
We are not born with the skills that enable us to control impulses, make plans and stay focused. We are born with the potential to develop these capacities—or not—depending on our experiences during infancy, throughout childhood, and into adolescence.

EF skills develop through practice and are strengthened by the experiences through which they are applied and honed.

“Providing the support that children need to build EF Skills at home, in child care and preschool programs, and in other settings they experience regularly is one of society’s most important responsibilities.”

Being able to focus, hold and work with information in mind, filter distractions, and switch gears is like having an air traffic control system at a busy airport to manage arrivals and departures of dozens of planes on multiple runways.
In the brain, this air traffic control mechanism is called Executive Function.

EF refers to a group of skills that helps us focus on multiple streams of information at the same time, monitor errors, make decisions in light of available information, revise plans as necessary, and resist the urge to let frustration lead to hasty actions.

Acquiring the early building blocks of EF skills is one of the most important and challenging tasks of the early childhood years, and the opportunity to build further on these rudimentary capacities is critical to healthy development throughout middle childhood and adolescence.

Young children depend on their emerging EF skills to help them as they learn to read and write, remember the steps in performing an arithmetic problem, take apart in class discussions or work projects, and enter into and sustain play with other children.

It is this set of skills that enable children to plan and act in a way that makes them good students, classroom citizens and friends.

Children who do not have opportunities to use and strengthen these skills, and, therefore to become proficient- or children who lack the capacity for proficiency because of disabilities or, for that matter, adults who lose it due to brain injury or old age- have a very hard time managing the routine tasks of daily life.

For young children, adults set up the framework (i.e., establishing routine, providing cues, breaking big tasks into smaller chunks) that helps children use the EF skills they are developing to the best of their abilities. These techniques are called “scaffolding.”

Elementary teachers identify problems with paying attention, managing emotions, completing tasks, and communicating wants and needs verbally as major determinants of whether a child is ready to succeed in the school setting.

In many ways, coming to school with a solid base of these foundational EF skills is more important than whether children know their letters and numbers.
1. Executive function skills are crucial building blocks for the early development of both cognitive and social capacities.

2. Both normative differences in the nature and pace of individual developmental trajectories and the impacts of significant adversity will affect how the development of EF will unfold in any given child.

3. Several interventions focused on supporting the development of specific EF skills have demonstrated at least short-term effectiveness, with evidence also emerging that they may have impacts on other aspects of learning as well.

Children (even just one or two) who are not controlling impulses, waiting turns, stay focused on work task, and remember instructions will bring chaos to any classroom faster than just about anything else.

This can impact the overall climate of the class and lead to teacher burnout and exasperation.

WHAT ARE EXECUTIVE FUNCTIONS?
EF is distinct from (yet foundational to) school readiness and academic success.

Children’s EF skills provide the link between early school achievement and social, emotional, and moral development.
A young child’s environment of relationships plays an important role in the development of executive capacities.
Ordered and predictable environments foster the development of EF skills by offering children ample experiences that involve give-and-take interactions with others.

Adverse environments resulting from neglect, abuse, and/or exposure to violence can impair the development of EF skills as a result of the disruptive effects of toxic stress on the developing architecture of the brain.

Children who experience adversity at an early age are more likely to exhibit deficits in EF, suggesting that these capacities are vulnerable to disruption early in the developmental process.

WHAT RESEARCH TELLS US:

- The healthy development of EF skills can be supported with specialized practice and training
- Focused preschool interventions can also protect and enhance EF
  - Programs aimed explicitly at fostering EF skills
  - Programs that train and support teachers in effective classroom management strategies supplemented with assistance from Mental Health consultants
  - Programs that train teachers to model and coach children as their social-emotional skills are developing (focus on prosocial behaviors, social problem-solving skills, ability to understand and express emotions constructively, and ability to control impulsive behavior and organize themselves to accomplish goals)
- Improvements in EF extend to young children’s performance on measures of social skills and academic performance.

MISCONCEPTIONS:

- Contrary to popular belief, learning to control impulses, pay attention, and retain information actively in one’s memory does not happen automatically as children mature, and young children who have problems with these skills will not necessarily outgrow them.
By 12 months of age, a child’s experiences are helping lay the foundation for the ongoing development of EF skills. Adverse circumstances can disrupt this process.

- Contrary to popular belief, young children who do not stay on task, lose control of their emotions, or are easily distracted are not “BAD KIDS” who are being intentionally uncooperative and belligerent.
- Contrary to the theory that guides some early education programs that focus solely on teaching letters and numbers, explicit efforts to foster EF have positive influences on instilling early literacy and numeracy skills.

THE SCIENCE-POLICY GAP:

Education policies that emphasize literacy instruction alone are missing an important opportunity to increase their effectiveness by including attention to the development of EF skills.

The expulsion of young children from pre-k programs because of unmanageable behavior illustrates the need for greater availability of expertise and resources to improve the EF skills of vulnerable young children.

The lack of services that directly address sources of toxic stress during the earliest years of life indicates a disconnect between policies and the known vulnerability of many aspects of brain development (including EF skills) to the effects of early adversity and the need for preventative policies to reduce such lost opportunities.