Poll:
Before seeing the info about this webinar, had you heard of Unstuck and On Target before?

- Yes
- No

The Original Unstuck Research and Development Team

Laura Anthony
Laura.Anthony@UCDenver.edu
Psychologist, Therapist

Lynn Cannon
lcannon.ivymount.com
Special Education Teacher

Monica Werner
MWerner.caatonline.com
School Administrator, Parent Coach

Katie C. Alexander
kt.c.alexander@gmail.com
Occupational Therapist

Lauren Kenworthy
lkenwort@childrensnational.org
Neuropsychologist
Organization for Autism Research Seminar

UNSTUCK AND ON TARGET GRADES 6-8: IMPROVING ADOLESCENT EXECUTIVE FUNCTION SKILLS

John Strang
Lauren Kenworthy
Monica Adler Werner
Lynn Castron
Cara Pugliese
Katie Alexander
Laura Anthony

Spiraling EF Curricula

Age 7-11: Fun games/experiments to learn scripts (Kenworthy & Anthony, 2014)

Age 11-15: Planning fun activities to learn scripts/routines

Age 16-20: Personal goals and college readiness

Common scripts/routines take on broader nuance/meaning

Development of Unstuck and On Target: Grades 6-8

- Research-tested EF intervention (Unstuck and On Target)
- Multidisciplinary team developed initial On Target for life lessons
- Piloted in clinic groups (3 years) – weekly feedback from youth/parents – Revision
- Pilot trial in private school (1 year) – youth feedback and piloting of measures – Revision
- Comparative randomized controlled trial (RCT) in public schools
- Final revision based on student, teacher, and parent feedback

What is Executive Function?

- Manage your impulses – delay for a larger reward
- Think and behave flexibly – instead of getting stuck
- Manage emotions – self-regulate
- Hold ideas in mind
- Set goals and plan – future thinking
- Organize information – “big picture”
- Monitor yourself – and course correct if necessary

Widening EF gap over time in ASD

Increasing EF demands over time:

- Kindergarten
- Elementary school
- Middle school

= ASD youth fall further behind in EF skills
(Rosenthal et al. 2013)
EF predicts later ASD outcomes

Childhood and adolescence  
Late adolescence and young adulthood

Executive Function  \(\rightarrow\)  Adaptive Skills

(Pugliese et al., 2016)

Poor adult outcomes in ASD

(Farley et al., 2009)

EF predicts later ASD outcomes

Childhood and adolescence  
Late adolescence and young adulthood

Executive Function  \(\rightarrow\)  Adaptive Skills

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Poor adult outcomes in ASD

(Farley et al., 2009)

EF differences in ASD

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Organization/Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Getting &quot;stuck&quot; on topics</td>
<td>• Focus on details</td>
</tr>
<tr>
<td>• Special interests</td>
<td>• Interest in systems</td>
</tr>
<tr>
<td>• Scripts/repetition</td>
<td>• Learns rote facts</td>
</tr>
<tr>
<td>• Less comfortable with change</td>
<td>• Less big picture thinking, integration, future thinking</td>
</tr>
<tr>
<td>• Strength for routines</td>
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How to "teach" EF??

EF is not like academic subjects:
- Not about learning facts
- Not even about learning concepts
- Doing well on a knowledge test about EF would have little to do with your actual EF skills

EF is skills and habits – it is about DOING

Sports, martial arts, music:
- Fun
- Active - about doing
- Building automatic habits

Phenotype specific

<table>
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<tr>
<th>Thinking style</th>
<th>Technique</th>
<th>Goal</th>
</tr>
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<tbody>
<tr>
<td>Inflexibility - getting &quot;stuck&quot;</td>
<td>Scripts and routines</td>
<td>Getting youth stuck on flexibility and planning skills</td>
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<tr>
<td>Detail-level thinking</td>
<td>Details/scripts elaborated over time</td>
<td>Larger meaning emerges piece-by-piece</td>
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Scripts
The development of scripts in children with autism:

Repeating chunks of movies/shows, sometimes without apparent comprehension

Repeated phrases appear in speech: “Actually, I went to the beach. Actually, I saw a shark.”

Scripts
We can get “stuck” on useful words and ideas

We intentionally help youth get “stuck” on scripts

Scripts are cognitive – behavioral (CBT)

What makes a good script:
1. Words, phrases, routines or formulas,
2. which can be used in many different situations,
3. which fit in everyday conversation (if possible),
4. and which represent key skills/targets.

Scripts
Use them in your own life – Live Out Loud

Goal is to get the student to like the scripts/routines (to see Power in them)

Negative associations with scripts can make kids allergic to them (stop saying “flexible”!!)

So, use scripts for positive situations/praise, not as criticisms, critiques, or corrections

Unstuck and On Target Grades 6-8

Scripts (self awareness, self-regulation, motivation):
• Flexible thinking - Stuck/Unstuck, Plan A/B
• Stuck on a detail vs. “Big picture”
• Power – more power to get what you want and need in your life
  (Power to make the world a better place)
• Compromise

Unstuck and On Target Grades 6-8

Successive planning activities:
1. A highly structured party (Stuck on a detail?)
2. Choose and plan for a goal (Compromise)
3. Longer-term event (Goal; Eyes on the Prize)
4. Personal goal (How to get more Power in my life?)
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<th>Goal:</th>
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<th>Check:</th>
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| Buy a video game | 1. Ask mom if she will buy it for me  
2. Go to the store and get it  
3. Enjoy playing it | ✔️     |
| I will enjoy playing it | Plan B?  
I will enjoy playing it | ✔️     |

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**Comparative RCT design**

- Two interventions:
  - Unstuck and On Target: Grades 6-8
  - PEERS (Program for the Education and Enrichment of Relational Skills) (Laugeson et al., 2013)
- Randomized in 9 public middle schools
- Interventions given by school staff
- Study staff trained teachers
- Two parent training sessions
- Pre-post design:

**RCT Participants**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measure</th>
<th>Description</th>
<th>UOT (N=17)</th>
<th>PEERS (N=14)</th>
<th>Groups differ?</th>
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<tbody>
<tr>
<td>Executive Function</td>
<td>Classroom Observations</td>
<td>Classroom observations in English class: flexibility and work skills</td>
<td></td>
<td></td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>Challenge Task (Kenworthy &amp; Anthony et al. 2014)</td>
<td>Interactive interview presenting flexibility and planning challenges</td>
<td></td>
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<td>no</td>
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<tr>
<td></td>
<td>Tower of London</td>
<td>Standardized planning measure</td>
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<td></td>
<td>no</td>
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<tr>
<td>Social</td>
<td>Social Responsiveness Scale 2</td>
<td>Standardized parent-report social scale</td>
<td></td>
<td></td>
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<tr>
<td>Anxiety</td>
<td>Scanhill Anxiety Scale</td>
<td>Parent-report anxiety scale (raw score)</td>
<td></td>
<td></td>
<td>no</td>
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</tbody>
</table>
Comparative RCT Results

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<th>Domain</th>
<th>Measure</th>
<th>Pre-post change (effect size) UOT</th>
<th>PEERS</th>
</tr>
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<tr>
<td>Executive Function</td>
<td>Classroom Observations</td>
<td>.82</td>
<td>.38</td>
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<tr>
<td></td>
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<td>.30</td>
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<td>Scahill Anxiety Scale</td>
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<td>.71</td>
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Overall Findings

- PEERS group improved in:
  - Parent reported social functioning, especially social cognition
  - Parent reported anxiety
- UOT group improved in:
  - Parent reported social functioning
  - Parent reported anxiety
  - Observable executive function behaviors in the classroom (English class)
  - Observable executive function behaviors in a novel challenging situation

Next steps

- Unstuck and On Target: Grades 6-8 is in the midst of final revision for publication
- We are currently analyzing our long-term follow-up data (1 year post intervention)
- Aiming for a larger-scale trial (grant application currently under review)

Questions?

John Strang, PsyD
jstrang@childrensnational.org

Find Unstuck and On Target on Facebook

https://www.facebook.com/UnstuckandOnTarget/