

An Executive Functioning and Social Skills Intervention in Low-income Preschools: Preliminary Findings

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Background

- Both behavioral self-regulation and cognitive functioning are important in early academic development (Konold and Pianta, 2005)
- Executive function skills such as inhibitory control, attention, and working memory predict emergent literacy, vocabulary, and math skills (McClelland et al., 2007)
- Low income preschool children are likely to have less well developed executive functioning and poorer school readiness skills (Winslow, 2008)
- Executive functioning skills can be taught to children (Bodrova & Leong, 2007; Morrison et al., 2010; Tominey & McClelland, 2011)

Study Design

- Classroom randomized trial of the Second Step Early Learning Curriculum
- Two cohorts of n=32 classrooms each drawn from participating community child care programs and Head Start
- Children assessed by teachers and subset by individual child assessors (blind to study hypotheses) at beginning and end of school year
- Kindergarten follow-up of 4 year olds

Curriculum

- 28 weekly lessons; 5-7 minute activities/ day
- Techniques for assisting children to review and think about lessons
- Brain builder games -children use working memory/attention/inhibition to follow visual or verbal instructions and cues
- Puppets, story cards, songs, small & large group activities, story books, and parent handouts

Curriculum Content

- **Unit 1: Skills for Learning** (listening, focusing attention, self-talk to follow directions, being assertive)
- **Unit 2: Empathy** (identifying feelings in self and others, perspective taking, showing care and concern)
- **Unit 3: Emotion Management** (identifying and understanding strong emotions, calming down strategies)
- **Unit 4: Friendship Skills and Problem Solving**
- **Unit 5: Transitioning to Kindergarten**

Measures

- Peabody Picture Vocabulary Test
- Woodcock Johnson Tests of Achievement- Understanding Directions, Letter Word Recognition, Story Recall, Story Recall Delayed, and Math
- Hot executive functioning: Less is More task (using stickers as rewards)
- Inhibitory control/cool executive functioning: Head-to Toes task
- Working memory: Backward digit span
- Executive attention: Bear Dragon
- Emotion knowledge: Emotion Matching scale

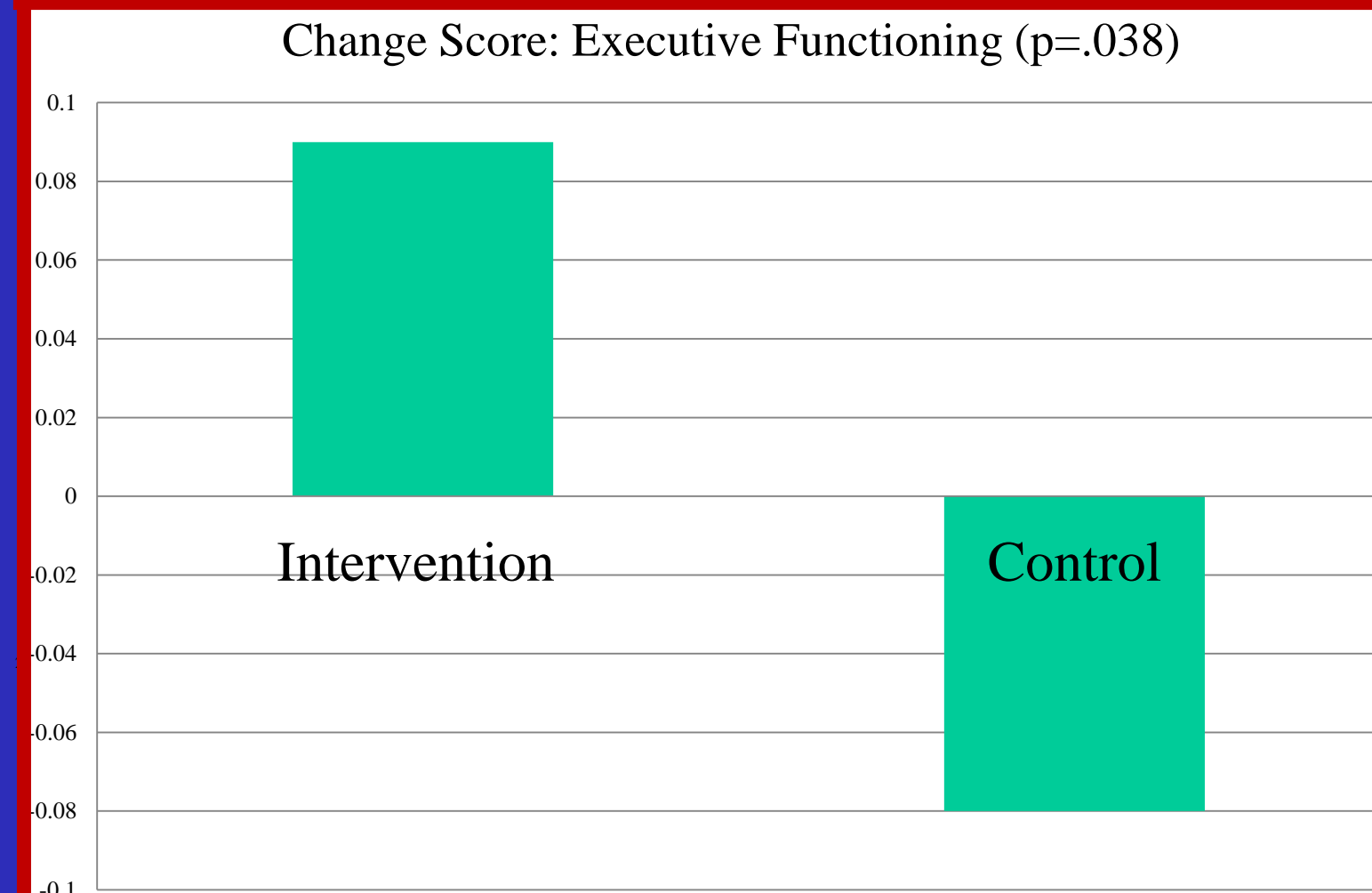
Sample

- N=189, 112 boys & 77 girls
- Age M=53 months (SD=4.04)
- Income: 32 % <10,000 26 % 10,000 – 19,999, 40 % > 20,000
- Ethnicity: 11 % Black, 37 % Hispanic, 30 % White
- From 33 classrooms, 16 intervention

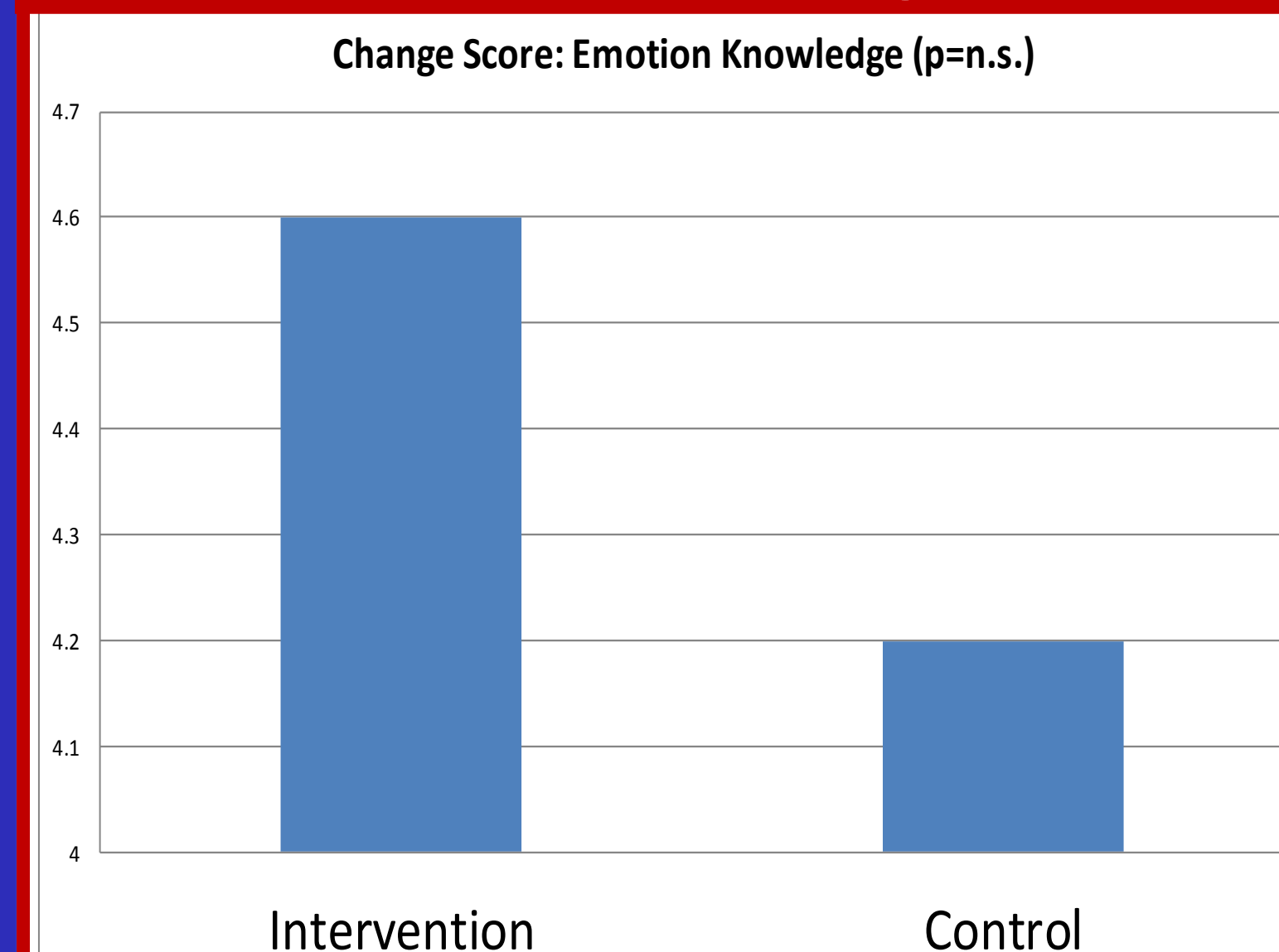
Analyses

- Independent samples t-test conducted
- Used composite across EF skills (individual scores not significantly different but pattern for intervention to have bigger change)
- Used Emotion Knowledge score
- Change scores calculated spring minus fall

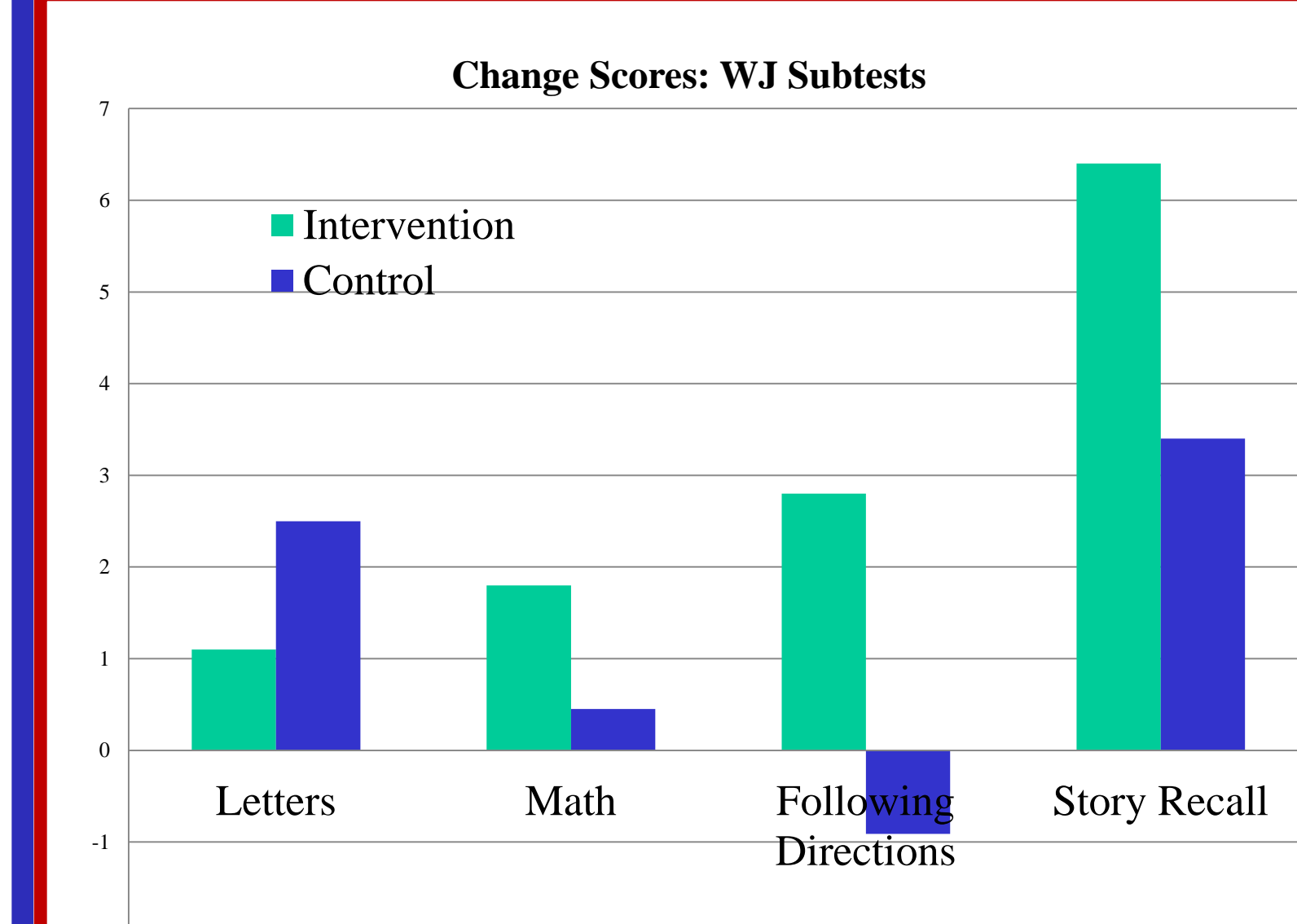
Executive Functioning Composite



Emotion Knowledge



School Readiness Skills



Conclusions

- Some evidence that curriculum improves EF compared to control curriculum
- Curriculum implemented approximately 75% with moderate fidelity based on monthly observations
- Expect higher rates of implementation and fidelity in second year to increase outcomes

Funding & References

- ¹Based on data from Kidsteps II: Promoting school readiness through social-emotional skill building in preschool. # R305A130336: US Department of Education, Institute for Education Sciences
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