

Executive Function & Self-Regulation

▶ Watch the Overview Video

Executive function and self-regulation skills are the mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully. Just as an air traffic control system at a busy airport safely manages the arrivals and departures of many aircraft on multiple runways, the brain needs this skill set to filter distractions, prioritize tasks, set and achieve goals, and control impulses.

When children have opportunities to develop executive function and self-regulation skills, individuals and society experience lifelong benefits. These skills are crucial for learning and development. They also enable positive behavior and allow us to make healthy choices for ourselves and our families.

Executive function and self-regulation skills depend on three types of brain function: working memory, mental flexibility, and self-control. These functions are highly interrelated, and the successful application of executive function skills requires them to operate in coordination with each other.

- **Working memory** governs our ability to retain and manipulate distinct pieces of information over short periods of time.

Each type of executive function has unique elements of the other two.

- **Mental flexibility** helps us to sustain or shift attention in response to different demands or to apply different rules in different settings.
- **Self-control** enables us to set priorities and resist impulsive actions or responses.

Children aren't born with these skills—they are born with the potential to develop them. If children do not get what they need from their relationships with adults and the conditions in their environments—or (worse) if those influences are sources of [toxic stress](#)—their skill development can be seriously delayed or impaired. Adverse environments resulting from [neglect](#), abuse, and/or violence may expose children to toxic stress, which disrupts [brain architecture](#) and impairs

the development of executive function.

Providing the support that children need to build these skills at home, in early care and education programs, and in other settings they experience regularly is one of society’s most important responsibilities. Growth-promoting environments provide children with “scaffolding” that helps them practice necessary skills before they must perform them alone. Adults can facilitate the development of a child’s executive function skills by establishing routines, modeling social behavior, and creating and maintaining supportive, reliable relationships. It is also important for children to exercise their developing skills through activities that foster creative play and social connection, teach them how to cope with stress, involve vigorous exercise, and over time, provide opportunities for directing their own actions with decreasing adult supervision.



By focusing on real-time bedtime and mealtime intervention seeks to improve executive function skills in adults and children, leading to greater predictability within the home.

[View Related Key Concepts >](#)



[Print this page >](#)

[Subscribe to our mailing list >](#)

Explore Related Resources

[View All](#)

[Briefs](#)

[Multimedia](#)

[Presentations](#)

[Redirect](#)

[Reports & Working Papers](#)

[Tools & Guides](#)



Tools & Guides:

Activities Guide: Enhancing and Practicing Executive Function Skills with Children from Infancy to Adolescence


Building the Brain's “Air Traffic Control” System: How Early Experiences Shape the Development of Executive Function

WORKING PAPER 11



Reports & Working Papers:

Building the Brain's “Air Traffic Control” System: How Early Experiences Shape the Development of Executive Function



From Best Practices to Breakthrough Impacts



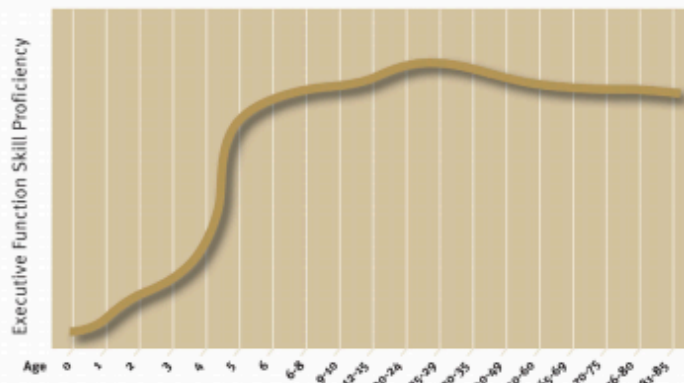
Reports & Working Papers:
From Best Practices to Breakthrough Impacts

A series of brief summaries of essential findings from recent scientific publications and presentations by the Center on the Developing Child at Harvard University.

Research on the developing brain shows us that early childhood experiences build the foundation for a skilled workforce, a responsible community, and a thriving economy. A new evidence base has identified a set of skills that are essential for school achievement, for the preparation and adaptability of our future workforce, and for avoiding a wide range of population health problems.

In the brain, the ability to hold onto and work with information, focus thinking, filter distractions, and switch gears is like an airport having a highly effective air traffic control system to manage the arrivals and departures of dozens of planes on multiple runways. Scientists refer to these capacities as executive function and self-regulation—a set of skills that relies on three types of brain function: working memory, mental flexibility, and self-control. Children aren't born with these skills—they are born with the

Executive Function Skills Build Into the Early Adult Years



Briefs:
InBrief: Executive Function



Multimedia:

InBrief: Executive Function: Skills for Life and Learning



Briefs:
8 Things to Remember about Child Development

Building the Core Skills Youth Need for Life

A Guide for Education and
Social Service Practitioners



All youth need to develop a set of **core life skills** to manage school, work, outside interests, and social relationships successfully. From the perspective of brain development, these skills include **planning, focus, self-control, awareness, and flexibility**—also known as “executive function” and “self-regulation” skills. No one is born with these skills, but everyone can learn them through practice.

Core Life Skills

PLANNING

Being able to make concrete plans, carry them out, and set and meet goals

Tools & Guides:

Building the Core Skills Youth Need for Life: A Guide for Education and Social Service Practitioners

Building the Skills Adults Need for Life

A Guide for Practitioners



We all need a set of **core life skills** to manage work, family, and relationships successfully. **These include:**

- PLANNING** Being able to make plans, carry them out, and set and meet goals
- FOCUS** Concentrating on what's most important at any given time
- SELF-CONTROL** Having the ability to control how we respond to our emotions

How Can We Help?

Our core life skills develop over many years, which means adults can

Tools & Guides:

Building the Skills Adults Need for Life: A Guide for Practitioners

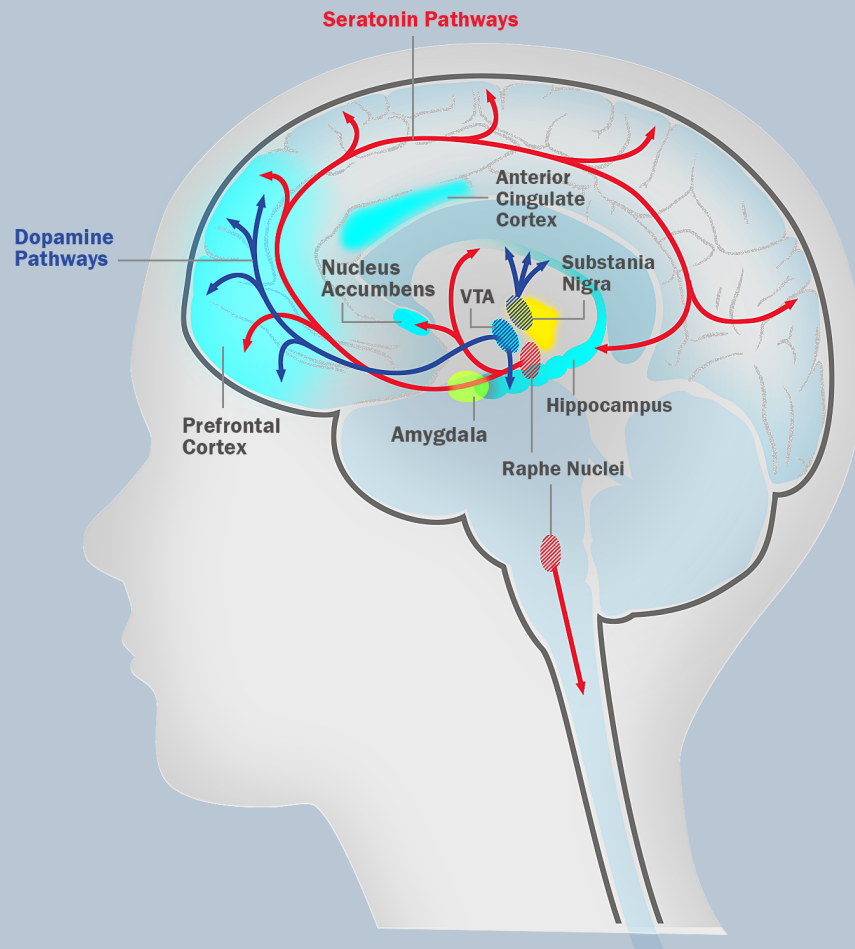


Multimedia, Redirect:

[Intergenerational Mobility Project: Building Adult Capabilities for Family Success](#)



Multimedia, Redirect:
Ready4Routines: Building the Skills for Mindful Parenting



Multimedia:

The Brain Circuits Underlying Motivation: An Interactive Graphic

Executive Function

Essential Core Skills

Dimensions of Executive Function

Developing Executive Function

Disruptions in Executive Function

Your Role as an Adult Caregiver

A Look at Executive Function



© 2012 Washington State Department of Early Learning (DEL)

Partner Resources, Tools & Guides:

Training Module: Executive Function

Understanding Motivation: Building the Brain Architecture That Supports Learning, Health, and Community Participation

WORKING PAPER 14

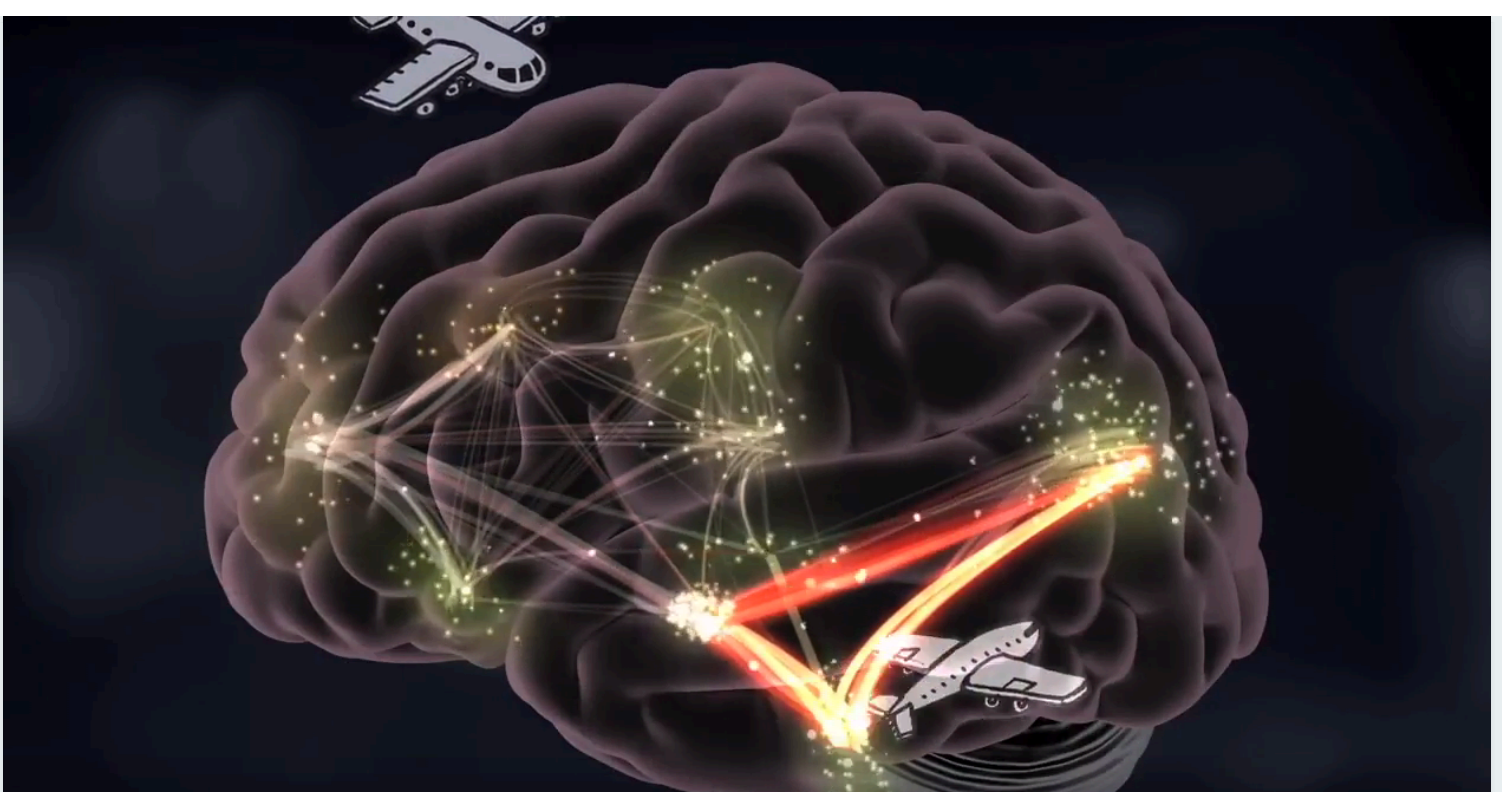


Reports & Working Papers:

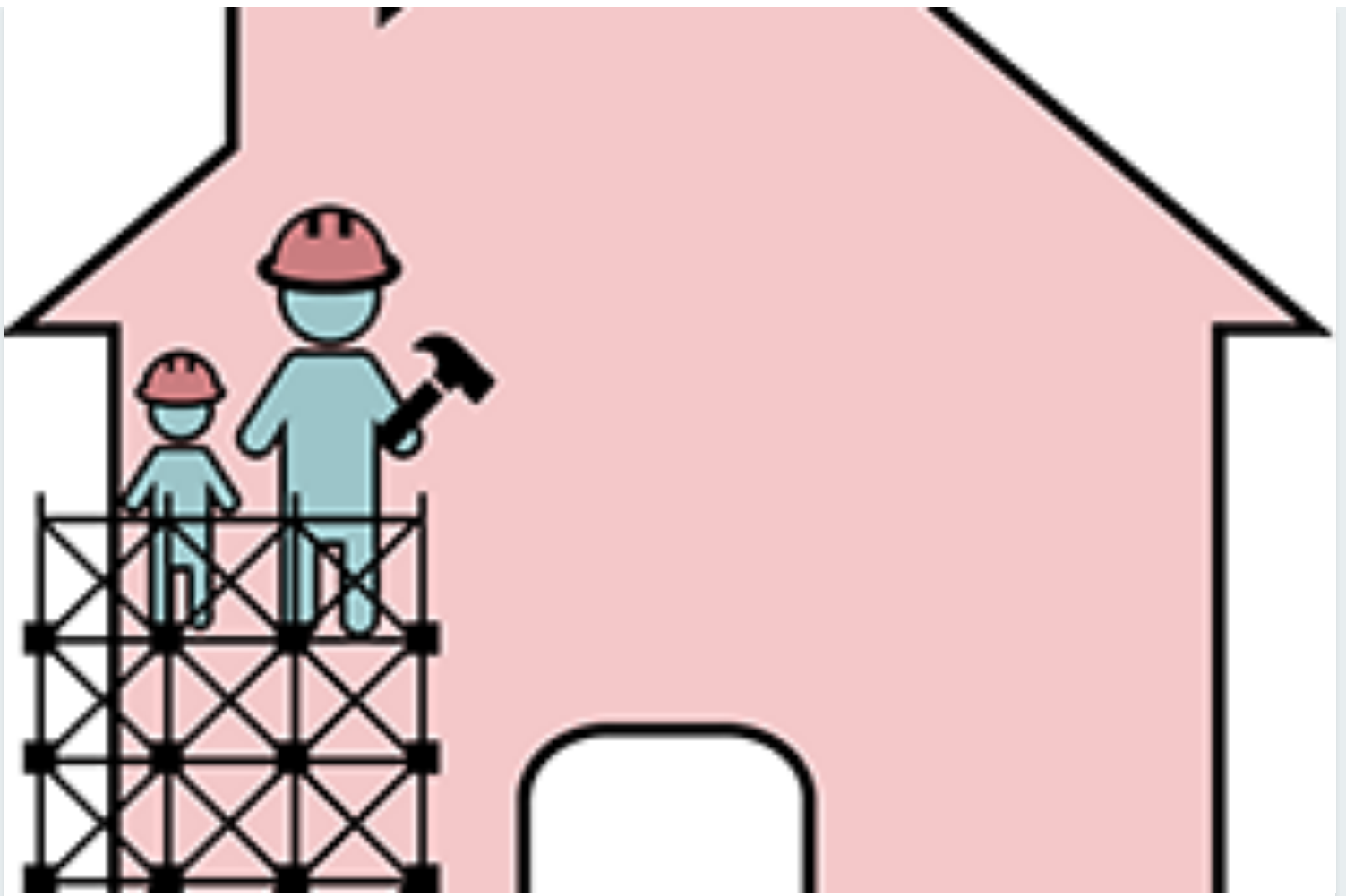
Understanding Motivation: Building the Brain Architecture That Supports Learning, Health, and Community Participation



Presentations:
Using Brain Science to Build a New 2Gen Intervention



Multimedia:
How Children and Adults Can Build Core Capabilities for Life



Multimedia:

What Is Executive Function? And How Does It Relate to Child Development?



Presentations:

Why Do Some Children Respond to an Intervention and Others Don't?



Home

The Florida State University Center for Prevention and Early Intervention Policy developed this Practitioner Series to increase the infant and early childhood mental health knowledge base and improve practice in managed care healthcare settings.

[Learn more about the series purpose](#) ⓘ

Florida State University Center for Prevention and Early Intervention Policy (CPEIP) is a nationally recognized leader in the field of early childhood mental health. [Learn more about CPEIP](#) ⓘ



Resources for Pediatricians

- 📖 Interactive Module
- 📖 Module Discussion Guide
- 📖 Physician Tip



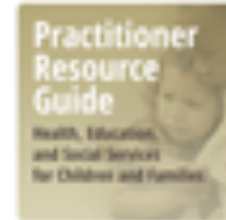
Resources for OB/Gyns

- 📖 Interactive Module
- 📖 Video: Effects of Opioid Use During Pregnancy



Resources for Care Coordinators

- 📖 Interactive Module
- 📖 Coordinator Briefs
- 📖 Video & Guide: Motivational



Practitioner Resource Guide

A complete services directory for Florida practitioners.

[Download The Guide](#)

Partner Resources, Tools & Guides:

Training Module: Health Care Practitioner Module and Resources



Partner Resources, Presentations:
[Using Brain Science to Create New Pathways out of Poverty](#)

[About the Center](#)

[Science](#)

[Innovation & Application](#)

[Collective Change](#)

[Resource Library](#)

[Q Search](#)

[Site Map](#)

[YouTube](#)

[Twitter](#)

