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Full-Day Kindergarten and Later Reading: The Role of Early Reading Skills

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INTRODUCTION

➤ Approximately 74% of children attend Full-Day Kindergarten (U.S. Department of Commerce, 2011).

➤ Full-Day Kindergarten is viewed as beneficial because of the additional time in school. In fact, children in Full-Day Kindergarten spend 1/3 more time in literacy activities than children in Half-Day Kindergarten (Lee, Burkam, Ready, Honigman, & Meisels, 2006). This can be particularly important for academically at-risk children, who are more likely to attend these programs (Walston & West, 2004).

➤ Research consistently finds that Full-Day Kindergarten children earn higher reading scores at the end of kindergarten than those in Half-Day (Baskett, Bryant, White, & Rhoads, 2005; Votruba-Drzal, Lig-Grining, & Maldonado-Carreño, 2008; Yan & Lin, 2005). However, the benefit fades shortly after kindergarten (Rathbun & West, 2004; Walston, West, & Rathbun, 2005).

➤ The present study examines the immediate and long-term benefits of Full-Day Kindergarten, but takes a different methodological approach than previous research. Instead of only comparing reading scores of Full- and Half-Day children in the elementary grades, the specific reading skills children acquire in kindergarten are considered.

➤ It is important to consider early reading skills, as reading research highlights the importance of these skills for later reading (Morris, Bloodgood, & Perney, 2003; Scanlon & Vellutino, 1996).

➤ For example, low-SES children who attain early word reading skills by first grade—letter knowledge, beginning sounds, ending sounds, and sight words---perform comparably to higher-SES counterparts (Kaplan & Walpole, 2005). However, research has not examined whether these gains last beyond first grade.

PURPOSE

➤ To compare Full- and Half-Day children's early word reading attainment at the end of kindergarten.

➤ To examine whether early word reading attainment at the end of kindergarten mediates relation between Full-Day Kindergarten attendance and later reading.

METHOD

Participants

• Data came from Early Childhood Longitudinal Study-Kindergarten cohort (ECLS-K), a national study which followed approximately 21,000 children from kindergarten through fifth grade.

• Included in the present study were children who met the following criteria:

- Public school
- First-time kindergarteners
- Did not change schools during kindergarten
- Attended kindergarten 5 day/week
- Available reading assessment data at time points of interest

• Inclusion criteria yielded $N = 4,764$

- 49% Male
- 70% European American, 15% African American, 15% Hispanic
- 94% English speaking
- 35% Low-SES

METHOD (cont' d)

Measures

•Full- or Half-Day Kindergarten Classrooms

•Reading Assessment:

- Assessed *letter knowledge, beginning and ending sounds, sight words, words in context, literal inference, extrapolating, evaluating, and evaluating non-fiction.*
- Items developed with child development, education, and content area experts.

•Scores used from reading assessment:

- Proficiency probability scores: ranged from 0 – 1.
- IRT scale scores: takes into account pattern of responses, item difficulty, and discriminant ability of items.

•Early Word Reading

- Proficiency probability scores from spring of kindergarten.
- Children classified as early word readers had (adapted from Kaplan & Walpole, 2005):
 - .75+ on letter knowledge, beginning sounds, and ending sounds, and
 - .25+ on sight words.

•Control Variables

- Gender
- Home literacy environment (composite of library visits and home reading behaviors)
- Class size
- Kindergarten entry reading scores
- Amount of time spent in reading and language arts

Procedure

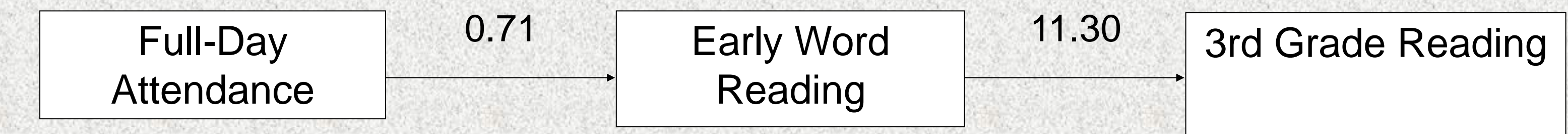
• **Teachers:** Completed questionnaires and provided *Full- and Half-Day, class size, and amount of time in literacy activities* information.

• **Parents:** Completed phone interviews and provided *demographic and home literacy environment* information.

• **Children:** Completed reading assessments individually in the fall and spring of kindergarten and the spring of 1st, 3rd, and 5th grades.

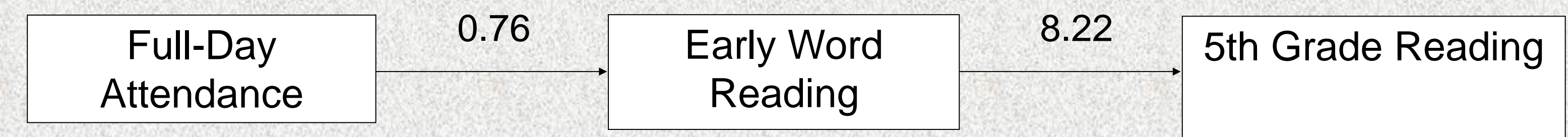
RESULTS (cont' d)

• Full-Day Kindergarten children had *third grade* reading scores 8.04 scale score points higher than Half-Day Kindergarten children.



Note. 95% CI [2.33, 13.74], size of mediated effect ranges from .09 to .52.

• Full-Day Kindergarten children had *fifth grade* reading scores 6.22 scale score points higher than Half-Day Kindergarten children.



Note. 95% CI [1.86, 10.58]; size of mediated effect ranges from .07 to .43.

Full-Day Kindergarten and SES

• Low-SES children in Full-Day Kindergarten had comparable odds of early word reading attainment as middle/high-SES peers.

$$\bullet \chi^2(1, N = 2,434) = 0.76, p = .38, 95\% \text{ CI } [0.47, 1.33]$$

• *However*, low-SES children in Half-Day Kindergarten had significantly lower odds compared to middle/high-SES peers.

$$\bullet \text{OR} = 2.46, \chi^2(1, N = 2,330) = 6.92, p = .01, 95\% \text{ CI } [1.26, 4.80]$$

• There were no significant differences on 1st, 3rd, or 5th grade reading scores between low- and middle/high-SES children who attained early word reading.

Early Word Readers: SES and Elementary Grade Reading

	<i>B</i>	<i>SE</i>	<i>p</i>
1 st Grade Reading	4.12	3.03	.18
3 rd Grade Reading	5.12	2.69	.06
5 th Grade Reading	3.46	2.47	.16

RESULTS

Full-Day Kindergarten is Beneficial

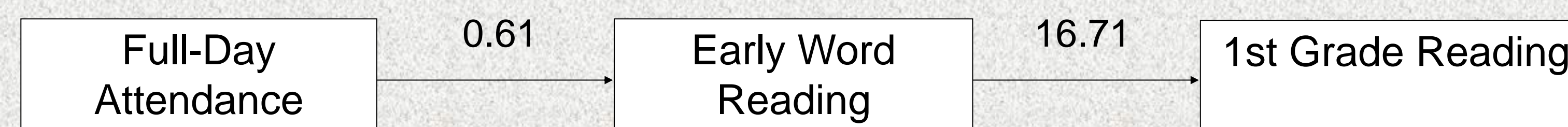
• Full-Day Kindergarten attendance predicted end-of-kindergarten early word reading attainment.

$$\bullet \text{OR} = 2.13, \chi^2(1, N = 4,614) = 12.45, p < .001, 95\% \text{ CI } [1.40, 3.23]$$

Early Word Reading Attainment as Mediator

• Early word reading at the end of kindergarten, in turn, predicted IRT reading scores in 1st, 3rd, and 5th grades.

• Full-Day Kindergarten children had *first grade* reading scores 10.16 scale score points higher than Half-Day Kindergarten children.



Note. 95% CI [2.59, 17.72], size of mediated effect ranges from .12 to .82.

DISCUSSION

➤ The benefit of Full-Day Kindergarten can be maintained beyond kindergarten, provided children acquire early word reading skills by the end of kindergarten. These children earned higher reading scores in 1st, 3rd, and 5th grades.

➤ Full-Day Kindergarten attendance helped low-SES children become comparable to middle/high-SES peers during kindergarten.

➤ As well, SES differences were not present for reading in the elementary grades if children attained early word reading skills at the end of kindergarten.

➤ Although children in Full-Day Kindergarten were more likely to attain early word reading, only 19% of all children attained this skill set.

➤ Kindergarten programs should focus on fostering the component early word reading skills, particularly the more advanced skills including ending sounds and sight words.

➤ Full-Day Kindergarten programs should target children from low-SES families in order to improve their school readiness.