

## Introduction

- Among the developmental contexts that predict outcomes for young children, those related to the **family and child-rearing environment** are most critical (Englund et al., 2004; Lamb-Parker et al., 1999; Molfese et al., 2001).
- The earliest environments experienced by children, determined within the context of the family system, are significant in how young children conceptualize relationships and in turn, how they relate with others (Dunst, 2001; Guralnick & Neville, 1997).
- Parental engagement** is highly predictive of a child's developing competence in cognitive, social-emotional, and behavioral domains (Englund et al., 2004; McWayne et al., 2004; Thompson, 2002). Parental engagement is characterized by: (1) **parental warmth, sensitivity, and responsiveness**; (2) **support for a child's emerging autonomy**; and (3) **active and meaningful participation in learning and literacy**.
- Children interact in and permeate multiple systems and contexts as they develop from infancy to preschool and beyond. **Continuity among systems** and caregivers is important for enhancing developmental outcomes.
- Positive relationships and collaborative **partnerships among parents and educators** are considered primary protective factors (Christenson & Sheridan, 2001; Weissberg & Greenberg, 1998) or safety nets (Christenson, 2000) for children, and have been shown to be related to a host of positive developmental outcomes, including social and behavioral competence (Henderson & Berla, 1994; Sheridan, Kratochwill, & Elliott, 1990).
- The goal of collaborative partnerships is "not merely to get families involved, but rather to **connect important contexts for strengthening children's learning and development**" (Christenson & Sheridan, 2001, p. 7). Such partnerships are particularly important during the infant and preschool years (Raffaelli et al., 1999) when parents are developing constructs of their role in their child's education.
- A critical need exists to integrate and evaluate interventions that promote parental engagement through family-centered, collaborative approaches to achieve desired outcomes for young children's development and school readiness, including social and behavioral competence.

## Objectives and Research Aims

- Overall Objective:** To evaluate the benefits of a multicomponent, multisystemic intervention that:
- is child and parent focused;
  - addresses both home and center/school environments; &
  - is designed to improve the skills of intervention agents to increase early and sustained parent engagement across multiple social and learning contexts.

### Aims of Current Study:

- Aim 1:** To evaluate the effects of a comprehensive, family-centered intervention on preschool children's levels of *social-emotional competence*;
- Aim 2:** To determine the effects of the intervention on preschool children's level of *behavioral functioning*.

## Methods

### Sample

Table 1. Child Demographics (N = 204 at Time Assessment)

Age	Mean = 42.19 months (range 27 to 52 months)
<b>Ethnicity</b>	33% White 18% Black 25% Latino/Hispanic 3% American Indian 21% Other
<b>Gender</b>	52 % Male; 48% Female
<b>Identified Disability</b>	12%

### Setting

- Head Start classrooms in Midwestern public school system

## Experimental Design

- Multivariate associative growth curve modeling (Duncan, Duncan & Stryker, 2006; Little, Bovaird, & Slegers, 2006) was used to test *a priori* planned parallel growth curves to maintain the experiment-wide error rate among dependent variables in a set at  $\alpha = .05$ .
  - Two multivariate models (see *Social-Emotional and Behavioral Functioning models reported in Table 3*) included fixed effects for treatment group, the linear effect of time, and the group by time interaction for all variables in the set.
  - Analyses were conducted with SAS PROC MIXED using full information maximum likelihood (FIML) with a Huber-White (or "sandwich") estimator to evaluate the fixed effects, adjusting standard errors for non-normal outcomes due to ceiling effects.
- The study design is a 4-level complex sampling design (repeated observations [level 1] nested within each child [level 2], children nested within teachers or classrooms [level 3], and classrooms nested within schools or programs [level 4]); no significant random effects for school or teacher were observed.
- Since random assignment to treatment condition occurred at the teacher/classroom level, random effects at the teacher and school levels were constrained to a minimal positive value (0.01) for model parsimony.
- Time was centered to reflect the number of months since randomization.
- Missing data due primarily to planned missingness caused by the cohort nature of the study design was accounted for by the use of FIML in the growth curve modeling framework.

## Intervention

### Collaborative Interactions (based on Sheridan & Kratochwill, in press)

**Goal:** To engage parents in active participation, goal setting, and decision making

**Intervention Agents:** Preschool (Head Start) teachers (a) engaged in collaborative planning with parents during home visits and school meetings, and (b) participated in conjoint consultation with parents, facilitated by behavioral consultants.

#### Components:

- Identify developmental goals for child
- Specify certain learning opportunities in the home that can support developmental goals
- Explore methods by which parents can structure interactions with child to promote learning
- Monitor the child's growth and skill development, assess child's progress, measure goal attainment
- Cycle to new goals and learning opportunities

### Triadic Strategies (based on McCollum & Yates, 1994)

**Goal:** To strengthen parental responsiveness, confidence, and competence in the context of parent-child interactions

**Intervention Agents:** Preschool (Head Start) teachers interacted with parents and children in a triadic context during home visits and other school meetings.

#### Components:

- Establish a dyadic context
- Affirm parenting competence
- Focus attention
- Provide developmental information
- Model
- Suggest

## Outcome Measures

### Devereux Early Childhood Assessment (LeBuffe & Naglieri, 1999)

- Teacher-report; 37 items, 5-point Likert scale (0=never to 4=very frequently)
- Scales measuring initiative, self-control, attachment and behavioral concerns
- Internal consistency
  - DECA Self Control  $\alpha = 0.91$
  - DECA Initiative  $\alpha = 0.88$
  - DECA Attachment (to teacher)  $\alpha = 0.82$
  - DECA Behavioral Concerns  $\alpha = 0.79$

### Social Competence and Behavioral Evaluation – 30 (LaFreniere & Dumas, 1996)

- Teacher-report; 30 items, 6-point Likert scale (1=never to 6=always)
- Scales measuring social competence, anger-aggression, and anxiety-withdrawal behaviors
- Internal consistency
  - SCBE-30 Social Competence  $\alpha = 0.91$
  - SCBE-30 Anxiety/Withdrawal  $\alpha = 0.85$
  - SCBE-30 Anger/Aggression  $\alpha = 0.92$

## Results

Table 2. Mean Scores on Outcome Measures for Participants x Condition Across 4 Time Points

Measure	Time 1 Mean (SD)	Time 2 Mean (SD)	Time 3 Mean (SD)	Time 4 Mean (SD)
<b>Social Emotional Competence</b>				
<i>DECA Self Control</i>				
Experimental <sup>a</sup>	46.92 (10.15)	50.83 (9.37)	51.91 (9.09)	54.56 (8.34)
Control <sup>b</sup>	47.71 (10.14)	50.70 (10.59)	53.74 (10.04)	56.90 (8.43)
<i>DECA Initiative</i>				
Experimental <sup>a</sup>	44.37 (9.74)	50.54 (8.70)	54.51 (9.01)	59.13 (7.62)
Control <sup>b</sup>	46.84 (9.09)	50.52 (8.23)	57.57 (8.33)	57.94 (13.54)
<i>DECA Attachment (to teacher)</i>				
Experimental <sup>a</sup>	46.28 (9.61)	50.12 (9.84)	53.69 (8.34)	57.73 (6.05)
Control <sup>b</sup>	48.70 (10.66)	50.54 (10.32)	51.40 (9.60)	53.14 (12.55)
<i>SCBE-30 Social Competence</i>				
Experimental <sup>a</sup>	3.48 (0.93)	3.96 (0.95)	4.32 (0.84)	4.76 (0.75)
Control <sup>b</sup>	3.62 (0.93)	4.13 (0.98)	4.50 (0.93)	4.83 (1.20)
<b>Behavioral Functioning</b>				
<i>DECA Behavioral Concerns</i>				
Experimental <sup>a</sup>	52.03 (10.13)	49.73 (9.74)	47.72 (11.29)	44.60 (9.56)
Control <sup>b</sup>	52.37 (10.31)	49.82 (8.43)	48.26 (8.68)	45.08 (7.52)
<i>SCBE-30 Anxiety/Withdrawal</i>				
Experimental <sup>a</sup>	2.09 (0.85)	1.74 (0.63)	1.66 (0.52)	1.40 (0.42)
Control <sup>b</sup>	1.94 (0.68)	1.86 (0.70)	2.01 (0.62)	1.88 (0.76)
<i>SCBE-30 Anger/Aggression</i>				
Experimental <sup>a</sup>	2.00 (0.86)	1.87 (0.85)	1.92 (0.80)	1.53 (0.56)
Control <sup>b</sup>	1.98 (0.92)	1.89 (0.80)	1.71 (0.61)	1.65 (0.43)

<sup>a</sup> DECA Subscales, experimental group - Time 1 (n = 113); Time 2 (n = 77); Time 3 (n = 54); Time 4 (n = 24)

<sup>b</sup> DECA Subscales, control group - Time 1 (n = 91); Time 2 (n = 50); Time 3 (n = 34); Time 4 (n = 12)

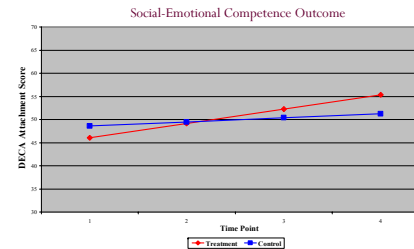
<sup>c</sup> SCBE-30 Subscales, experimental group - Time 1 (n = 113); Time 2 (n = 76); Time 3 (n = 54); Time 4 (n = 24)

<sup>d</sup> SCBE-30 Subscales, control group - Time 1 (n = 90); Time 2 (n = 49); Time 3 (n = 34); Time 4 (n = 12)

Table 3. Fixed Effect Solution for Multivariate Associate Growth Curve Models

Effect	Estimate	SE	DF	t	p-value
<b>Social Emotional Competence</b>					
<i>SCBE - Social Competence</i>					
Intercept (C)	3.64	0.12	16	29.79	<.001
Slope (C)	0.07	0.01	730	4.75	<.001
Δ Intercept (T - C)	-0.18	0.21	730	-0.85	0.40
Δ Slope (T - C)	0.01	0.02	730	0.63	0.53
<i>DECA - Initiative</i>					
Intercept (C)	46.82	1.43	16	32.63	<.001
Slope (C)	0.83	0.19	730	4.35	<.001
Δ Intercept (T - C)	-2.38	1.96	730	-1.22	0.22
Δ Slope (T - C)	0.33	0.20	730	1.65	0.10
<i>DECA - Self-control</i>					
Intercept (C)	47.94	0.83	16	58.00	<.001
Slope (C)	0.48	0.13	730	3.69	<.001
Δ Intercept (T - C)	-0.75	2.00	730	-0.37	0.71
Δ Slope (T - C)	0.05	0.14	730	0.36	0.72
<i>DECA - Attachment</i>					
Intercept (C)	48.57	1.69	16	28.76	<.001
Slope (C)	0.22	0.16	730	1.39	0.16
Δ Intercept (T - C)	-2.50	2.30	730	-1.09	0.28
Δ Slope (T - C)	0.55	0.19	730	2.86	<.001
<b>Behavioral Functioning</b>					
<i>SCBE - Anxiety/Withdrawal</i>					
Intercept (C)	1.93	0.10	16	19.71	<.001
Slope (C)	0.01	0.01	545	0.64	0.52
Δ Intercept (T - C)	0.12	0.15	545	0.79	0.43
Δ Slope (T - C)	-0.05	0.02	545	-3.14	<.001
<i>SCBE - Anger/Aggression</i>					
Intercept (C)	1.98	0.11	16	17.80	<.001
Slope (C)	-0.02	0.01	545	-1.62	0.11
Δ Intercept (T - C)	-0.03	0.17	545	-0.15	0.88
Δ Slope (T - C)	0.02	0.01	545	1.27	0.20
<i>DECA - Behavioral Concerns</i>					
Intercept (C)	52.24	1.60	16	32.66	<.001
Slope (C)	-0.37	0.20	545	-1.86	0.06
Δ Intercept (T - C)	-0.31	1.92	545	-0.16	0.87
Δ Slope (T - C)	-0.05	0.26	545	-0.20	0.85

C = Control group; T = Treatment group



## Discussion

### Social Competence

- Children in the Getting Ready treatment group demonstrated **enhanced levels of attachment behavior** with other adults, including teachers, compared to the control group. There were no significant changes in teacher-reported measures of self-control or overall social competence.
  - The intervention focuses on relationships between children and parents, parents and teachers, and indirectly on teachers and children. As relationships between parents and teachers are developing, and the parent-child relationship is being enhanced, a subsequent change may be occurring in the relationship between teachers and children.
  - Other research has suggested the strong influence of the teacher-child relationship in early childhood settings (Birch & Ladd, 1997) as a mediator of positive child outcomes.

- Marginal increases over time were seen in initiative** demonstrated by children in the treatment group, relative to control children. The intervention is aimed at helping parents support a child's emerging autonomy, which in turn may promote initiative and self-reliance. Continued exploration of the effects of the intervention on this variable, along with other measures of social competence, is important.

### Behavioral Functioning

- Children in the Getting Ready treatment group experienced a **reduction in teacher reported measures of anxiety/withdrawal behaviors** compared to children in the control group. There were no significant changes in measures of anger/aggression.

- Parents with anxious/withdrawn children may be more responsive to the intervention than parents with angry/aggressive children.
- Alternatively, the enhanced level of teacher/child attachment may have a stronger or clearer impact on activating and engaging the anxious/withdrawn children than it does on subduing high levels of anger and aggression.
- Finally, the intervention may be more effective with certain types of children (e.g., those with internalizing features) than others (e.g., those with disruptive behaviors).

### Limitations

- Findings are very preliminary. A complete dataset with measures across 4 time points is available for only a subset of the entire sample.
- Only a subset of findings are reported. Data on parent-child interactions, parental roles and involvement in education, and changes in the home environment are not reported here.
- Child outcomes were assessed via teacher report only. Multiple observers of child behaviors across home and preschool settings will be beneficial to gauge effects of the intervention objectively across contexts.
- Findings can only be generalized to children in Head Start center-based settings. Early Head Start sample is not included herein.

### Future Research Directions

- Examine data with a larger group of participants.
- Investigate changes across domains in groups of infants/toddlers as well as preschoolers.
- Consider the effect of the intervention on other developmental dimensions.

