

# **Exploring the Relationship between Imagination Library Program Participation and Kindergarten Readiness: Results from a Preliminary Analysis**

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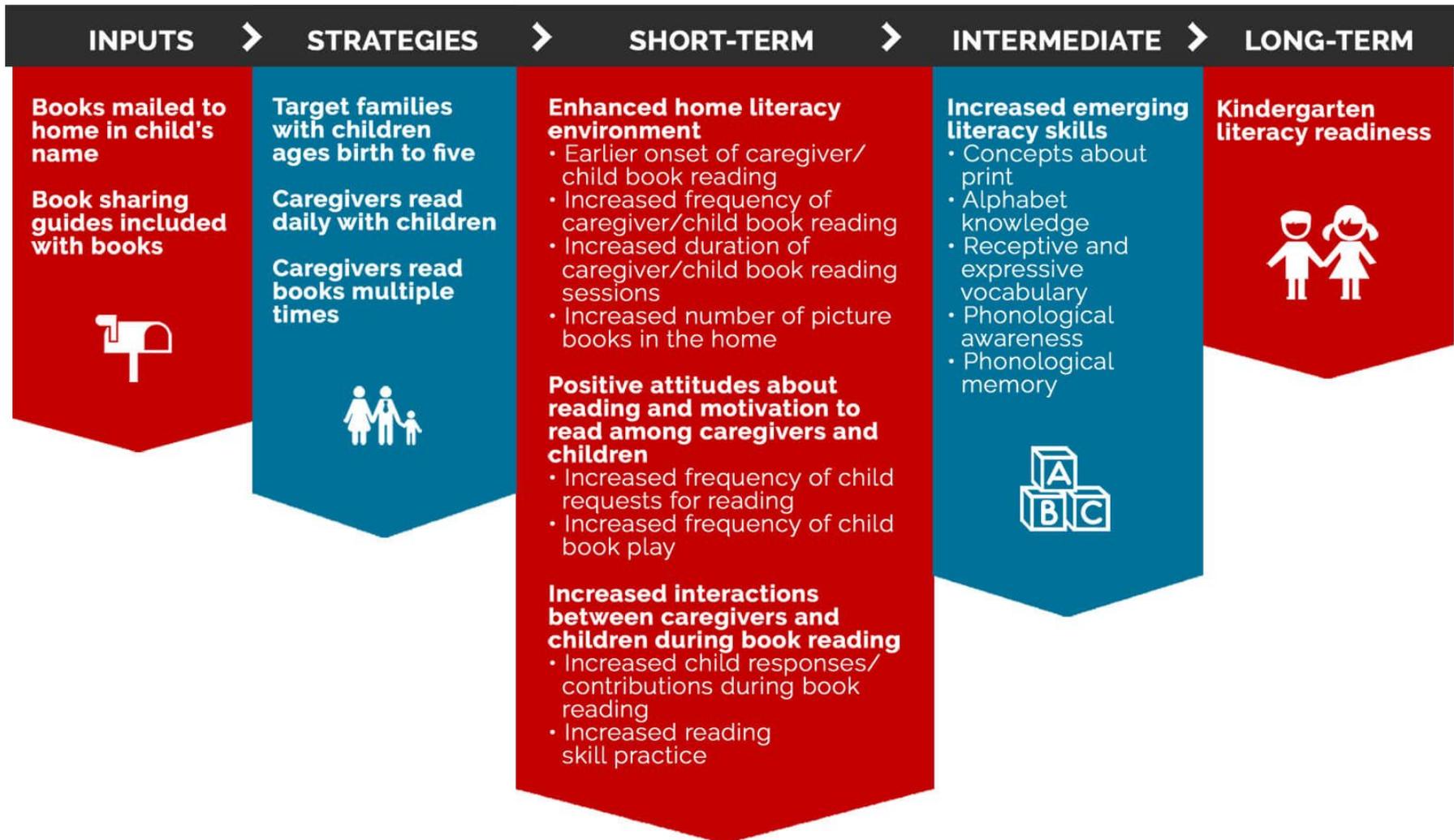


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# Logic Model

Based on Imagination Library Research Findings and Literature Review



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# Imagination Library Prior Findings

Since its founding in 1995 in TN, the delivery and effectiveness of Imagination Library has been studied at sites in the US and internationally. Findings include-

- Parents and community coordinators report improved literacy behaviors in the home among IL families.
- Participants who had been enrolled in IL longer reported higher levels of frequency of reading, number of children's books in the home, enthusiasm and interest in reading
- Parents report increased perception of the importance of reading in relation to their child's cognitive development
- Research in multiple sites has found significant positive differences in literacy status at Kindergarten entry between IL/nonIL, and that IL students continued to outperform their nonIL peers on 3rd grade reading proficiency exams.

<https://imaginationlibrary.com/news-resources/research/>

# Data and Analysis

## Data Sources

- Imagination Library monthly program records with demographic and service information of enrolled children
- Administrative records held in the Child Household Integrated Longitudinal Data (CHILD) System
  - Including Kindergarten Readiness Assessment (KRA) results from select public school districts from 2005-2006 through 2019-2020.

## Analysis

- Imagination Library graduates in Fall 2019 entering kindergarten in 2019-2020 (n=518; n=472 with a valid KRA score) are compared to their peers entering kindergarten that did not participate in the Imagination Library program (n=4,884; n=4,056 with a valid KRA score).
  - Descriptive comparison of characteristics available in the CHILD System
  - Descriptive comparison of KRA results
- Descriptive comparison of KRA performance within the Imagination Library sample (n=472) based on months of enrollment in the program

# Sample by school district

	<b>Imagination Library n=518</b>	<b>Comparison n=4,884</b>
School District where KRA score was located		
Bedford	55	175
Cleveland (CMSD)	179	2,961
Cleveland Heights/University Heights	70	198
East Cleveland	19	98
Euclid	48	300
Garfield Heights	46	156
Lakewood	2	367
Maple Heights	53	186
Richmond Heights	3	52
South Euclid/Lyndhurst	13	250
Warrensville Heights	30	141

# Comparison of Imagination Library children to unserved kindergarteners at the same district on risk factors available in CHILD System

	Imagination Library n=472	Comparison n=4,056
Birth Characteristics	%	%
Born to a teen mother (10-19 years old)	9.1	13.9
Born to a mother w/ high school degree	82.2	70.2
Mother received 'adequate prenatal care' as indicated on birth certificate	53.2	55.4
Born at low birth weight (<2,500) grams	15.3	13.1
Born premature (<37 weeks gestation)	13.6	13.5
Child Welfare Involvement		
Any involvement with child welfare system	22.9	28.8
At least 1 substantiated/indicated incident of abuse or neglect	7.6	9.6
Public Assistance Receipt		
Family received food assistance (SNAP) at least 1 month since child's birth	79.2	84.5
Family received cash assistance (TANF) at least 1 month since child's birth	27.3	32.1
Family received child care subsidy for at least 1 month since child's birth	54.7	49.7
Lead		
Tested for lead at least once since birth	91.1	87.3
At least 1 Elevated Blood Lead Level (EBLL) >5 mg/dL	14.4	16.7

Note. The birth and lead data used in this report come from the Ohio Department of Health. This should not be considered an endorsement of this study or these conclusions by the Ohio Department of Health.

# Baseline Differences

We know that the Imagination Library subgroup of children differs from their unserved peers at the same school districts in several important ways.

- Mother's age at birth
- Mother's educational attainment
- Receipt of child care subsidy, etc...

We need to take care in making a comparison on KRA performance between groups due to these inherent bias.

- Groups not only differ in their Imagination Library participation, they differ based on data presented in the previous slide as well as other unknown characteristics and experiences
- These group differences could explain some differences in KRA performance

# Kindergarten Readiness Assessment

The KRA is a comprehensive State of Ohio mandated school readiness assessment that measures four areas of early learning aligned with Ohio's Early Learning and Development Standards.

- **Language and Literacy**
  - Raw scores for the language and literacy subscore are grouped into binary 'On-track' and 'Not on-track' categories that are intended to predict a child's likelihood of passing a reading diagnostic assessment requirement at third grade.
- **Social Foundations for Learning**
  - Measures social and emotional development and approaches toward learning.
- **Mathematics**
- **Physical development/well-being**

The KRA is administered by the child's kindergarten teacher in the beginning of the school year.

Raw scores on the Social Foundations, Mathematics, and Physical Development/Wellbeing subscales range from 202-298, but are not dichotomized into 'On track' and 'Not on track' categories. Thus, this outcome is a continuous score with higher scores demonstrating greater proficiency in each area.

# Results

# Descriptive Comparison of KRA Scores

	<b>Imagination Library n=472</b>	<b>Comparison n=4,056</b>
Overall KRA Band		
% Emerging	27.3	36.6
% Approaching	38.1	37.7
% Demonstrating	34.5	25.7
% 'On-track' Language & Literacy	59.8	45.8
Social Foundations (M)	272.1	268.6
Mathematics (M)	261.4	258.6
Physical Development/Wellbeing (M)	269.8	266.6

On average, children who participated in the Imagination Library program prior to kindergarten entry in Fall 2019 were enrolled in the program for M=13.4 months(SD=10.2 months, range: 1-56 months; enrollment was calculated as the number of months between enrollment and graduation dates).

# Within-group descriptive comparison of KRA performance by number of months enrolled

	<b>Mean (months)</b>	<b>SD (months)</b>
Overall KRA Band		
Emerging	11.1	7.9
Approaching	13.2	8.7
Demonstrating	15.4	12.5
Language & Literacy		
‘On-track’	14.9	11.5
Not ‘on-track’	11.2	7.3

- These results indicate a positive correlation between the two variables such that as months enrolled in the Imagination Library program increases, so does KRA performance.
- However, it is impossible to infer causation from this analysis; months enrolled in the Imagination Library program is likely associated with several other currently unknown factors that are also positively associated with KRA performance.
- Modeling that includes greater statistical and methodological control is needed to infer causality.

# Next Steps

- More rigorous regression analyses are currently underway to examine school readiness outcomes for participating children after controlling for several variables known to predict KRA performance.
- As the longevity of the Dolly Parton Imagination Library program continues in Cuyahoga County, researchers hope to be able to examine how even longer program participation (up to 60 months) is associated with kindergarten readiness.

**Thank you!**  
**Questions or comments?**