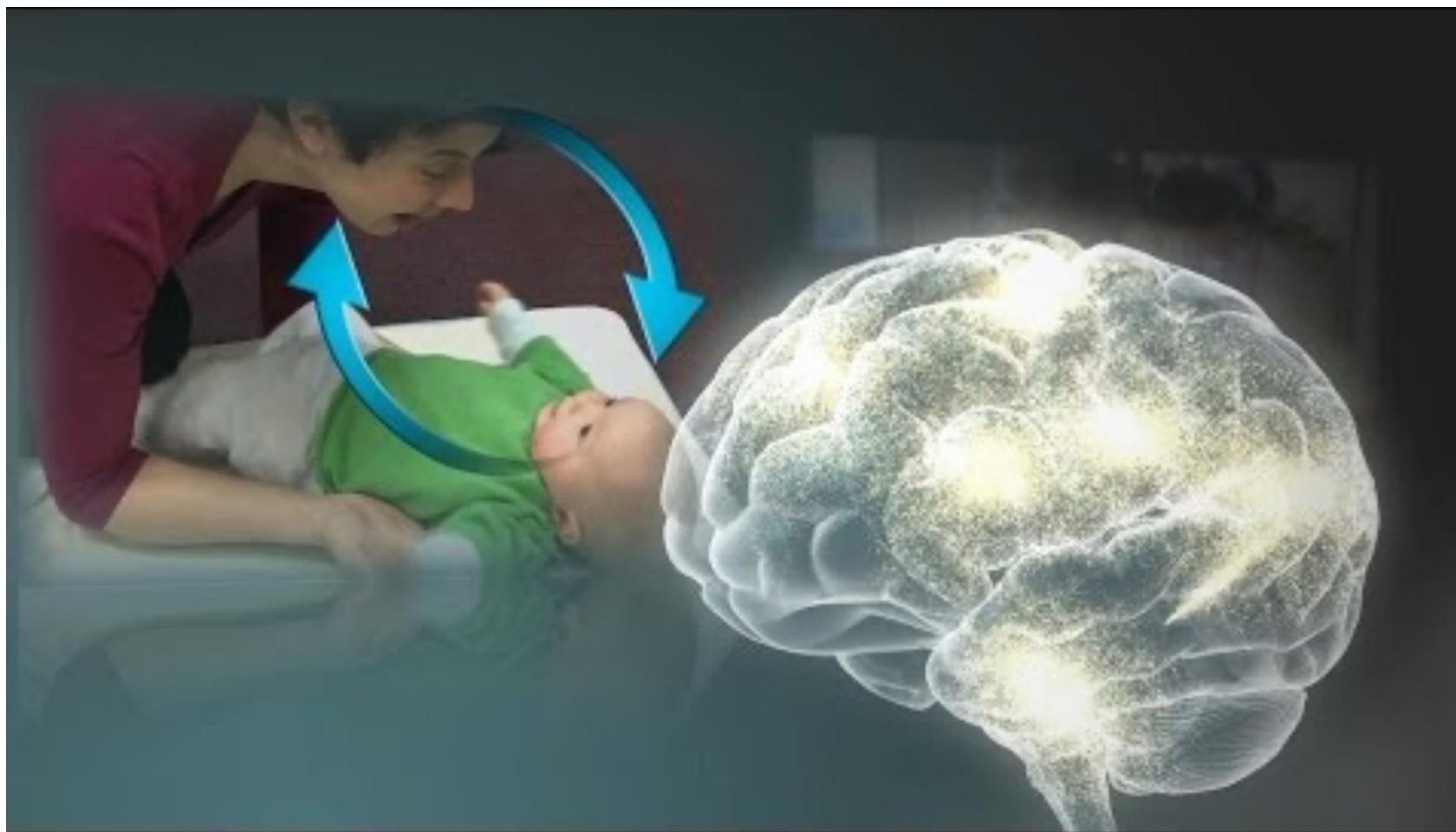
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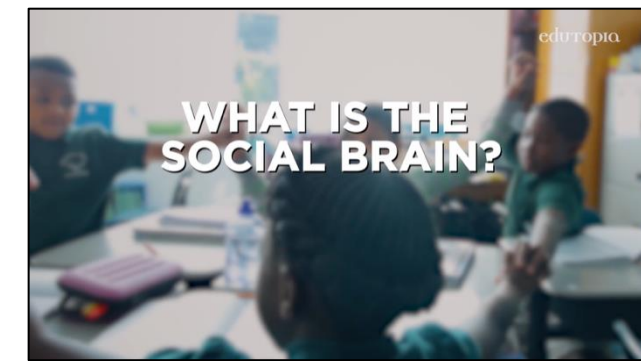
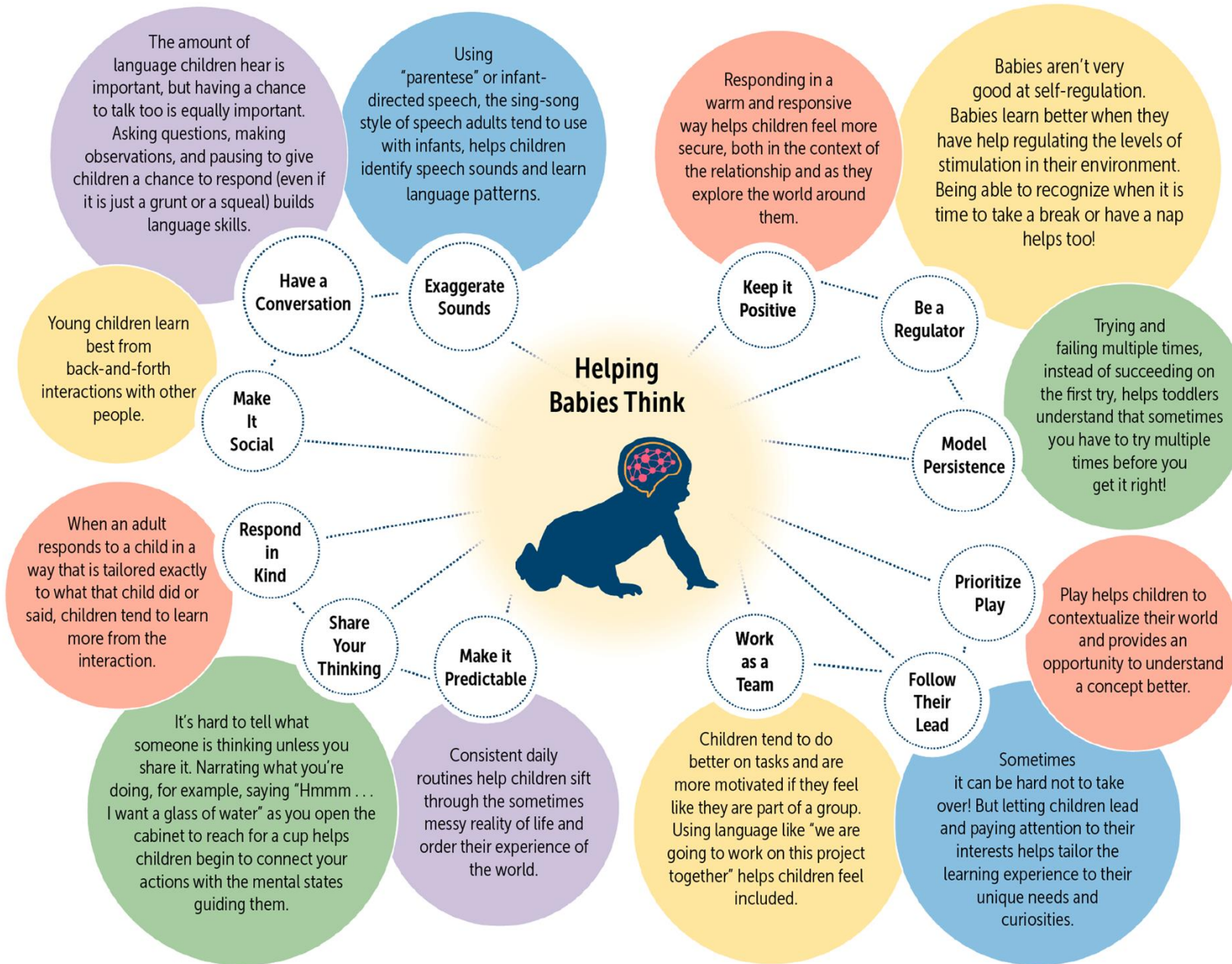
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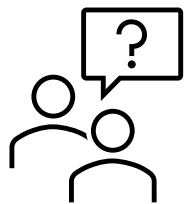
# Serve & Return: Interaction Shapes Brain Circuitry



Center on the Developing Child at Harvard University  
[https://youtu.be/m\\_5u8-QSh6A?si=eXRFvI4DYxLDHGn\\_](https://youtu.be/m_5u8-QSh6A?si=eXRFvI4DYxLDHGn_)



## Alaska Service Highlight: Parents As Teachers

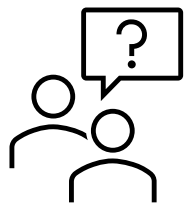


# Trivia Question



Children begin learning the foundational concepts to support school and career success at what age?

- A. 6 – 12 months
- B. 3 – 5 years
- C. 25 years

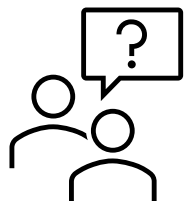


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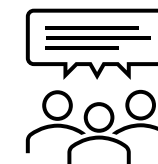


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# Trivia Question



Children begin learning the foundational concepts to support school and career success at what age?

- A. 6 – 12 months – Executive function development begins
- B. 3 – 5 years – Fastest period of growth
- C. 25 years – How long development takes

# Executive Function



Center on the Developing Child at Harvard University  
[https://www.youtube.com/watch?v=efCq\\_vHUMqs](https://www.youtube.com/watch?v=efCq_vHUMqs)



# Developing Executive Function

## Alaska Service Highlight: Early Childhood Education

### AIR TRAFFIC CONTROL

The "executive function" system of the brain



### Key Takeaways

- Executive functions are self-regulating skills kids use daily for tasks like planning, organizing, and learning from mistakes.
- Breaking tasks into smaller steps and using planners and checklists helps kids who struggle with executive function avoid feeling overwhelmed.
- Establishing routines, explaining the reasoning behind strategies, and providing encouragement or rewards helps kids commit to using these organizational tools.

# From Early Experiences to School Readiness



## Key points:

- School-readiness starts from birth. Early cognitive and social experiences play an important role in children's early development.
- Children are particularly attuned to other people and learn best from face-to-face interactions.
- Children are incredibly social. Using eye gaze, pointing, infant-directed speech, and contingent actions can draw children's attention to their environment and support learning.

# Pre-Birth Household Challenges Predict School Readiness & Academic Achievement

## Household Challenges (PRAMS)



Alaska Service Highlight:  
Help Me Grow Alaska



Alaska Developmental Profile (ADP)



3<sup>rd</sup> Grade Reading Proficiency



Average Attendance

4+ pre-birth challenges:

**16%** more likely to NOT meet readiness threshold

**40%** more likely to not pass

**29%** more likely to have chronic absenteeism

# Infant and Early Childhood Mental Health

IECMH is the developing capacity of the child from birth to 5 years old to:

- form close and secure adult and peer relationships;
- experience, manage, and express a full range of emotions; and
- explore the environment and learn all in the context of family, community, and culture.

Experts from a range of disciplines consider IECMH to be the foundation of healthy, lifelong development.

IECMH is also a term used to describe the full continuum of services and supports necessary to promote healthy development, prevent mental health problems, and treat mental health disorders.

These levels of support are often called:

- promotion
- prevention
- treatment



[Alaska Service Highlight:](#)  
**Growing Minds**

# Policy Implications

## What supports child wellbeing...

- ✓ Stable, Nurturing **Relationships**
- ✓ Safe, Stable, and Supportive **Environments**
- ✓ Adequate **Nutrition and Food Security**
- ✓ Access to **Health Care**
- ✓ **Physical Activity** and **Sleep**
- ✓ Positive **Social Connections**
- ✓ Opportunities for **Learning, Exploration, and Skills-Building**

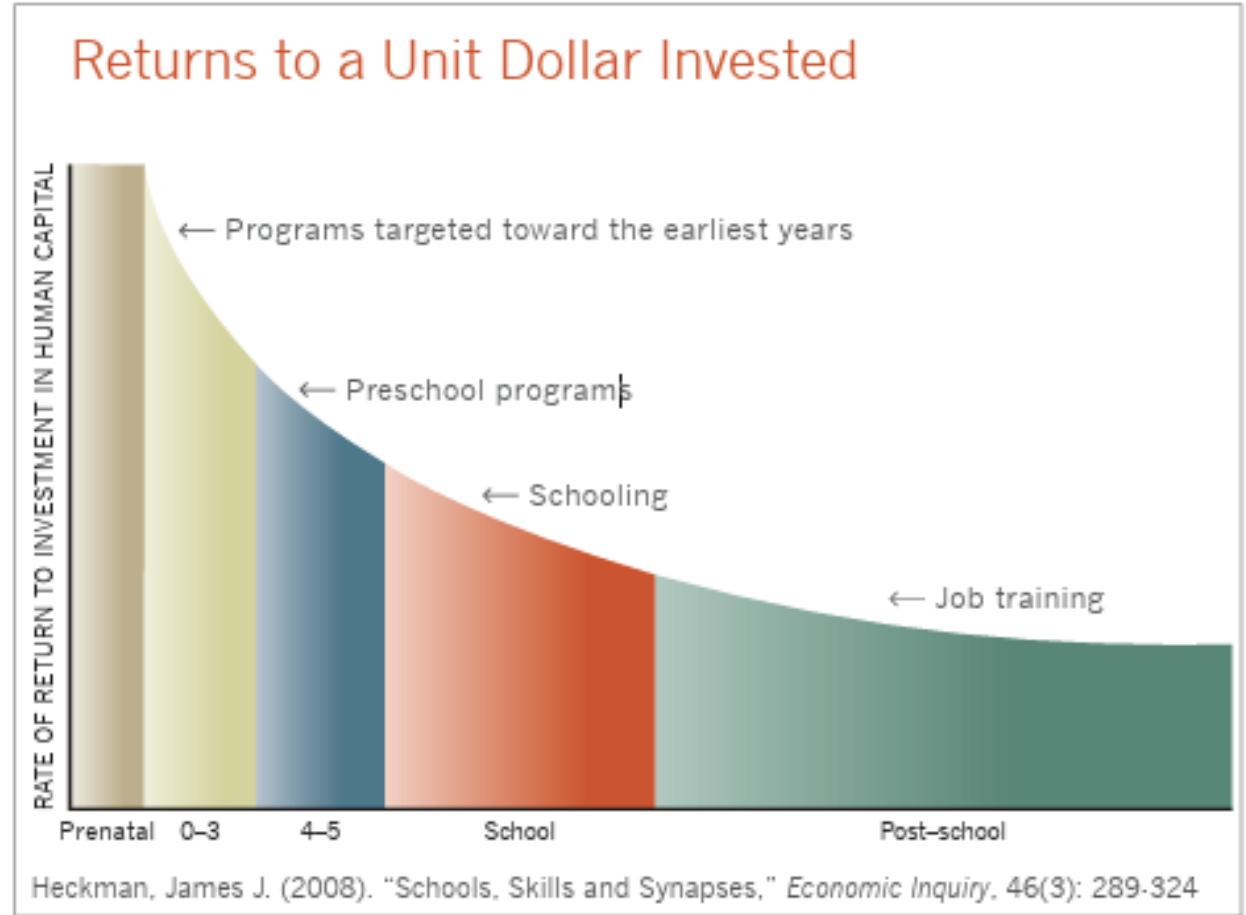
- Centers for Disease Control and Prevention. (2021). Essentials for Childhood: Steps to Create Safe, Stable, Nurturing Relationships and Environments.
- "Front Matter." National Academies of Sciences, Engineering, and Medicine. 2019. Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity. Washington, DC: The National Academies Press. <https://doi.org/10.17226/1014>.

What does that mean for policy:

**Invest early for high returns:**

Early childhood programs yield strong

economic and social benefits

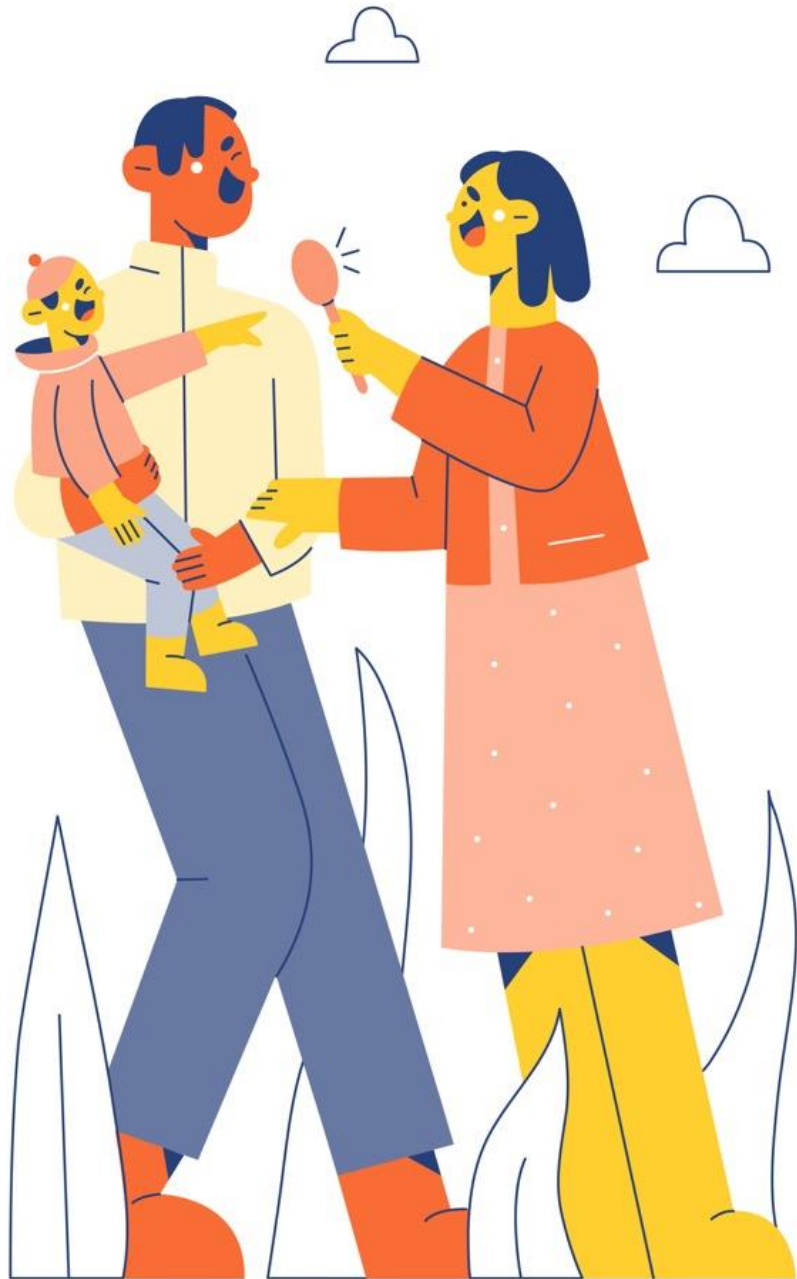


Early childhood education is an efficient and effective investment for economic and workforce development. The earlier the investment, the greater the return on investment.

## What does that mean for policy:

- Support programs that help parents **navigate the systems of care**
- Expand access to **affordable, high-quality childcare and preschool**
- Support **parental leave and income stability** to reduce stress during critical years
- Fund **home visiting and parenting support programs** to strengthen caregiving where it is needed
- Integrate **health, nutrition, and early learning systems**
- Target innovative, tailored solutions and resources to **underserved communities** to increase access and usage

- ✓ Build policies that create access, not barriers, to health.
- ✓ Acknowledge that eligibility for support  $\neq$  access.
- ✓ Co-design policies with those who use and coordinate them.



# Questions

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# Help Me Grow Alaska Information

For more information on  
Help Me Grow Alaska

**Visit:** [www.HelpMeGrowAK.org](http://www.HelpMeGrowAK.org)

**Call:** 1-833-HMG-ALASKA  
1-833-464-2527

**Fax:** 1-833-464-2527

