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School Readiness Outcomes for Preschool Children at Risk: A Randomized Trial of a Parent Engagement Intervention and the Role of Parental Depression¹

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Introduction

- The first five years of children’s lives are critical for cognitive, social, and emotional development (Shonkoff & Phillips, 2000).
- Children’s early environmental and relational experiences provide a context for learning essential skills needed for school success.
- Children in poverty are at greater risk of academic failure due to impoverished living conditions and a lack of parental nurturance (e.g., Baydar, Brooks-Gunn, & Furstenberg, 1993).
- Mothers’ engagement in children’s learning can be undermined by maternal depression (Leiferman, 2002), placing children at risk for cognitive and motor delays (Petterson & Albers, 2001).
- With intervention, parents experiencing poverty and depression can establish enriching environments and warm, responsive parent-child relationships conducive for children’s optimal development (NICHD Early Child Care Research Network, 2002).

Getting Ready Intervention

- Getting Ready is a relationally-based parent engagement intervention promoting school readiness for children birth to five living in poverty (Sheridan, Marvin, Knoche, & Edwards, 2008).
- Getting Ready is founded on triadic strategies (McCollum & Yates, 1994) and a collaborative (conjoint) consultation model (Sheridan & Kratochwill, 1992, 2008) that promote parental *competence* and *confidence* in parenting practices (i.e., warmth and sensitivity, encouragement of autonomy, and support for learning and literacy).
- Teachers reported Getting Ready promotes children’s social and emotional competencies (i.e., increased attachment/initiative, and decreased anxiety/withdrawal; Sheridan et al., 2010) and language and literacy skills (Sheridan et al., in press) relative to a control group; direct observations of children’s behavioral change have not been examined.

Purpose of Study and Research Questions

- Purpose: determine effects of Getting Ready on preschool children’s school readiness assessed through direct observations of children’s behavior.
 - RQ1: What are the effects of Getting Ready on preschool children’s behavior (e.g., agency, persistence, positive affect) measured via direct observations?
 - RQ2: How does parental depression moderate the effects of Getting Ready on children’s observed behaviors?

Methods

Sample

Table 1. Child (N = 204; treatment = 108, control = 96) and Parent Demographics at Baseline

	Child	Parent
Age	Mean = 42.97 months (range = 36 to 52 months)	Mean = 29 years (range = 19 to 62 years)
Gender	51% Male 49% Female	5.4% Male 94.6% Female
Ethnicity	32% White 18% Black 27% Latino/Hispanic 2% American Indian 20% Other	48% White 16% Black 27% Latino/Hispanic 3% American Indian 6% Other
Identified Disability	12%	
Highest level of Education		25% Less than H.S. diploma 57% H.S. Diploma/GED 8% Two year degree 1% Four year degree

Note: Children were enrolled in Head Start operated through public schools in a moderately sized Midwest community. Children were in Getting Ready for two academic years prior to kindergarten (approx. 20 months).

Experimental Design

- Hierarchical linear modeling (Raudenbush & Bryk, 2002) was used to test questions of interest in this study.
 - Models included fixed effects for treatment group, linear effect of time, and group by time interaction for all variables. Random effects for child- and teacher-level intercepts and child-level slopes were included to account for nesting within individuals within classrooms.
 - Analyses were conducted with SAS PROC MIXED using restricted maximum likelihood (REML) with Kenward-Roger degrees of freedom to account for covariance between fixed effects.
- 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.

- Random assignment to treatment condition occurred at teacher/classroom level; random effects at teacher and school levels were constrained to a minimal positive value (0.01) for model parsimony.
- Time was centered to reflect number of months since randomization.
- Missing data due to planned missingness caused by the cohort nature of the study design was accounted for using REML in the hierarchical linear modeling framework.

Intervention

- Getting Ready was delivered by teachers in the context of Head Start programming for families (e.g., home visits, group socializations). Intervention included:

Collaborative Interactions (based on Sheridan & Kratochwill, 2008)

Goal: Engage parents in active participation, goal setting, and decision making

Components:

- Identify developmental goals for child
- Specify learning opportunities in home to support developmental goals
- Explore ways parents can interact with child to promote learning
- Monitor child's growth and development, assess progress, measure goal attainment
- Cycle to new goals and learning opportunities

Triadic Strategies (based on McCollum & Yates, 1994)

Goal: Strengthen parental responsiveness, confidence, and competence

Components:

- Establish a dyadic context
- Affirm parenting competence
- Focus parents' attention on child-related characteristics
- Provide developmental information
- Model appropriate interaction strategies
- Suggest possible parent practices to support development

Variables of Interest

Independent Variable: Getting Ready intervention

Moderating Variable: Maternal depression reported via Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), 20-item measure rating frequency of depressive symptoms in last week using a 4-point Likert-scale. Sample scores ranged from 0 to 45 (mean=10.95, SD=9.49). Score of >31, “clinical depression,” observed in 4.4% of sample.

Outcome Variables: 10 child behaviors rated on 5-point Likert-scale (1 = very low; 5 = very high) behaviorally anchored and specified for each behavior.

Table 2. Child Behavior Codes, Definitions, and Baseline Mean and SD

Codes	Definition	M (SD)
Agency/Enthusiasm	Demonstrated excitement or eagerness toward the task/interaction	3.68 (0.73)
Persistence	Extent to which child is task-oriented during observation	3.75 (0.75)
Activity Level	Overall activity level during observation	1.81 (0.80)
Compliance	Complies with parent’s task directions	3.86 (0.79)
Avoidance of Parent	Tendencies or attempts to avoid interacting with parent	1.53 (0.69)
Affection Toward Parent	Positive regard and sharing of happy feelings toward parent	2.78 (0.79)
Positive Affect	Expressions of global positive affect	2.79 (0.86)
Distractibility	Degree to which child maintains attention to a situation	2.02 (0.76)
Negativity Toward Parent	Degree to which child shows anger, dislike, or hostility toward parent	1.52 (0.67)
Verbalizations	Amount of utterances during observation	2.91 (0.90)

Note: Observational codes for children’s behavior were developed using rating scales created by Egeland and Sroufe (Egeland, Sroufe, & Erickson, 1983; Egeland et al., 1995; Weinfeld et al., 1996) and the *Parent Child Interaction System* (PARCHISY, Deater-Deckard, Pylas, & Petrill, 1997).

Observation Procedures and Interrater Reliability

- Observation Procedures and Interrater Reliability

- Parents and children were video-recorded engaging in a series of interactive tasks (i.e., book reading, puzzles, teaching task, free play) lasting approximately 25 minutes. Seven research assistants received manualized training developed for study; mastery training criterion was 80% interrater reliability with 2 master coded (determined via group consensus by senior research members) interactions.
- Interrater reliability = 95.1 % (range = 87.0 – 98.9 percent agreement within one point).

Results

Direct Effects on Children’s Behavior

- Children in Getting Ready experienced declines, relative to control group, in activity level and distractibility over intervention period (20 months).

Table 3. Direct Effects of the Getting Ready Intervention on Child Behavior

Effect	Estimate	SE	df	t	p-value
Activity Level	-0.022	0.011	131.493	-2.054	0.042
Distractibility	-0.016	0.009	122.704	-1.738	0.085

Moderated Effects of Parenting Depression on Children’s Behavior

- Maternal depression or elevated depressed mood moderated effects of Getting Ready on children’s agency/enthusiasm toward tasks, affection toward parent, overall positive affect and amount of verbalizations.
 - For children whose mothers experienced depression or elevated depressed mood at baseline, those in Getting Ready had significantly greater behavioral improvements in these areas compared to control group.

Table 4. Moderated Effects of the Getting Ready Intervention on Child Behavior

Effect	Estimate	SE	df	t	p-value
Agency	0.11	0.05	216.96	2.06	0.04
Affection toward parent	0.119	0.06	196.93	1.99	0.048
Positive affect	0.069	0.03	147.69	2.64	0.009
Verbalizations	0.073	0.02	148.65	3.17	0.002

Discussion

- Getting Ready had significant *direct effects* decreasing children's activity levels and distractibility compared to children in the control group as measured by direct observations of children's behavior during parent-child interactions.
- Getting Ready is effectively reduced observed problematic behaviors impacting parent-child relationships and children's readiness for kindergarten.
- As assessed via multiple methods and sources (teacher-report, standardized assessment, and direct observation), Getting Ready significantly impacted children's social emotional and behavioral school readiness, and language and literacy skill development.
- For preschool children whose mothers were clinically depressed or experienced elevated levels of depressed mood, Getting Ready appears to be particularly important for promoting positive outcomes.
- Children in Getting Ready had significant positive gains in (a) agency and enthusiasm toward tasks, (b) affection toward parents, (c) overall positive affect, and (d) verbalizations as compared to control children.
- Mothers with depression often have less positive interactions with their child that are supportive of early learning placing them at increased risk for developmental and academic difficulties (Leiferman, 2002).
- Given the focus of Getting Ready on parental competence and confidence, children whose mothers have depression may experience added benefits from this intervention compared to those whose mothers are not depressed.

Limitations

- Findings are preliminary and further examination is needed to fully understand the direct and moderated effects on children's behaviors across all assessment types (direct observation, standardized assessments, parent- and teacher-report).
- Only a subset of findings is reported. Data on direct effects on infant/toddler behaviors collected through direct observation were not coded.
- Findings can only be generalized to children in Head Start center-based settings. The Early Head Start sample is not included herein.

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