

CNMI BRAIN BUILDERS NEWSLETTER



NOVEMBER 2023 | ISSUE 11



Nov. 15, 2023 | Sinapalo Elementary School



Nov. 16, 2023 | Honorable Mayor of Rota, Aubrey Hocog and her team

From November 15-18, 2023, the Science of Early Learning-CNMI Brain Builders team, in collaboration with DICE Pacific Professional Solutions, LLC, conducted engaging information and café sessions in Rota. The sessions welcomed participants including the Honorable Mayor Aubrey Hocog and her team, members of the Grace Christian Academy Church group, as well as Sinapalo Elementary School and FilCoR. This collaborative effort aimed to enhance awareness and support for early learning and brain development, fostering a shared commitment in the community.



Nov. 17, 2023 | Grace Christian Academy Church Group



Nov. 18, 2023 | FilCoR



FilCoR will be joining the effort in elevating the importance of early learning and brain building.

November



"All children in the CNMI will be safe, healthy, and thriving members of a culturally diverse community. Their families will have access to the high quality supports they need to achieve their potential."



CNMI BRAIN
BUILDERS

COGNITION AND EXECUTIVE FUNCTION

November 2023 | Issue 11

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.

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.
- **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.



Each type of executive function skill draws on elements of the others.

Children aren't born with these skills—they are born with the potential to develop them. Some children may need more support than others to develop these skills. In other situations, 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 can disrupt brain architecture and impair 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.

BUILDING EXECUTIVE FUNCTION SKILLS



Past Event Photos



EXECUTIVE FUNCTION ACTIVITIES FOR 6- TO 18-MONTH-OLDS

Lap games for younger infants

Generations of families have engaged babies in games while holding them in the lap. Different games practice different skills, but all are predictable and include some basic rules that guide adult and child behavior. Repetition helps infants remember and manage their own behavior to fit the game's rules.

- **Peekaboo** — Hide-and-find games like this exercise working memory, because they challenge the baby to remember who is hiding, and they also practice basic self-control skills as, in some variations, the baby waits for the adult to reveal him or herself. In other versions, the baby controls the timing of the reveal; this provides important practice regulating the tension around an expected surprise.
- **Trot, Trot to Boston;** This is the Way the Farmer Rides; Pat-a-Cake — Predictable rhymes that end with a stimulating yet expected surprise are well-loved. Infants exercise working memory as they develop familiarity with the rhyme and practice anticipating a surprise, inhibiting their anticipatory reactions while managing high levels of stimulation.

EXECUTIVE FUNCTION ACTIVITIES FOR 18- TO 36-MONTH-OLDS

Active games

At this age, toddlers are actively developing many important physical skills, and they love physical challenges. The following activities require toddlers to focus and sustain their attention on a goal, inhibit unnecessary and ineffective actions, and try things in new ways if a first attempt fails. They may not always succeed, but the practice is very important. This is a learning process. Many of these activities will require frequent reminders from adult organizers, and they may not last very long!

- **Provide many materials and opportunities** to try new skills, such as throwing and catching balls, walking a balance beam, running up and down an incline, jumping, etc. Set up simple rules to follow for added working memory and inhibition challenges—for example, take turns running to a “finish line” and back.
- **Older toddlers can enjoy simple imitation games**, such as Follow the Leader, or song games like Punchinella or Follow, Follow (“Follow, follow, follow [child’s name], follow, follow, follow [child’s name]”—all children imitate [child]). These are great tests of working memory as well as attention and inhibition.

EXECUTIVE FUNCTION ACTIVITIES FOR 3- TO 5-YEAR-OLDS

Quiet games and other activities

- **Matching and sorting activities** are still fun, but now children can be asked to sort by different rules, promoting cognitive flexibility. Children can first sort or match by one rule (such as by color), and then immediately switch to a new rule (such as by shape). For a more challenging version, play a matching game, but change the rule for each pair. Quirkle and S'Match are commercially available games that challenge cognitive flexibility in this way. Or play a bingo or lotto game, in which children have to mark a card with the opposite of what is called out by the leader (e.g., for “day,” putting a chip on a nighttime picture). Children have to inhibit the tendency to mark the picture that matches, while also remembering the game's rule.
- **Increasingly complicated puzzles** can engage children this age, exercising their visual working memory and planning skills.
- **Cooking is also a lot of fun** for young children. They practice inhibition when waiting for instructions, working memory while holding complicated directions in mind, and focused attention when measuring and counting.

“ENHANCING AND PRACTICING EXECUTIVE FUNCTION SKILLS WITH CHILDREN FROM INFANCY TO ADOLESCENCE.” CENTER ON THE DEVELOPING CHILD AT HARVARD UNIVERSITY, WWW.DEVELOPINGCHILD.HARVARD.EDU.

Featured Researcher:
Dr. Dan Siegel



Clinical
Professor of
Psychiatry,
UCLA School of
Medicine

**“The relationship
you have with your
child shapes the
structure and
function of their
brain.”**

Face Off

Ages 4-5



Make a face that expresses a feeling. Ask your child to make a face that shows the opposite feeling. If you make a happy face, they should make a sad face. Chat about when they remember people making these faces. Take a selfie or draw a picture together with your goofiest faces to stretch the moment!

See what your child is learning

Brainy Background

Mirroring the emotions of others helps your child learn empathy. It can also help them express their own feelings. These are essential skills that we use every day as adults!



For more activities like these, check out the free Vroom mobile app!

vroom

**#vroomtip
of the
month**

Congratulations to the winners of CNMI Brain Builders October Contest!



Melca Javellana-Austria



Mary Ruth Legaspi



Vannesa Abella



Anabel Samson



Jennifer Rachel P. Lizama

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