Enhancing Self-Regulation with Executive Function Skill Training: Development of the *I Control* Curriculum

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This project was funded by the Institute of Education Sciences (IES; R324A110182)

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**Project Rationale**

- Social demands and concomitant decreases in levels of social & emotional support during adolescent’s transition to middle school necessitate explicit intervention to increase the capacity for flexible, appropriate self-regulation in social situations.
- There is growing neurocognitive evidence for the link between the development of self-regulation and executive functioning (EF) - the active, cognitive manipulation and integration of information and the sequencing and monitoring of goal-oriented actions - during this transitional period.
- We developed the *I Control* curriculum to formalize processes that underlie the self-regulation of emotions and behavior for youth with existing difficulties with self-regulation, including those requiring special education services.

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**The *I Control* Curriculum**

- Year-long intensive program (approx. 80 sessions over 27 weeks)
- Implemented 3x per week (2:1 ratio of lessons to computerized training)
- Lessons progress through skill development in:
  - Goals-Setting
  - Emotion Regulation
  - Problem Solving

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**Professional Development**

- Initial 2 day in-service training for teachers and paraprofessionals
- Ongoing web-based support via podcasted lesson “job-aids”, Q&A/community forum, & instructional videos for activities

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**Brain Training Lab**

An additional weekly 30-minute session involves self-guided, computerized direct training of executive function skills via a “gaming” regimen combined with self-monitoring.

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**Theory of Change**

<table>
<thead>
<tr>
<th>Direct Training of Executive Function</th>
<th>Instruction in Self-Regulation Domains</th>
<th>Social-Emotional Competence</th>
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<tbody>
<tr>
<td>Impulse Control</td>
<td>Goal Setting</td>
<td>Better Social Relationships</td>
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<tr>
<td>• Inhibition of impulsive responses</td>
<td>• Goal Planning</td>
<td>• Teacher</td>
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<td>Working Memory</td>
<td>• Initiation and motivation</td>
<td>• Peer</td>
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<td>• Hold and use information</td>
<td>• Goal Monitoring</td>
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<td>Cognitive Flexibility</td>
<td>• Emotion Regulator</td>
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<tr>
<td>• Rule selection and shift strategies</td>
<td>• Emotion Control Strategies</td>
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<tr>
<td>Problem Solving</td>
<td>• Problem Recognition and Definition</td>
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<tr>
<td>• • Solution Generation and Evaluation</td>
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**Year 3 Pilot Study**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Year 1 Fall</th>
<th>Year 1 Spring</th>
<th>Year 2 Fall</th>
<th>Year 2 Spring</th>
<th>Year 3 (All Year)</th>
</tr>
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<tbody>
<tr>
<td>Twelve racially and socioeconomically diverse classrooms in North Central Florida (6 treatment and 6 control)</td>
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**Sample**

Approx. 90 students ages 12-16 with identified emotional and behavioral problems requiring individualized and/or intensive intervention and supports

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**Measures for Pre-Post Comparison**

Executive Function & Self-Regulation:
- NIH Toolbox computerized versions of the *Dimensional Change Card Sort (DCCS)* (Zelazo, 2006), *List Sorting Working Memory Test*, and the *Flanker Inhibitory Control and Attention Test* (see Weintraub et al., 2013 for descriptions)
- *Behavior Rating Inventory of Executive Function Teacher- and Student-Forms (BRIEF)* (Gioia, Isquith, Guy, & Kenworthy, 2003)
- *Self-Regulation Questionnaire (SRQ)* (Brown, Miller, & Lawendowski, 1999)

Social, Emotional, & Academic Outcomes:
- *Clinical Assessment of Behavior (CAB)* (Bracken & Keith, 2004)
- *Social Cognitive Skills Test (SCST)* (van Manen, 2006)
- *Social Skills Rating System* (Gresham & Elliott, 1990)