



Together for Kids Coalition  
Update for Massachusetts Department of  
Early Education and Care

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# Today's goals

Give an overview of evolution from

Mental health consultation outcomes→

Pilot classroom primary prevention outcomes→

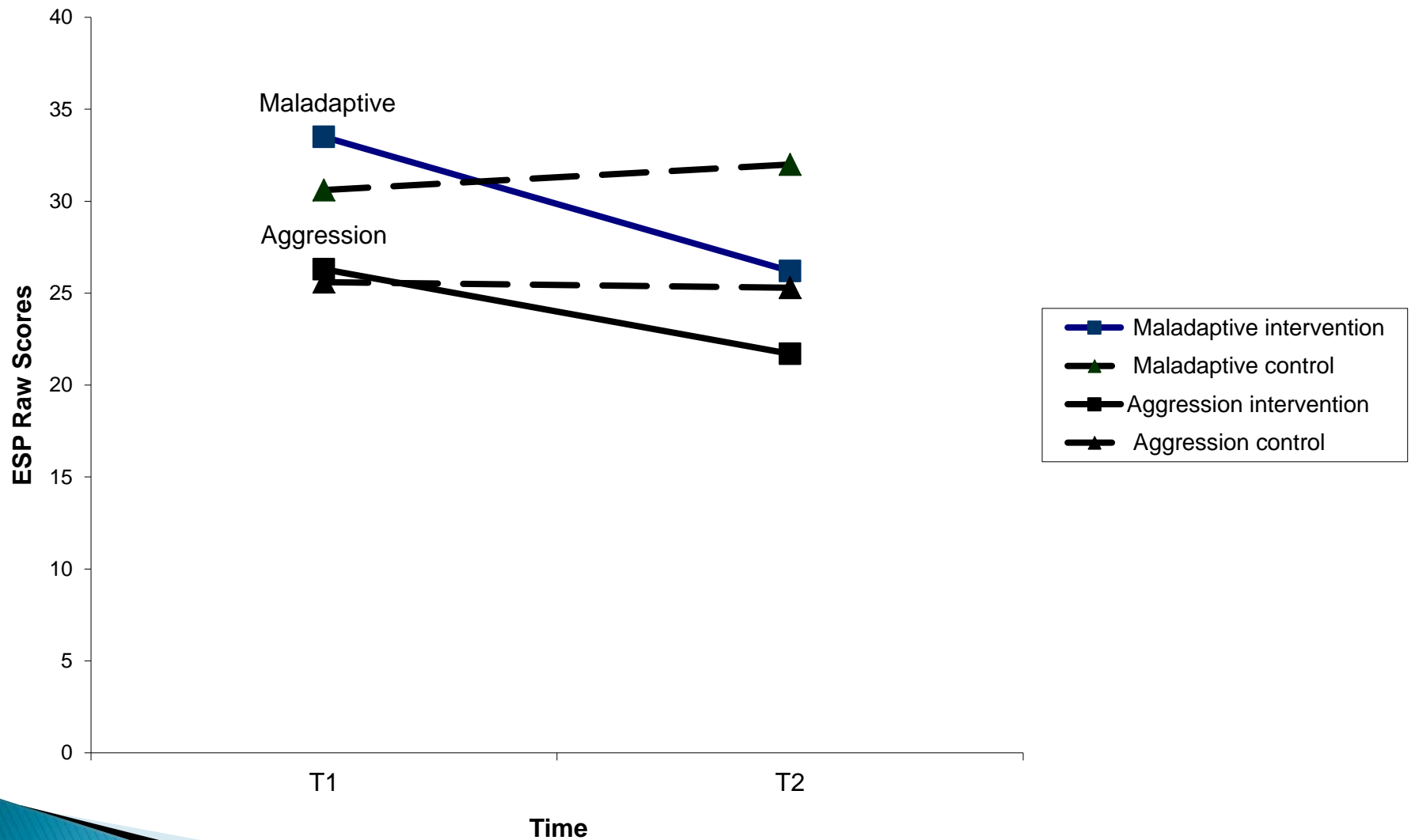
Current work funded by US Department of  
Education/Institute of Education Science



# Background

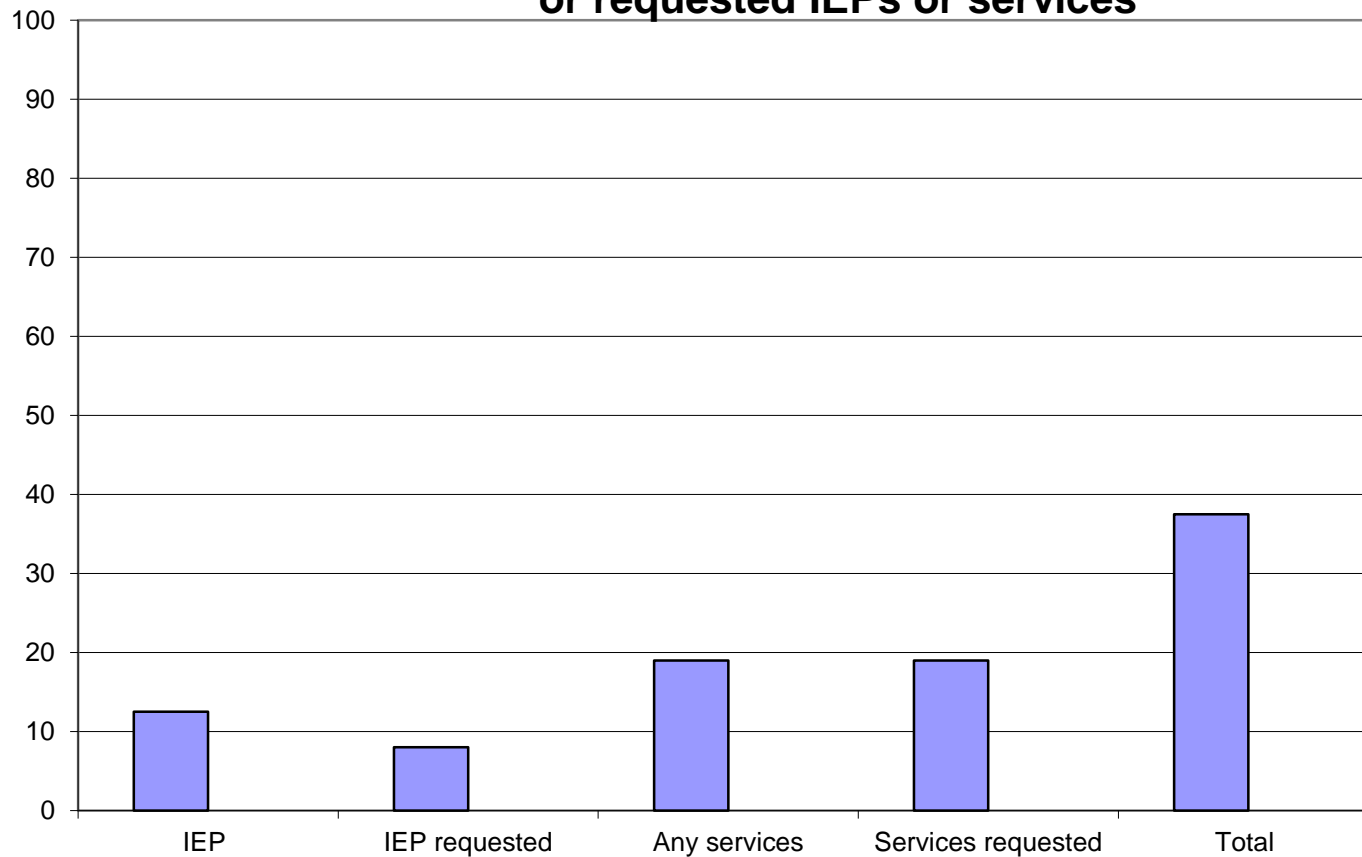
- ▶ 2001–current: work of TFK coalition to develop and provide mental health consultation services to child care centers
- ▶ This work found:
  - Great interest in child care sites in receiving help to work with young children's disruptive behavior
  - Ability of centers to conduct regular screening for behavior problems and work collaboratively with TFK to deliver teacher mental health consultation and parent and child services
  - Successful outcomes in reducing behavior problems and increasing developmental and school readiness skills among children and families provided services including ratings by kindergarten teachers
  - Estimated cost savings on school services of \$1–3 for every \$1 spend in preschool

**Figure 1. Changes in maladaptive behavior and aggression for matched groups.**

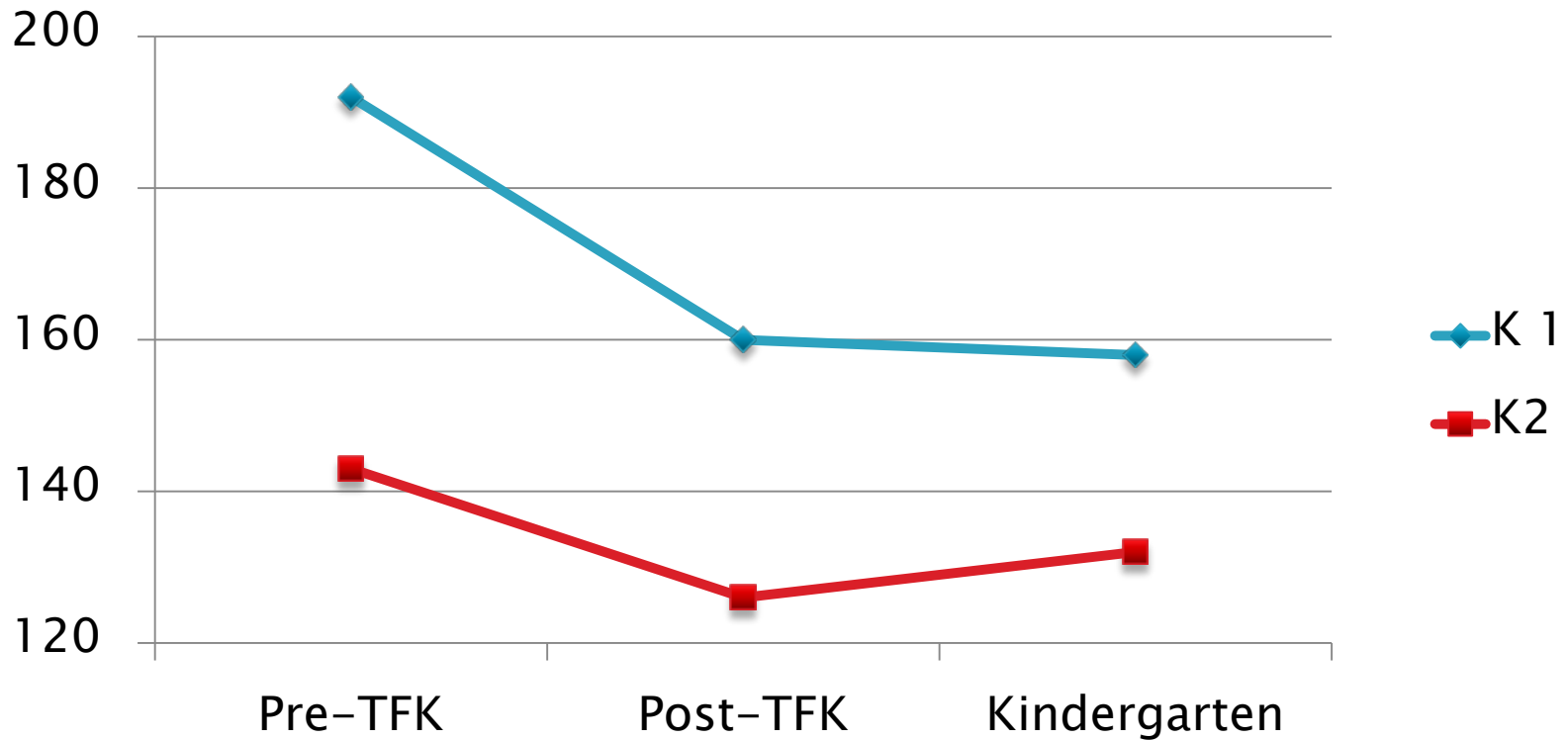


# Kindergarten Follow-up 2009– Services

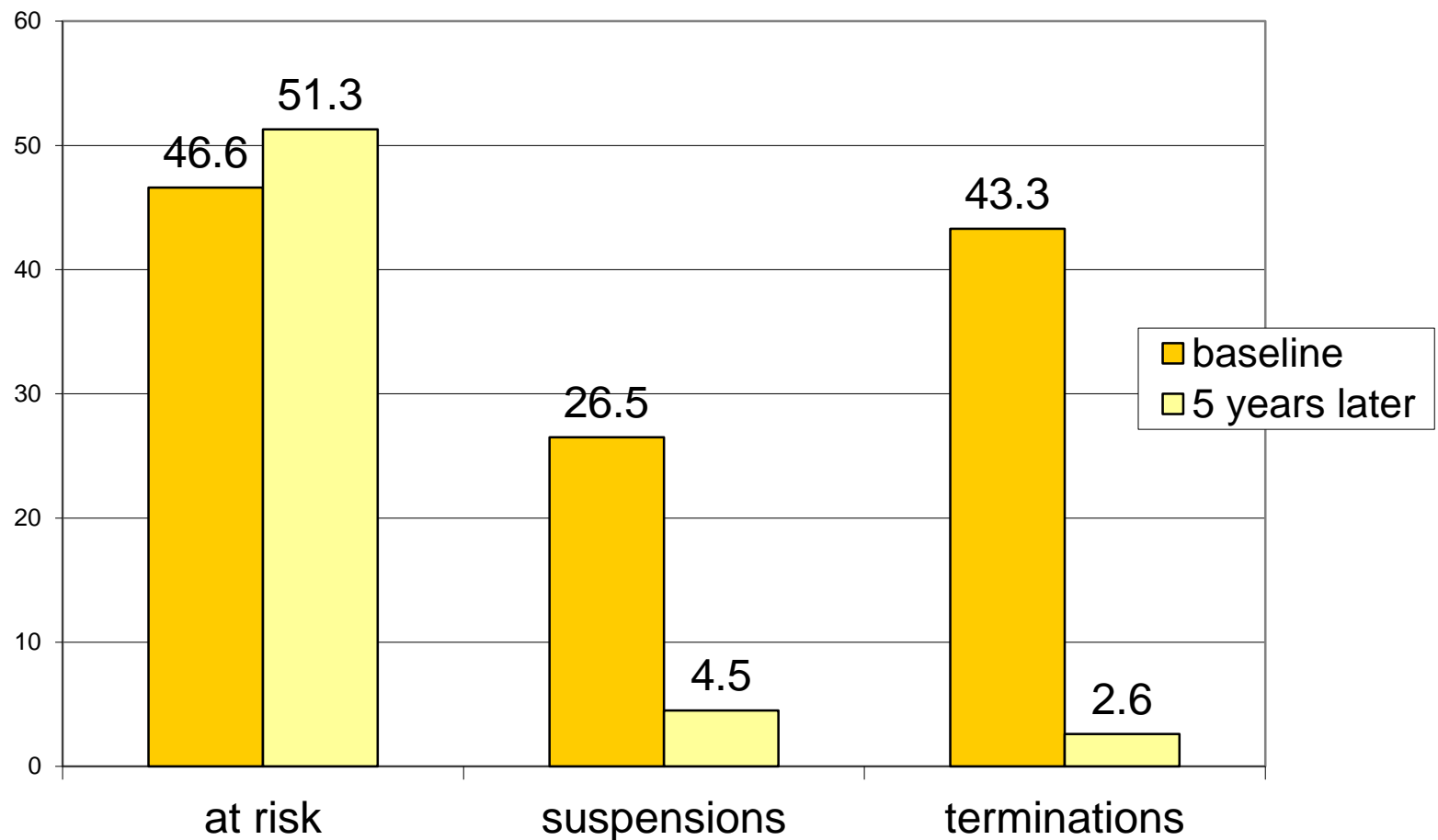
**Percent of TFK individual services children with IEPs, services  
or requested IEPs or services**



## Child Behavior Problems Rated by Preschool and Kindergarten Teachers–2 waves of Kindergarten Follow-Up (Sutter Eyberg score)

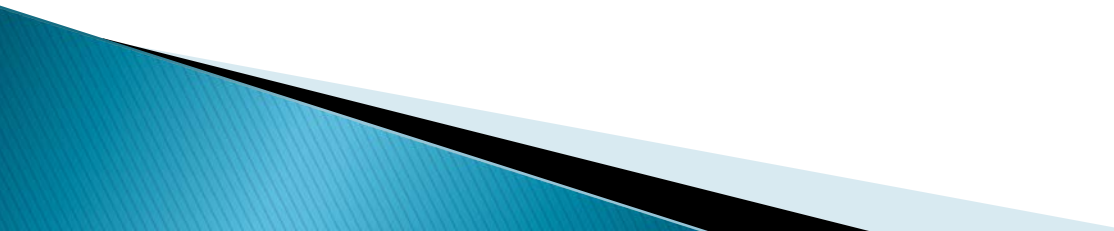


# Rates of children/1 000 screening above cut off for problem behavior; and rates of suspension/termination between 2003 and 2008



# Need for a primary prevention intervention

## MH consultation model

- Not a lot of teacher skills change
  - Too many children requiring individual services in some sites
  - Sometimes difficulty engaging families whose children needed services
  - ▶ Goal to use Center for Social Emotional Learning model—primary, secondary, tertiary prevention in a stepped process
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# Goal of NIMH R34

- ▶ Review and select/adapt from several already developed models (3P, Incredible Years) a primary prevention approach
- ▶ Select something focused on teachers/classrooms that would:
  - Teach all children social skills and emotional regulation that can improve learning and development
  - Serve as early intervention and prevention of high rates of problem behavior and thus
  - Reduce the numbers of children that require referral for mental health consultation

# Second Step Curriculum

- ▶ Group social skills curriculum for preK–1<sup>st</sup> grade
- ▶ Taught by teachers (not counseling or outside staff)
- ▶ Picture cards, stories, puppets, CD with songs, supplemental story books
- ▶ Teaches recognizing feelings in self and others and labeling them
- ▶ Learning to calm down when upset
- ▶ Learning how to problem solve:
  - Share toys, join a group, wait politely, avoid distraction etc.

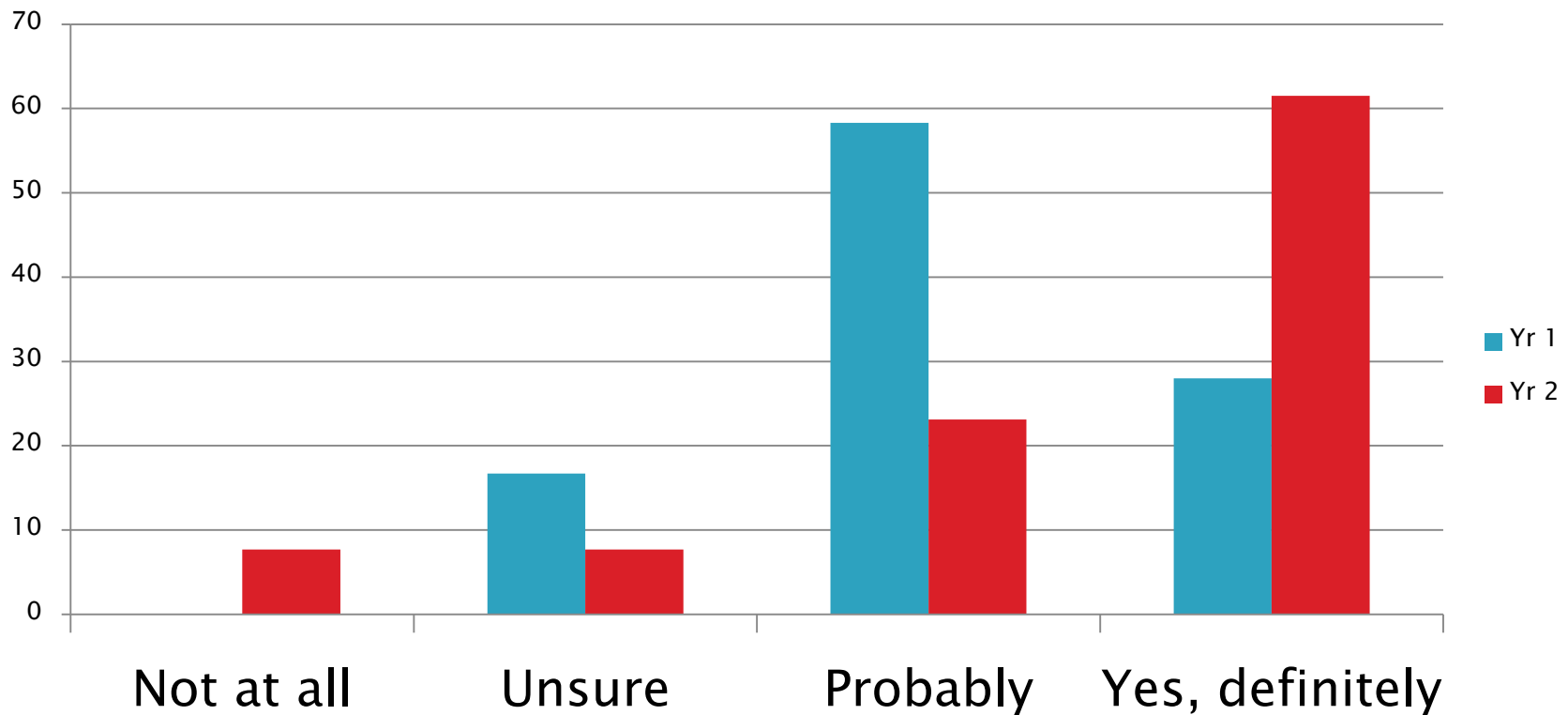
# Methods

- ▶ 4 sites –2 intervention and 2 control –15 classrooms in Year 1, 11 classrooms in Year 2
- ▶ Analysis compared intervention classrooms with control classrooms
- ▶ 391 families consented in the two years or between 97 and 100% at 3 of the centers (<50% at one center)
- ▶ Of 25 total lessons, teachers completed:
  - a mean of 22 lessons in Year 1 (range=17 to 25) and
  - a mean of 23 lessons in Year 2 (range=11 to 25); (only 1 classroom completed less than 24)
- Lesson fidelity above 75% and strong sustainability without support in Year 3

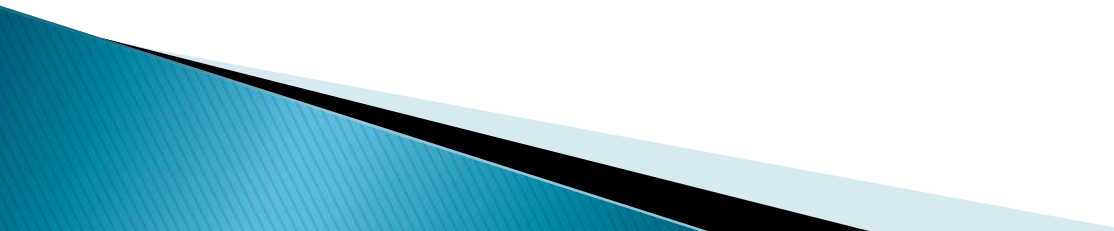
# Teacher Reports of How Hard it was to Implement

	Year 1 (n=12)	Year 2 (n=13)
How hard was it to learn and implement Second Step?		
How much time did it take to learn the lessons?		
% Very Little Time	33.3	30.8
% Some Time	50.0	46.2
% A lot of Time	16.7	23.0
% Too Much Time	0.0	0.0
How hard was it to incorporate Second Step into your daily curriculum?		
% Not At All Hard	33.3	38.5
% A Little Bit Hard	50.0	23.0
% Somewhat Hard	16.7	38.5
% Very Hard	0.0	0.0
What were the most difficult things to implementing the curriculum?		
% Learning How to Give the Lessons	60.0	23.1
% Filling Out Daily Reports	71.4	30.8
% Getting Children to Sit for Circle	77.8	76.9
% Thinking Up Different Activities to Make Sure Children Understood	85.7	46.2
% Time for Monthly Meetings	66.7	30.8

## Percent of teachers reporting they would implement Second Step 'next year' after study ended



# Did it work?

- ▶ Was Second Step effective in changing the classroom environment?
  - ▶ Did it help to improve teacher skills?
  - ▶ Did it help to improve teacher and child interactions?
  - ▶ Did it help to improve child behavior?
  - ▶ Did it help to improve child social skills?
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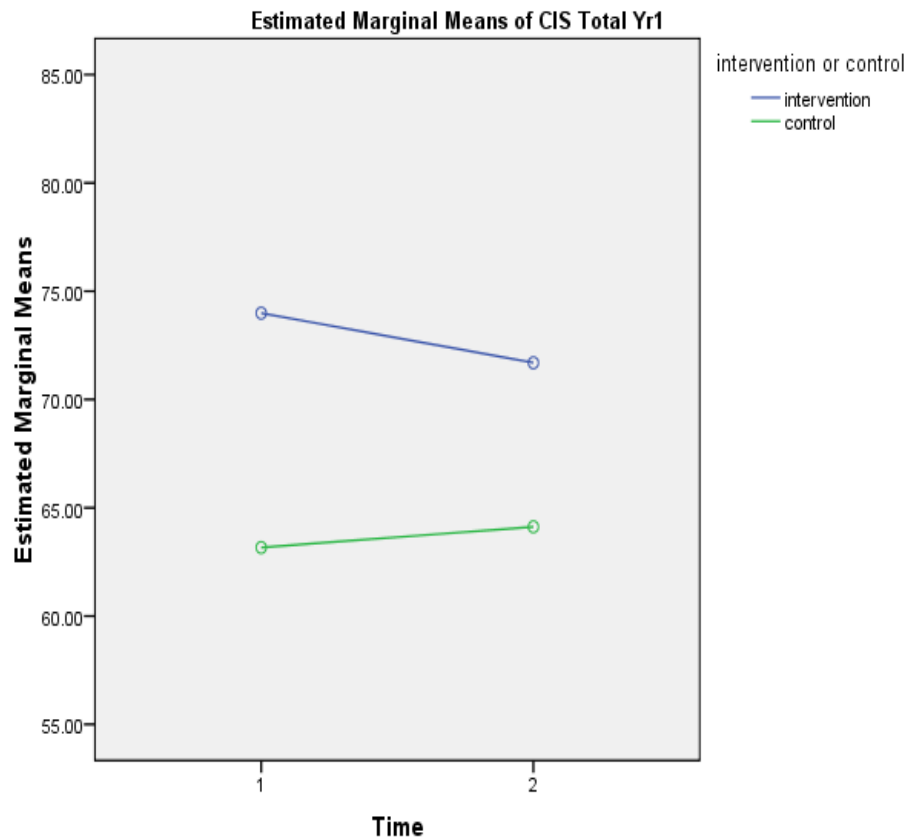
# Differences between intervention and control centers in Years 1 & 2

- ▶ No significant differences in change of any outcomes in Year 1 when controlling for baseline
- ▶ In Year 2, controlling for baseline, Intervention centers improved more than the Control Center in several areas:
  - Observed teacher skills
  - Observed ECERS Interaction scale (including discipline, general supervision and staff–child interaction)

In each case, Intervention centers showed some improvement, while control centers showed deterioration

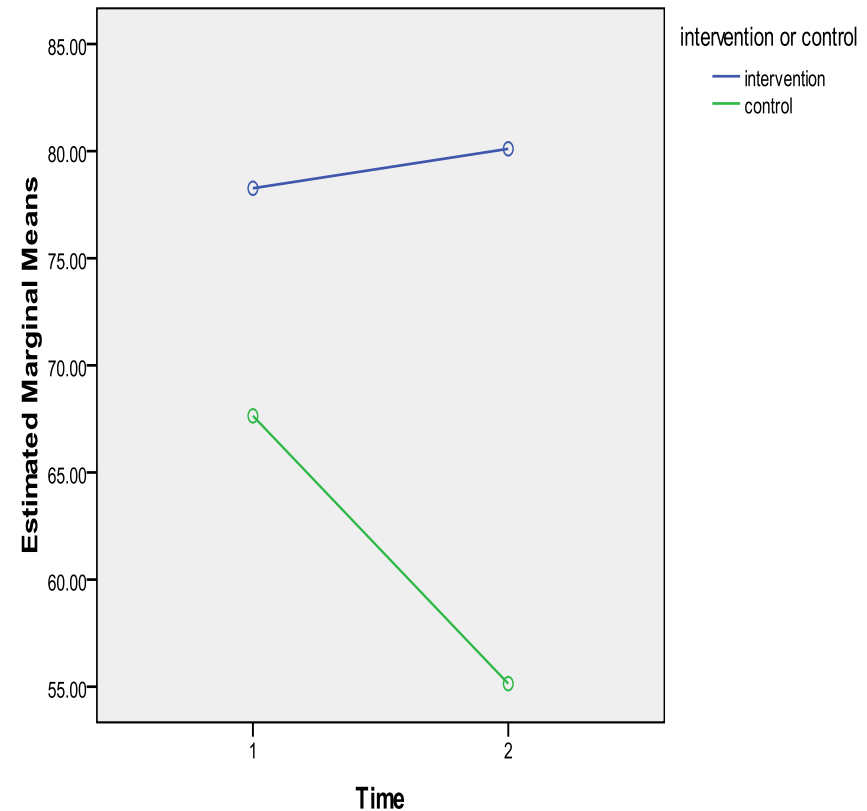
# CIS: Observed Teacher Skills

Year 1



Year 2

Estimated Marginal Means of CIS Total Yr2

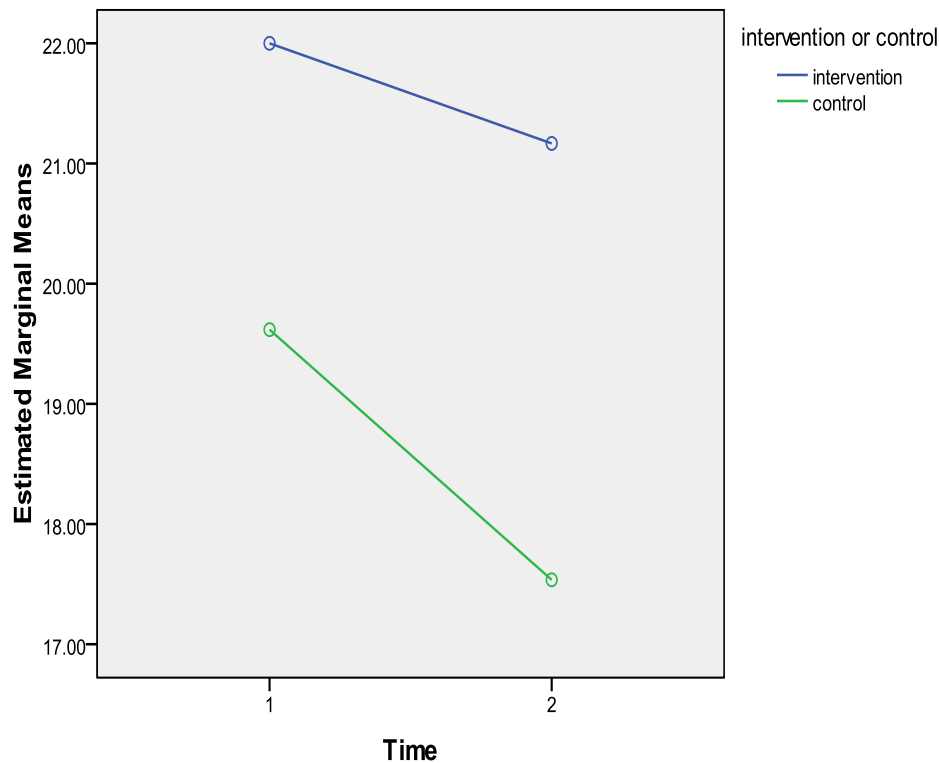




# ECERS Interaction Scale: Observed Classroom Interaction Summary Score

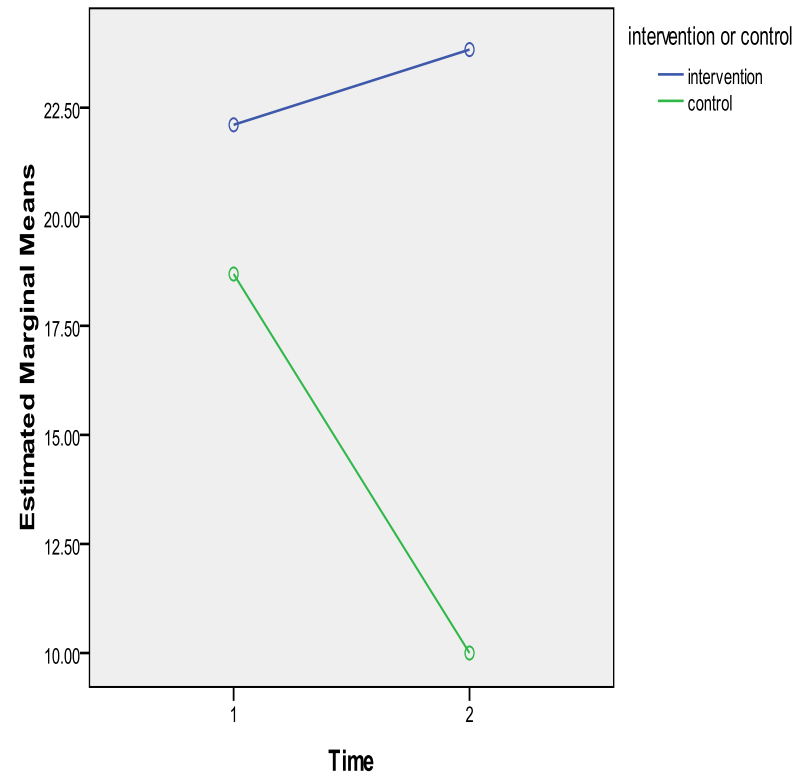
Year 1

Estimated Marginal Means of ECERSsum



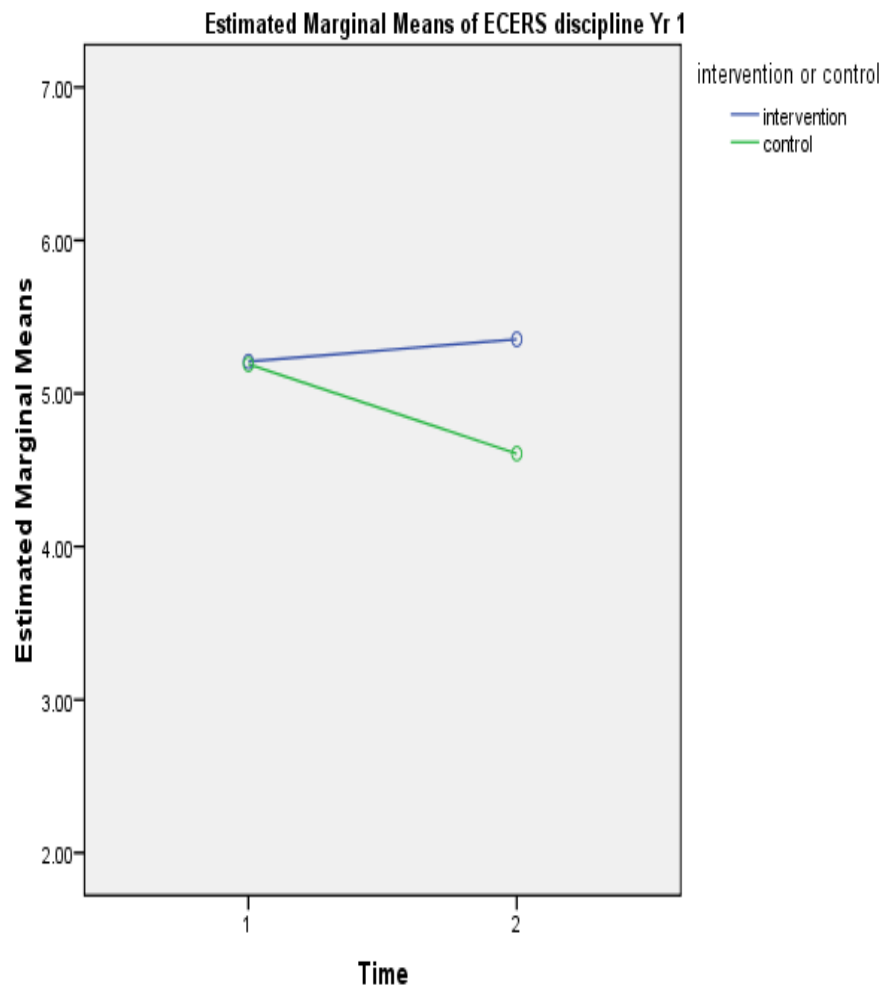
Year 2

Estimated Marginal Means of ECERSsum

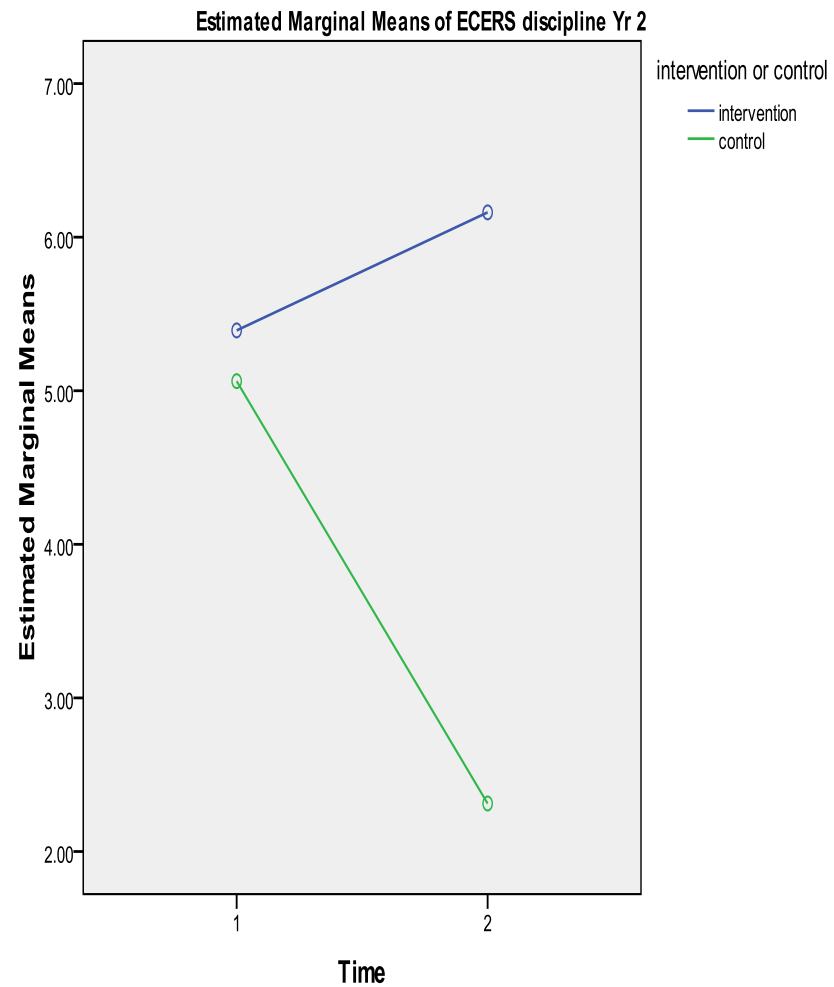


# ECERS Interaction Scale: Observed Discipline

Year 1

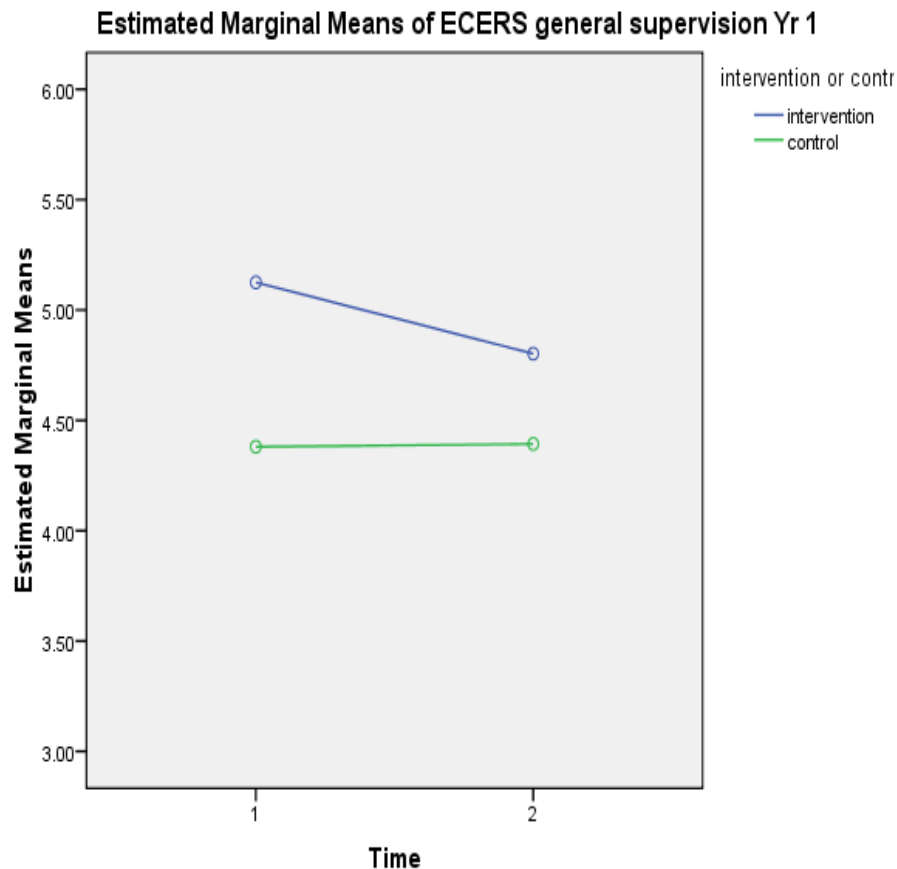


Year 2

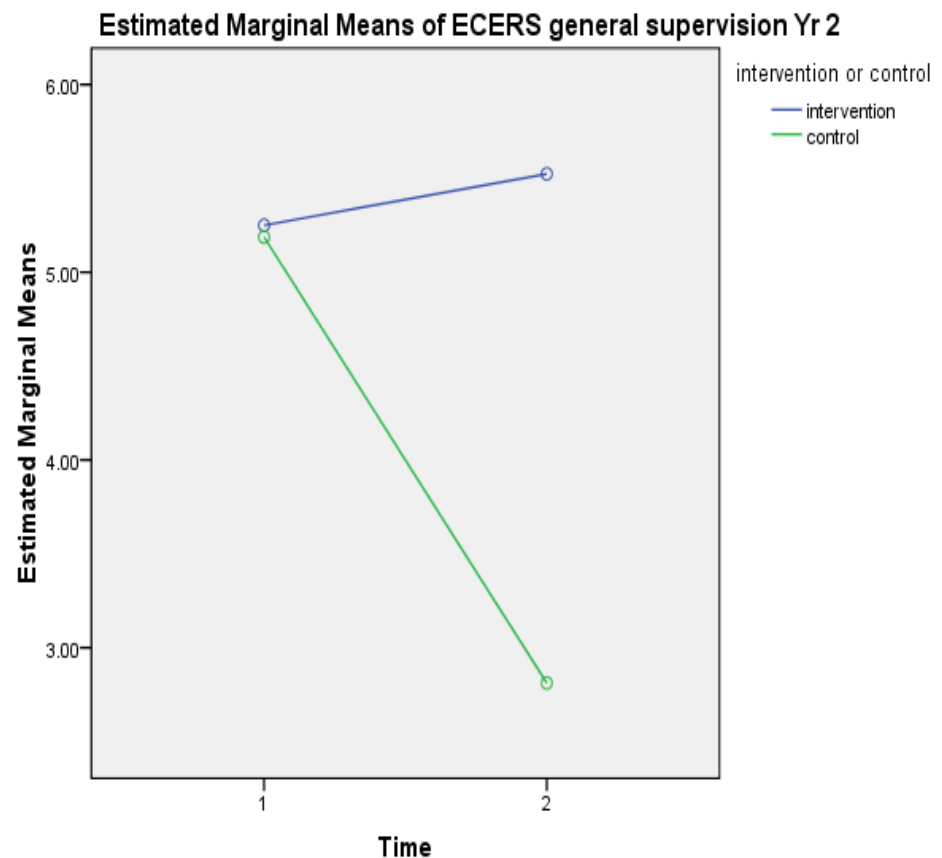


# ECERS Interaction Scale: Observed General Supervision

Year 1

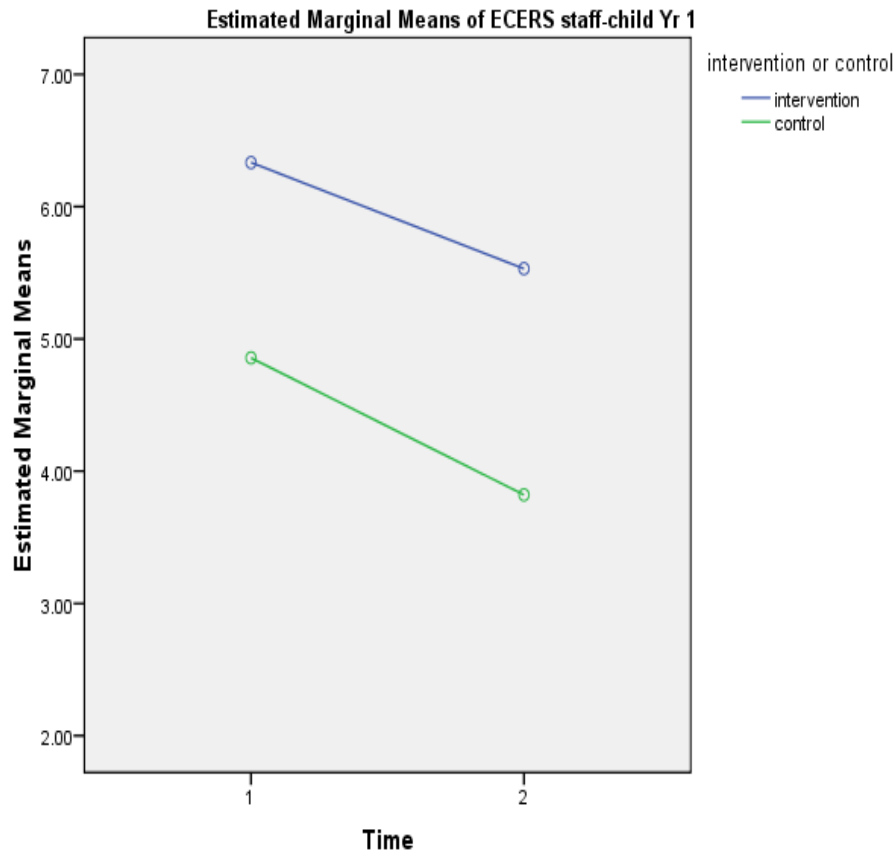


Year 2

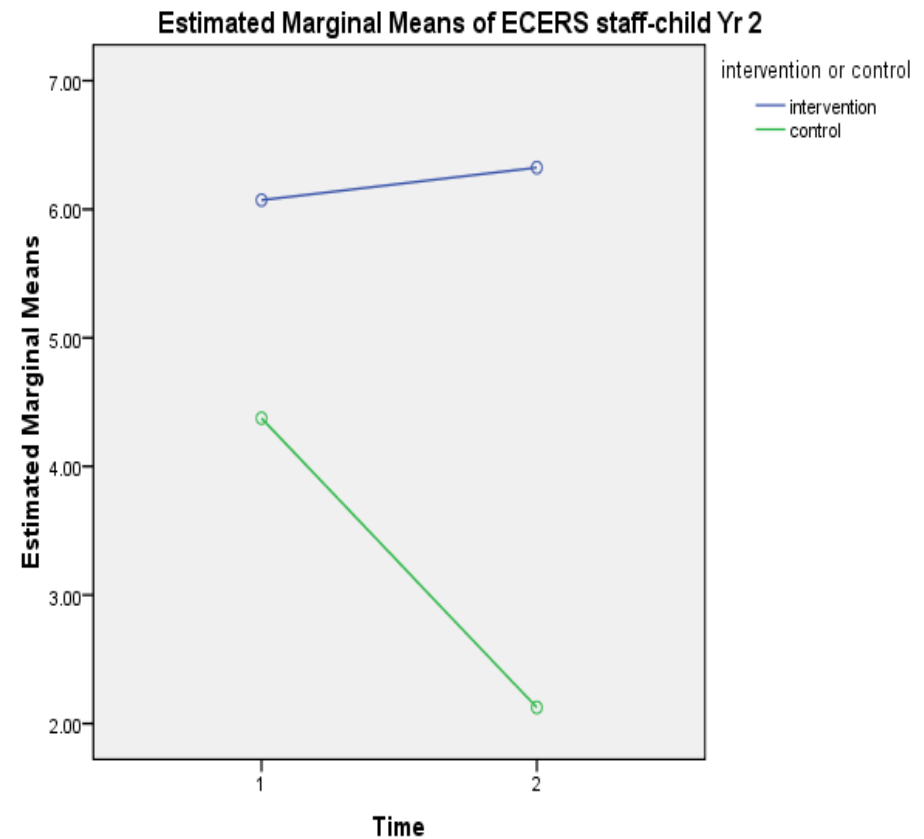


# ECERS Interaction Scale: Observed Staff-Child Interactions

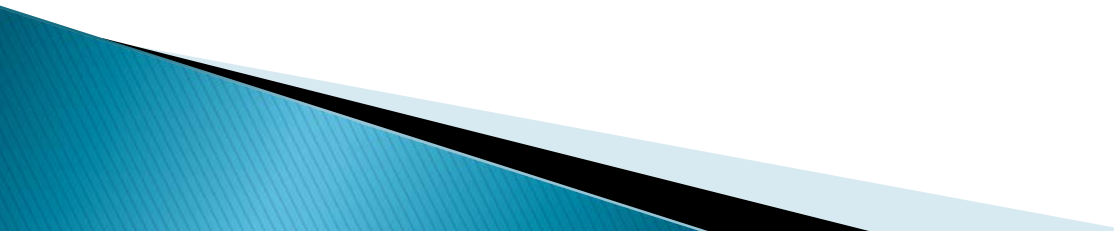
Year 1



Year 2

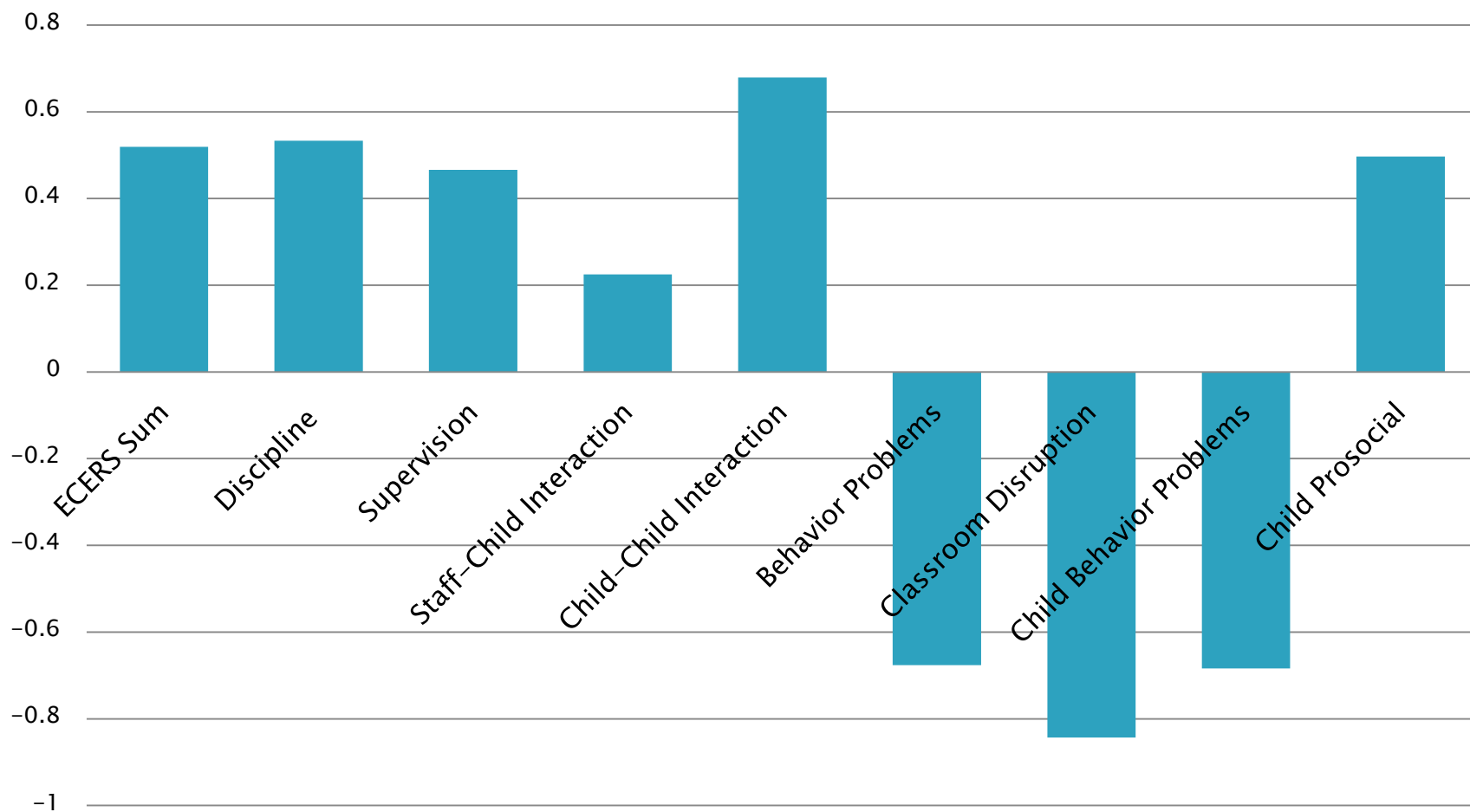


# Was there a link between outcomes and implementation dose and fidelity?

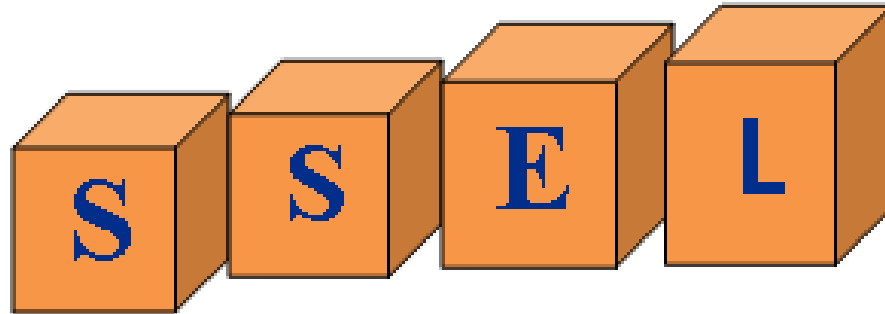
- ▶ Classrooms that remained more disruptive at end of year had lower observed fidelity ratings and lessons delivered
  - ▶ More improvement (change) in disruptive behavior over the year was associated with BETTER lesson fidelity
  - ▶ Higher teacher rated prosocial behavior at end of year was strongly associated with more lesson implementation and fidelity
  - ▶ BUT higher teacher rated behavior problems and disruptive behavior was associated with poorer lesson implementation and fidelity
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# Partial correlations between fidelity and change scores, controlling for baseline scores

Correlation Between Curriculum Fidelity and Change



# KIDSTEPS II



**Second Step Early Learning Curriculum**

Promoting School Readiness through Socio-  
Emotional Skill Building in Preschool

US Department of Education: Institute of Education  
Sciences #R305A130336

# New Curriculum/New Theory

- ▶ Executive function as possible underlying skill for both emotion regulation and academic success
  - ❖ Research (Konold and Pianta, 2005), suggests complex relationships among cognitive skills, attention, social skills, and problem behavior in preschool children predicting first grade reading and math ability.
  - ❖ Both behavioral self-regulation and cognitive functioning are important in early academic development and these skills develop somewhat independently and unevenly
  - ❖ Executive function skills such as inhibitory control, attention, and working memory predict emergent literacy, vocabulary, and math skills (McClelland, et al., 2007) and growth in EF skills predict growth in academic skills over the prekindergarten year after controlling for child gender, and other background variables.

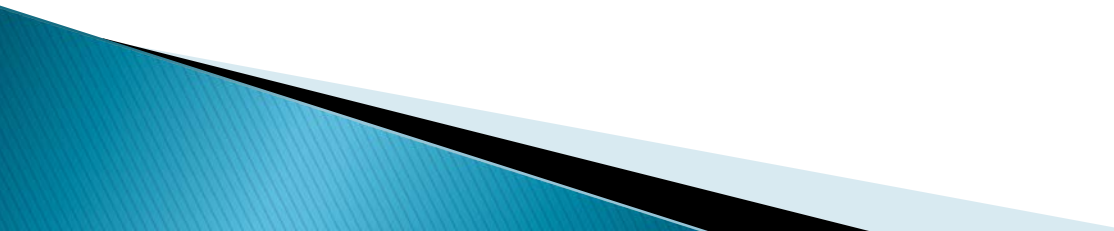


# New Curriculum/New Theory

- Executive Function Skills can be taught and there is a particular need for high risk children
  - ❖ Winslow et al. (2008) found that school readiness skills were relatively less well developed among low income children attending community preschools versus Title I or public school preschool programs.
  - ❖ Research suggests that EF skills can be developed through the use of games and other activities (Bodrova & Leong, 2007; Morrison et al., 2010; Tominey & McClelland, 2011) and that children with poorly developed skills in these areas, regardless of underlying neurodevelopmental characteristics (e.g. temperament), or cognitive/verbal skills should improve their behavioral regulation and academic skills with intervention

# IES Grant: Kidsteps II: Promoting school readiness through social-emotional skill building in preschool.

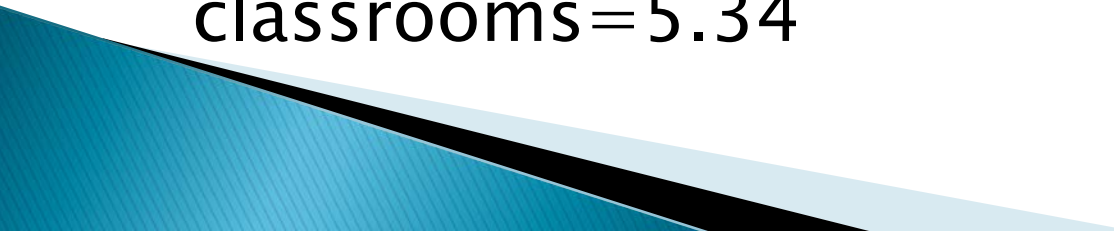
## # R305A130336: \$3.5 million 2013–2017

- ▶ Aim is to test the efficacy of the new curriculum in improving children's social, emotion regulation, executive functioning (EF), and school readiness skills in preschool relative to usual curricular frameworks, and its association with kindergarten academic competence, social skills, and performance.
  - ▶ Two cohorts of 30–32 classrooms each will participate over the four years of the study, with the goal to have complete end of study data on at least 60 classrooms, half in intervention and half in the control/comparison condition
  - ▶ Three years of preschool graduates will also be assessed by kindergarten teachers and end of year kindergarten performance data will be collected.
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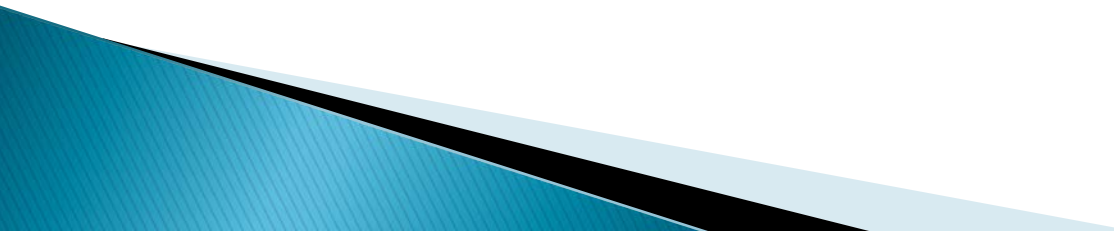
# Preschools To Be Included

Site	# classrooms	Capacity	% low income	Ethnicity (balance are White, with 1-2% Asian)
<b>MOC Inc Head Start Program</b>				
HS-Gardner-Coleman	7	126	100%	17% Hispanic; 85% White
HS-Fitchburg -Hosmer	7	126	100%	62% Hispanic; 8% Black
HS-Fitchburg- Pritchard	2	36	100%	60% Hispanic; 4% Black
HS-Leominster	6	108	100%	70% Hispanic; 6% Black
<b>WPS Worcester Head Start Program</b>				
WPS HS Greendale	8	160	100%	46% Hispanic; 12% Black
WPS HS Millbury St	7	140	100%	50% Hispanic; 19% Black
WPS HS Mill Swan A	8	160	100%	33% Hispanic, 24% Black
WPS HS Mill Swan B	6	120	100%	45% Hispanic; 8% Black
WPS HS Vernon Hill	8	160	100%	48% Hispanic, 11% Black
<b>Guild of St. Agnes Preschool Child Care</b>				
Granite St. Worcester	5	136	94%subsidized	36% Hispanic; 26% Black
Grove St. Worcester	4	100	78% subsidized	38% Hispanic; 33% Black
Fitchburg	1	20	95% subsidized	20% Hispanic; 25% Black
Gardner	2	40	87% subsidized	53% Hispanic; 10% Black
Devens/Ayer	3	70	31% subsidized	30% Hispanic; 9% Black
<b>YWCA Central MA Child Care</b>				
Salem Square	5	96	45% subsidized	50% Hispanic, 24% Black
<b>WCEC Child Care</b>				
Main South	3	50	95% subsidized	70% Hispanic; 25% Black
GBV	2	32	90% subsidized	60% Hispanic; 23% Black
<b>Rainbow Child Development Center</b>				
Edward Street	4	60	75% subsidized	61% Hispanic, 22% Black

# Study to date

- ▶ 461 children enrolled across 33 classrooms in Cohort 1 including Head Start and community child care programs in Gardner, Worcester and Fort Devens
  - ▶ 44% white, 40% Hispanic, 20% African American (multiple categories)
  - ▶ 46% parents have HS education or less
  - ▶ One-third parents have income \$10,000 or less; 2/3 incomes less than \$20,000
  - ▶ Overall ECERS quality score for 33 classrooms=5.34
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# Baseline individual child data

- ▶ Sample has low emotional regulation compared to age-matched children (n=443) (teacher rated)
  - ▶ Sample social skills are at the 36.4 percentile representing poor social skills (n=443) (teacher rated)
  - ▶ PPVT scores on average are 39.7 percentile (n=249) (study assessed)
  - ▶ Woodcock Johnson prereading scores are 39.3 percentile
  - ▶ WJ math scores are higher: 51.7 percentile
  - ▶ Executive functioning skills: lower executive attention but normative working memory
  - ▶ Strong associations found between social skills and emotion knowledge and both EF and preacademic outcomes –more so than found in elementary school suggesting these skills are highly related and important to development at this age
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Questions?