Understanding How “Executive Function” IS “Everyday Function” in FASD

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Executive Function

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Assessments of Executive Function

- Hayling Sentence Completion
- Brixton Spatial Anticipation
- Sustained Attention To Response
- Multiple Errands
- Cambridge Neurological Six Elements
- Verbal Fluency
- Hotel
- N-Back
- Gambling
- Stroop
- Hanoi
- WCST
- Design Fluency
- Dysexecutive
- Letter-Number Span
- Frontal Systems Behavior
- Greenwich
Tower of Toronto

Saint-Cyr and Taylor, 1992 / Lezak et al., 2012 p. 667
Wisconsin Card Sorting Test

The PFC is Well-Connected

- Parietal Cortex
- Striatum
- Amygdala

Planning
Problem-Solving
Emotional Regulation
Flexibility
AND SO WHAT?

LET’s RETHINK THIS THING
Purpose of EFs

EFs enable the ability to respond in an adaptive manner, and underlies success in cognitive, emotional & social skills

Paraphrasing from Lezak et al (2012), p. 666
Impersonal Problem-solving
Impersonal Problem-solving
Impersonal Problem-solving

Nixon & Parsons, 1991
Purpose of EFs

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Paraphrasing from Lezak et al (2012), p. 666
In spite of your repeated warnings, your long talks, and punishments, your child persists in coming home long after curfew you have set. One night you are waiting 45 minutes after the deadline and are really angry. She comes in, and as you begin to explain why you are angry, she yells at you. “Look you old fossil, I can’t live like you did back in the dark ages!” You really feel like you are about to blow up. How do you handle it?
Adaptive Skills Battery

* Significant group effect, p=0.0001
** Significant sex effect, p=0.003
ARE WE STILL MISSING THE POINT?

- Problems in getting & keeping a job
- Challenges with the legal system
- Failed friendships & other relationships

Tests don’t adequately address challenges in the real-world
EFs Are Also

**Developmentally Sensitive:** Linked to brain development, in turn influenced by both brain structure and experience.

**Always Relevant:** Continued (increased?) import for life-success, with environments increasingly complex & demanding.
It’s All About ME (WOHOO)

Adapted from Barkley, 2012
Effective Regulation Allows Us to:

• Organize & navigate our environmental context
• Understand the constraints of time & respond appropriately
• Identify personal incentives & appreciate immediate & delayed benefits
• Understand when and be able to inhibit our own behavior (including revealing too much)
• Recognize the wider implications of rules or behavioral expectations

Cognitively & emotionally integrate how space, time, motivation, inhibition and rules all interact!
Spatial Capacity
Motivation Capacity

INSTANT GRATIFICATION
I'm gonna go buy a coffee!

NO, I CAN'T! WE BARELY HAVE MONEY FOR RENT!

I'll just make some when I get home.

BUT, I WANT IT NOW!

INSTANT GRATIFICATION
You need this. Right now.
Conceptual Capacity

• Don’t Speak to Strangers…
  • Better yet, who is a stranger?

• Taking vs. Borrowing/ Boundaries
  • Does “it’s okay now” mean it is “always okay”?

• “A Stitch in Time Saves Nine”
O’Riley was on trial for armed robbery. The jury came out and announced, “Not guilty.” “Wonderful,” responded O’Riley. “Does that mean I can keep the money?”
(Suls, 1972, p. 90)
Tim was in a restaurant. He spilled his coffee on the floor by accident.

Jack was another person in the restaurant, standing by the cash register waiting to pay.

Tim went up to Jack and said “I’m terribly sorry, but I’ve spilled my coffee. Would you be able to mop it up?”

- Where did the story take place?
- Did Tim know Jack was a customer?

Baron-Cohen et al., 1999
https://doi.org/10.1023/A:1023035012436
Interpreting Others

- Serious
- Ashamed
- Alarmed
- Bewildered
- Irritated
- Aghast
- Reflective
- Impatient

Baron-Cohen et al., 2001
https://doi.org/10.1017/S0021963001006643

“Reading the Mind in the Eyes”
Interpreting Others

- Relaxed
- Upset
- Surprised
- Excited

- Feeling Sorry
- Making Somebody Do Something
- Joking
- Relaxed

Lindinger et al., 2016
https://dx.doi.org/10.1111%2Facer.12961

“Reading the Mind in the Eyes”
Moving Forward…

- Can we develop/apply interventions?
- What about managing day-to-day?
- Challenges?
Do You Mean *Eliminate* Deficits?

- Can engage training programs, teach interpersonal skills, appropriate behavior, etc.
- The long-term outcome influenced by consistency in feedback, opportunity to practice, “booster” trainings
- Challenging the limits of both neuroplasticity and real-world contexts
Can Outcomes (LIFE) be Improved?

Absolutely!

• Return to what EFs do for us:
  • Simply: Allow us to navigate our worlds to achieve our goals /meet its demands: support Self-Regulation

FIRST: Know what you want, what kinds of things help you feel like you fit in, that you are contributing?
SECOND: Identify and adjust those things that keep tripping you up.
NOT SO SIMPLE

• Sounds like: **IF ONLY YOU’D** … then …

• FASD and many other disorders are marked by the **inability to consistently apply** processes that support EF

• **NOT a matter of will-power**, it is a matter of fundamental brain function

• Real-world **impact isn’t on sorting cards or rings on a peg**

Navigating the world that has deadlines, conflict and requires nuance
Is it back to the Beginning?

• NO!

• Proper assessment with recognition that "higher" order functions may be dependent on lower level functions, but are separate

• Requires innovation that considers behavior in real-world settings

• Evangelical support for more responsive level of care approach & support
Action Steps

• Emphasize distinction between intent and outcome
• Allow multiple points of service entry and multiple opportunities across time
• Continuing Support Personnel: Focusing on dynamic objectives
• Increase awareness among employers, not just of challenges, but effective fixes
• Continue work with government/legal systems
• Promote/provide Opportunities
Reason for Optimism

Everyone has Weaknesses that Challenge Life Success

FASD may be characterized by diverse and significant challenges: Pervasive is Inefficient Self-Regulation

• *But*, if recognized as neurobehavioral dysregulation, not one of intent/will-power
• *AND* if assessed in “relevant” terms
• Opportunities for management as a *chronic* condition within an informed and engaged community
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