



Closing Gaps for Children Living in Low-Income: The Role of Play

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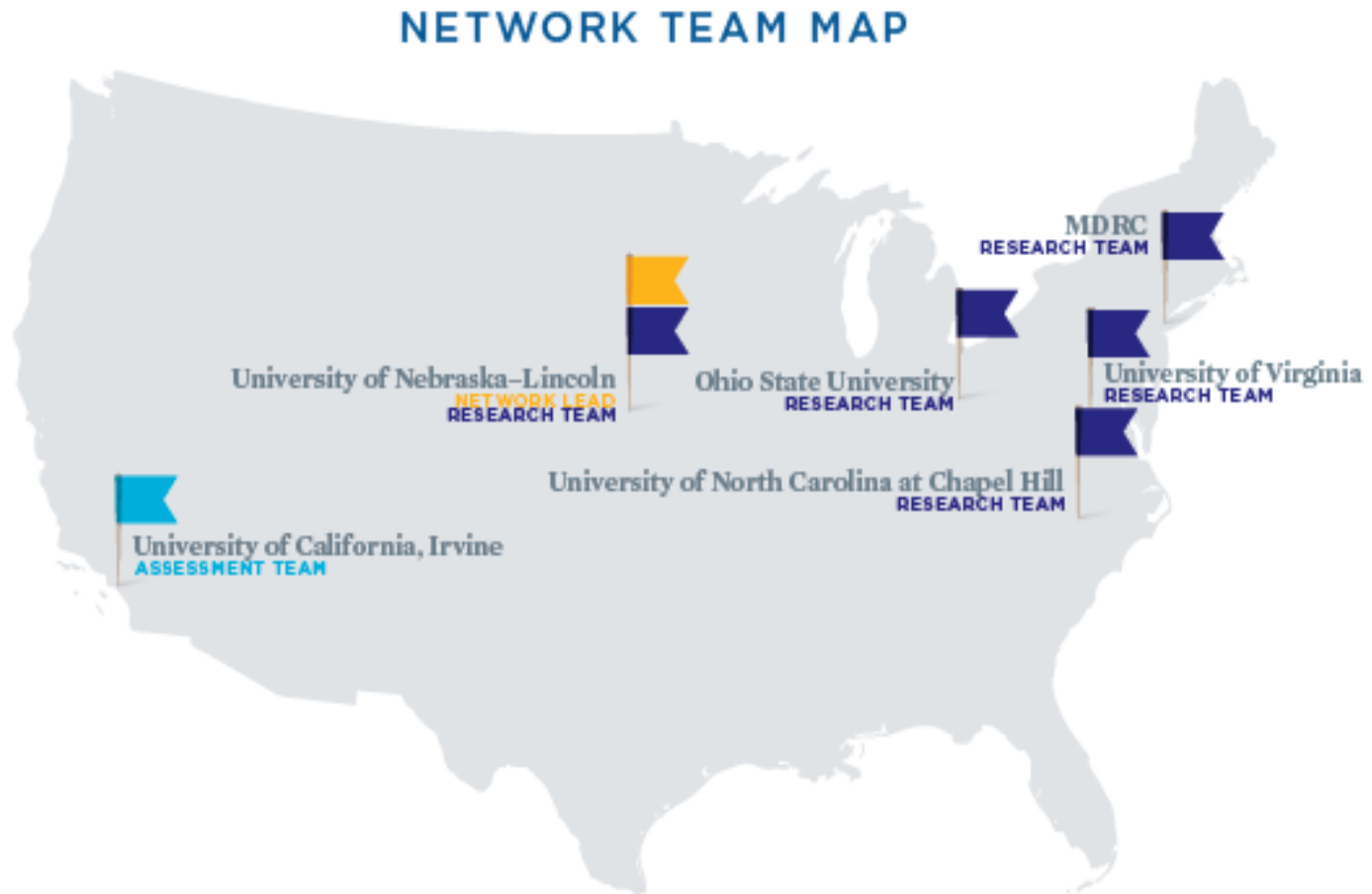
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The Early Learning Network seeks to advance the understanding of *policies and practices* that narrow opportunity gaps and *maintain early learning success* as children transition *from preschool to elementary school* and beyond.

- ◆ Five Research Teams
 - ◆ One Assessment Team
 - ◆ Network Lead



Early Learning Contexts in Rural and Urban Nebraska (“Learning Frontiers”)

Objectives:

- Determine the influence of *ecological systems* on children’s learning over time
 - classroom/teacher, family, community, educational policies
- Identify *malleable factors* that promote children’s academic and social-emotional learning, and close opportunity gaps, for historically marginalized students

Low Income and Opportunity Gaps for Children

- Socioeconomic disadvantage has a negative impact on school-related outcomes including vocabulary and communication skills, math and literacy skills, concentration, and cooperative play.
- The later stages of early childhood (e.g., Grade 3) is a pivotal period of increased autonomy, greater complexity of academic and social demands, and risk for mental health disorders.

Low Income and Opportunity Gaps for Children

- Despite the fact that children unsuccessful in the first three years of elementary school are faced with a long-term trajectory of failure, it remains an understudied period in early childhood.
- Need to identify malleable factors that support academic achievement, learning behaviors, social-behavioral performance, and interactions.

Current Study: Play as a “Malleable Factor”

- Play contributes to the cognitive, physical, social, and emotional well-being of children.
- Play is related to increased problem-solving, creativity, self-awareness and confidence.
- Whereas exploration, child-directed play and socialization activities are common during preschool, increased structure and emphasis on academic achievement may result in a marked reduction of free play in the early school years.

Research Questions

1. What is the unique relationship between SES and play, and (a) approaches to learning, (b) social-behavioral outcomes, (c) student-teacher relationships, and (d) academic achievement for third grade students?
2. How do SES and play interact to influence (a) approaches to learning, (b) social-behavioral outcomes, (c) student-teacher relationships, and (d) academic achievement for third grade students?

Participating Districts



- Central Nebraska Community Action Partnership
- Columbus Public Schools
- Chadron Public Schools
- Cozad Public Schools
- Creighton Community Schools

- Fairbury Public Schools
- Gering Public Schools
- Gordon-Rushville Public Schools
- Kearney Public Schools
- Lincoln Public Schools

- McCook Public Schools
- Norfolk Public Schools
- Northwest Community Action Partnership
- Omaha Public Schools
- O'Neill Public Schools

Sample

	n (%)
Total	162
Gender	
Female	100 (61.7%)
Male	62 (38.3%)
Race/Ethnicity ^a	
Other or Two or More Races, non-Hispanic or Latino	8 (4.9%)
Black or African American, non-Hispanic or Latino	16 (9.9%)
Hispanic or Latino	26 (16.1%)
White, non-Hispanic or Latino	112 (69.1%)
Home Language ^a	
English	145 (89.5%)
Non-English	17 (10.5%)
IEP	
No	145 (89.5%)
Yes	17 (10.5%)
Chronically Absent ^a	
No	156 (96.3%)
Yes	6 (3.7%)

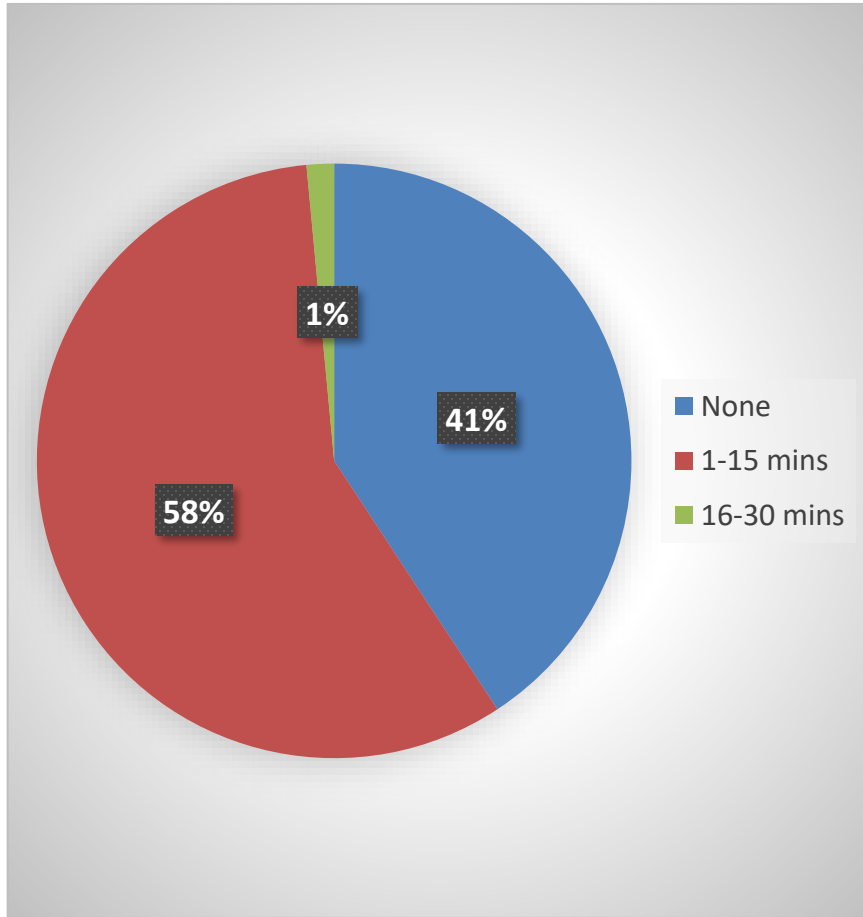
^aSignificant difference between low-SES and non-low SES students.

Setting Characteristics

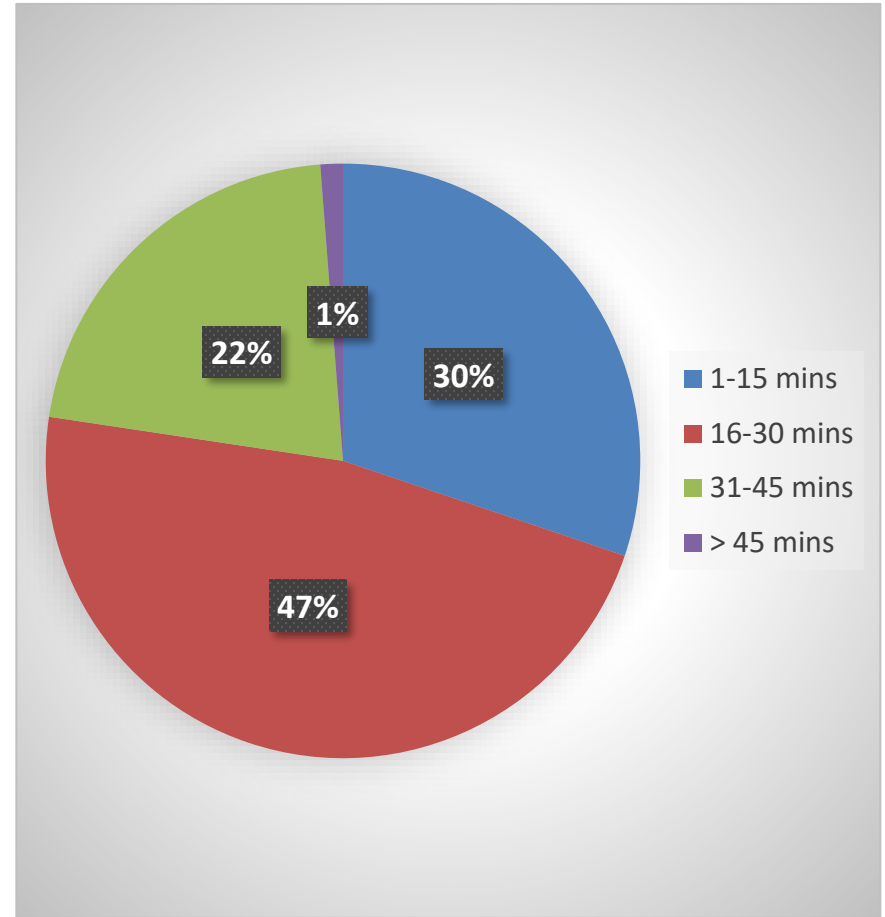
Location ^a	
Urban	72 (44.4%)
Rural	90 (55.6%)
% Classroom Non-White ^a	38.2 (SD 30.8)
% Classroom Speak Language Other than English ^a	20.0 (SD 23.4)
Daily Time Spent in Free Play Indoors	
No Time	62 (38.3%)
1-15 min	88 (54.3%)
16-30 min	12 (7.4%)
31-45 min	0 (0%)
>45 min	0 (0%)
Daily Time Spent in Free Play Outdoors	
No Time	0 (0%)
1-15 min	48 (29.6%)
16-30 min	75 (46.3%)
31-45 min	34 (21.0%)
>45 min	5 (3.1%)

^aSignificant difference between low-SES and non-low SES students.

Average Daily Play in Grade 3



Indoor Play



Outdoor Play

Predictor Variables

- Socioeconomic Status (SES)
 - Low SES defined as eligible for free/reduced lunch (FRL), reported by NDE
 - Non-low SES defined as not eligible for FRL
- Play
 - Teacher report of amount of time daily spent in indoor or outdoor play
 - 5-point scale: None, 1-15 minutes, 16-30 minutes, 31-45 minutes, 46 or more minutes

Outcome Variables & Measures

- Approaches to Learning
 - Learning Behavior Scale (LBS; McDermott et al., 2001)
 - Competence motivation, attitude toward learning, attention/persistence, strategy/ flexibility
- Social-Behavioral Outcomes
 - Social Skills Improvement System (SSIS-PB; Gresham & Elliott, 2008)
 - Social skills, problem behaviors

Outcome Variables & Measures

- Student-Teacher Relationship
 - Student-Teacher Relationship Scale (STRS; Pianta, 2011)
 - Conflict, closeness, dependency
- Academic Achievement
 - Academic Rating Scale: 3rd Grade (ARS-3; Tourangeau et al., 2015)
 - Language/literacy, Math, Science, Social Studies

Data Analyses

- Performed linear mixed modeling to examine the unique association of SES and play, and their interaction, on student outcomes
 - students nested within classrooms and schools
- Controlled for variables that may influence the findings other than our current questions:
 - student gender, race/ethnicity, home language, IEP status, chronic absence, geographic location, percent of classroom non-White, percent of classroom speaks another language

Results: Research Question 1

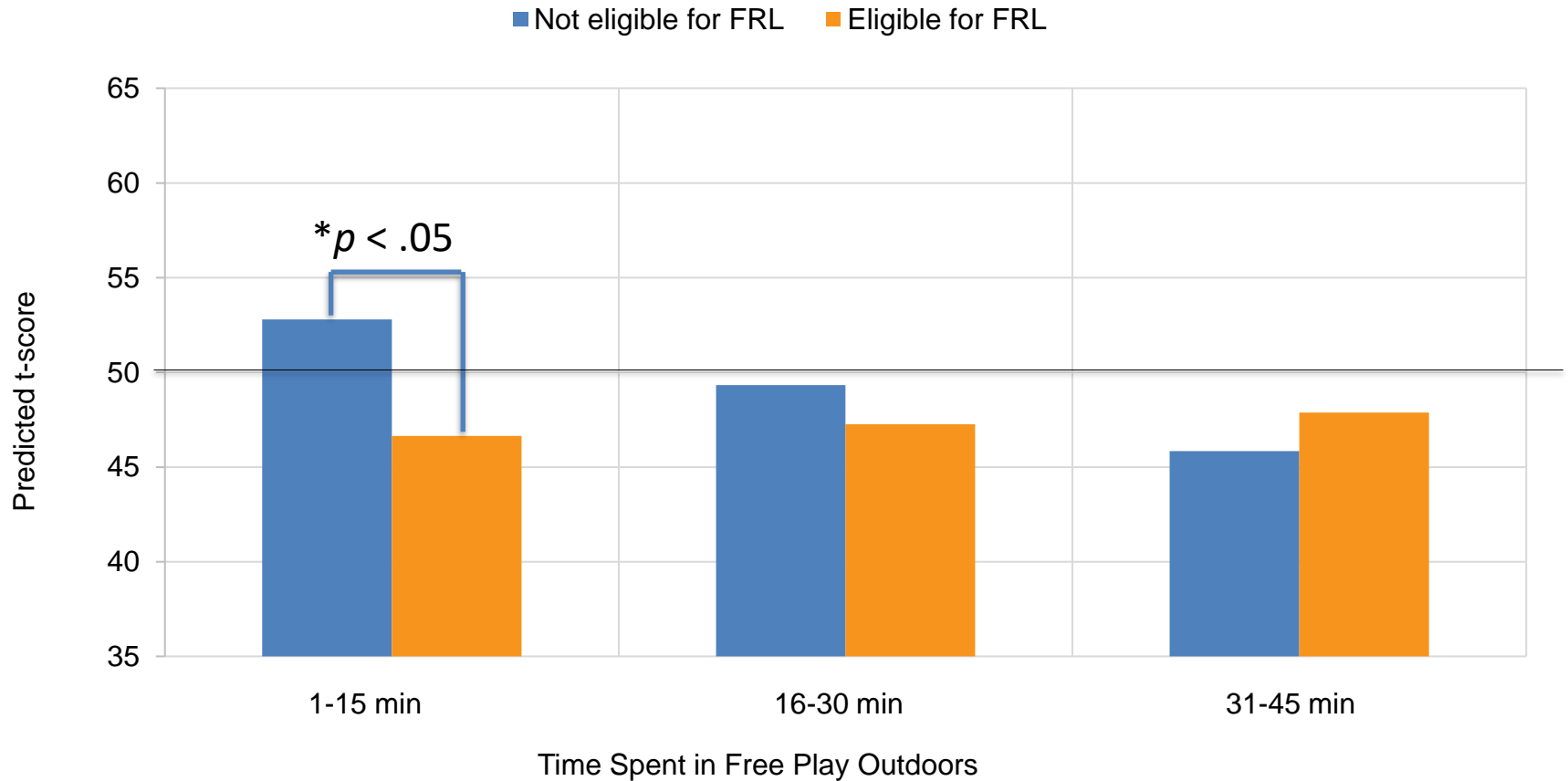
- Averaging over the other variables in the model, there were no associations of SES, indoor play, or outdoor play on any child outcomes
 - Neither SES nor play stood alone to predict 3rd grade students' outcomes
 - If SES or play have a role in predicting child outcomes, it is through interactions with other variables

Results: Research Question 2

- *No significant interactions* of SES and play on:
 - Social skills
 - Language/literacy
 - Math
- *Significant interactions* of SES and play on:
 - Approaches to learning
 - Problem behaviors
 - Student-teacher interactions
 - Science
 - Social studies

Results: Research Question 2a

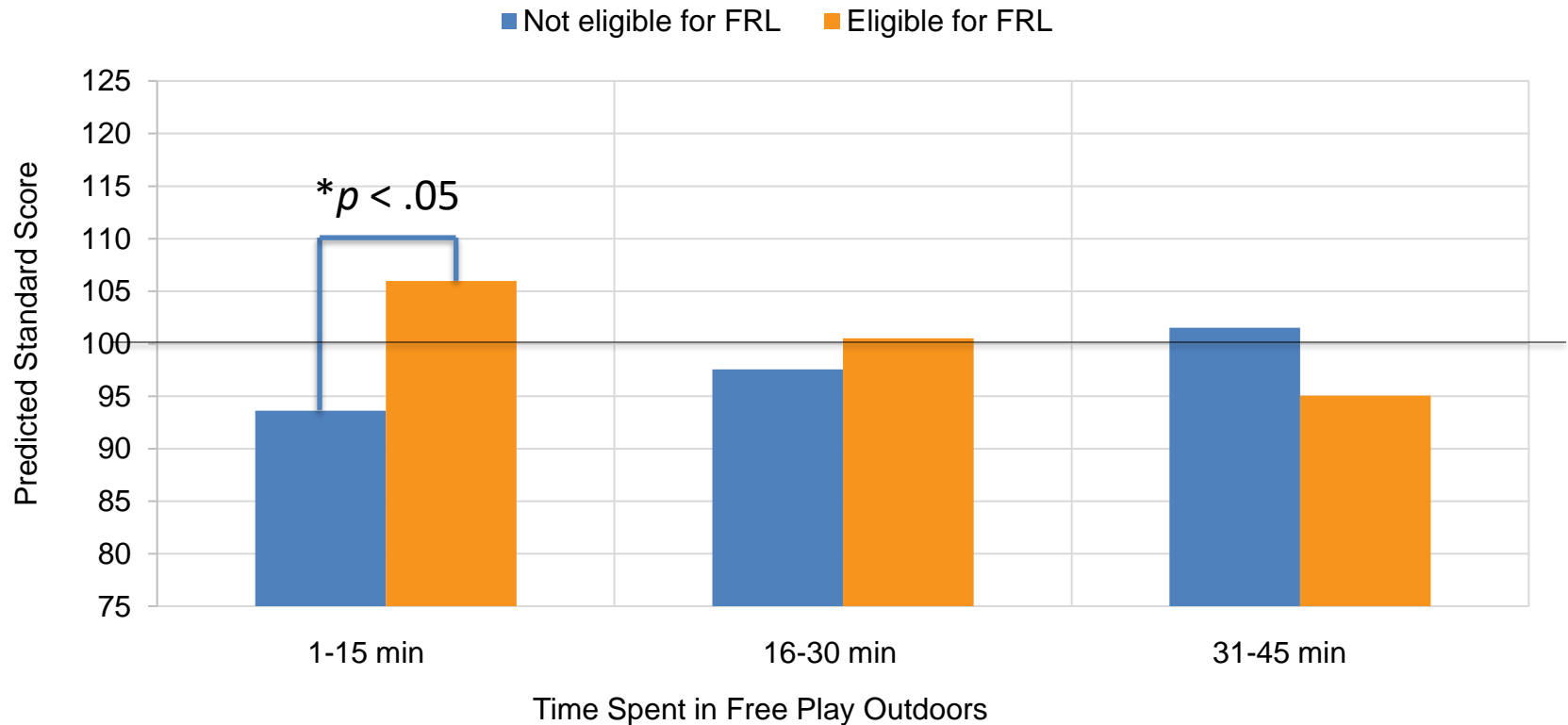
Approaches to Learning



The gap in Learning Behaviors Scale Total Score between low-SES and non-low SES students with 1-15 min outdoor play time closes with more outdoor play time.

Results: Research Question 2b

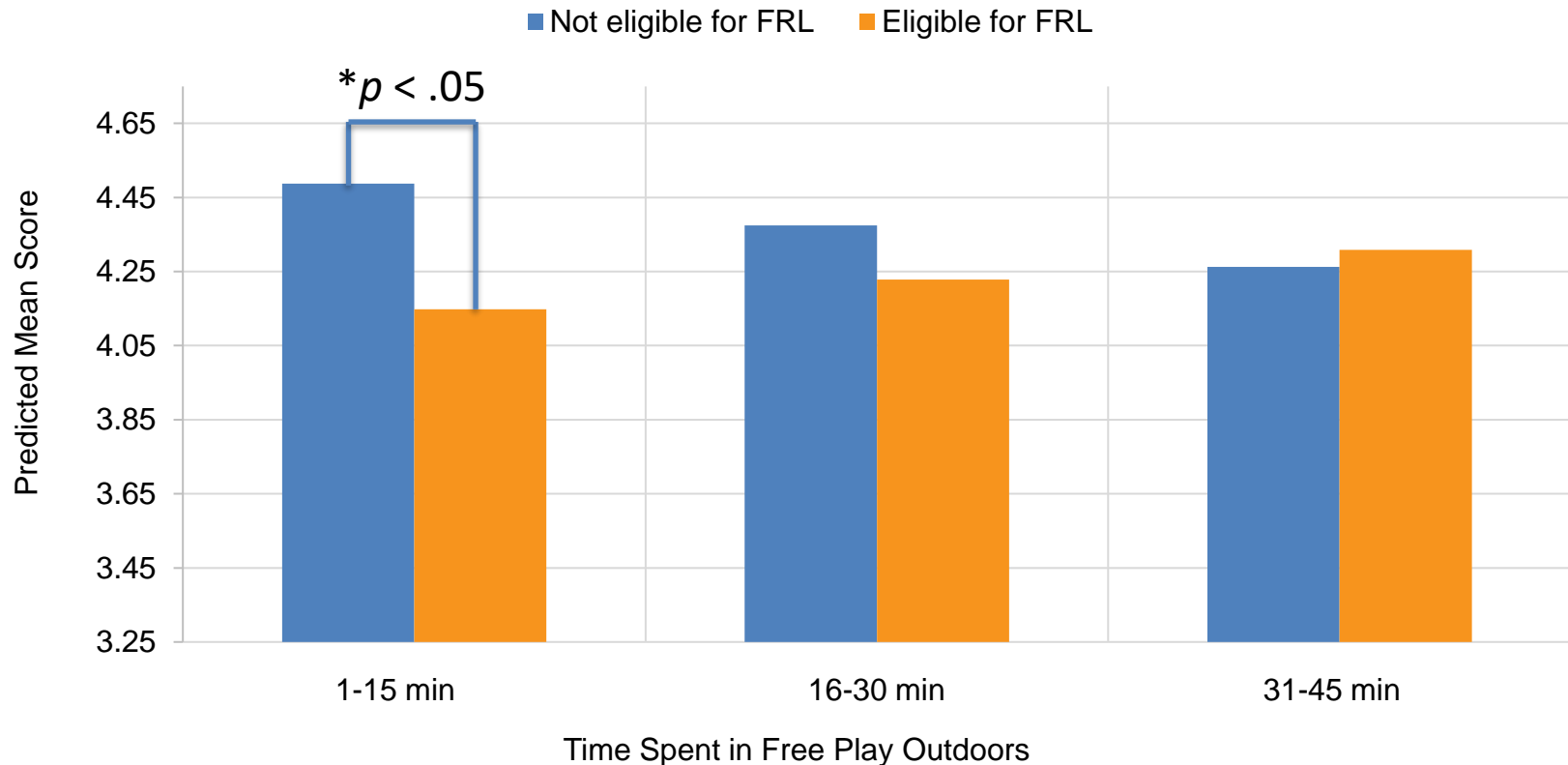
Problem Behaviors



The gap in Problem Behaviors Total Score between low-SES and non-low SES students with 1-15 min outdoor play time closes with more outdoor play time.

Results: Research Question 2c

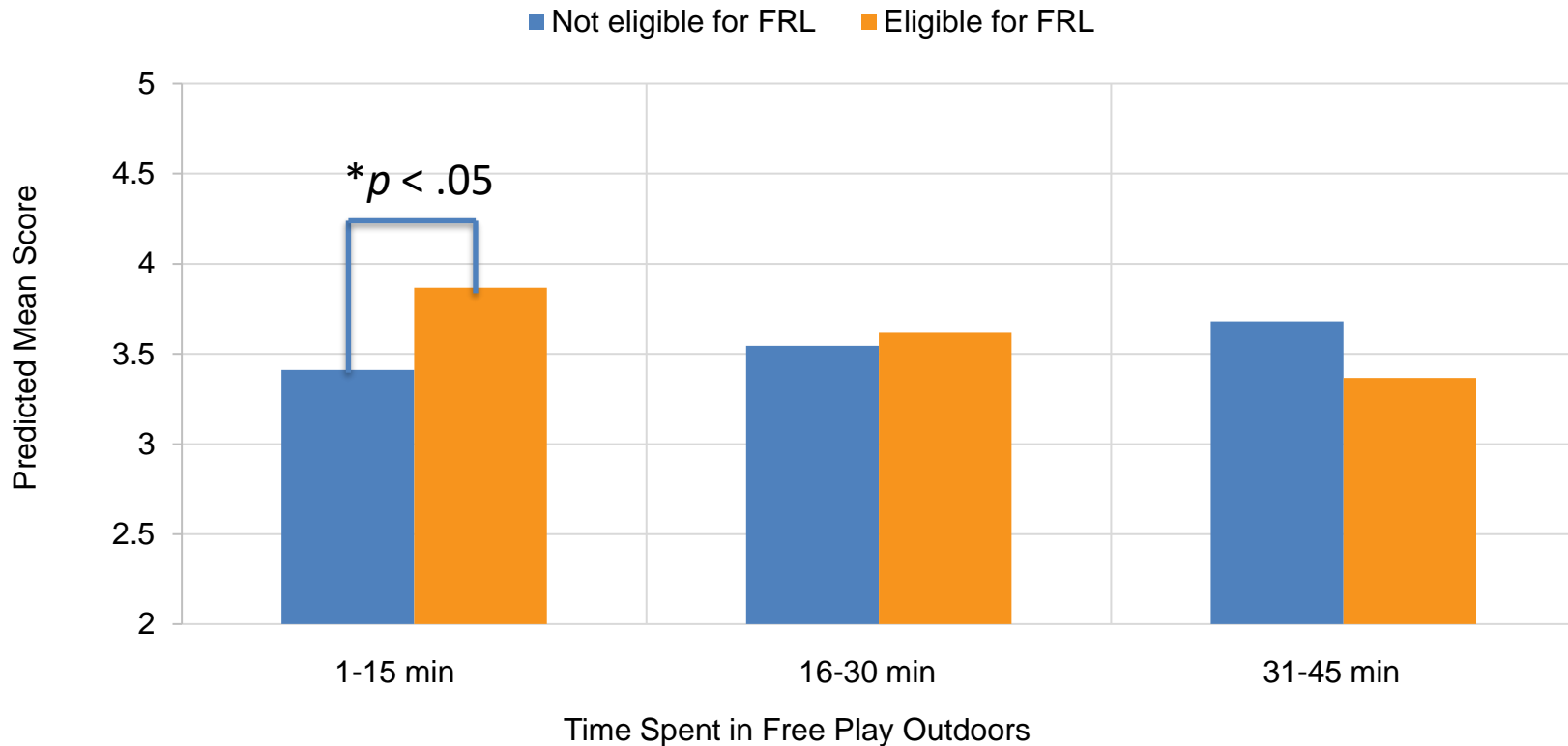
Student-Teacher Relationship



The gap in Student-Teacher Relationship Total Score between low-SES and non-low SES students with 1-15 min outdoor play time closes with more outdoor play time.

Results: Research Question 2d

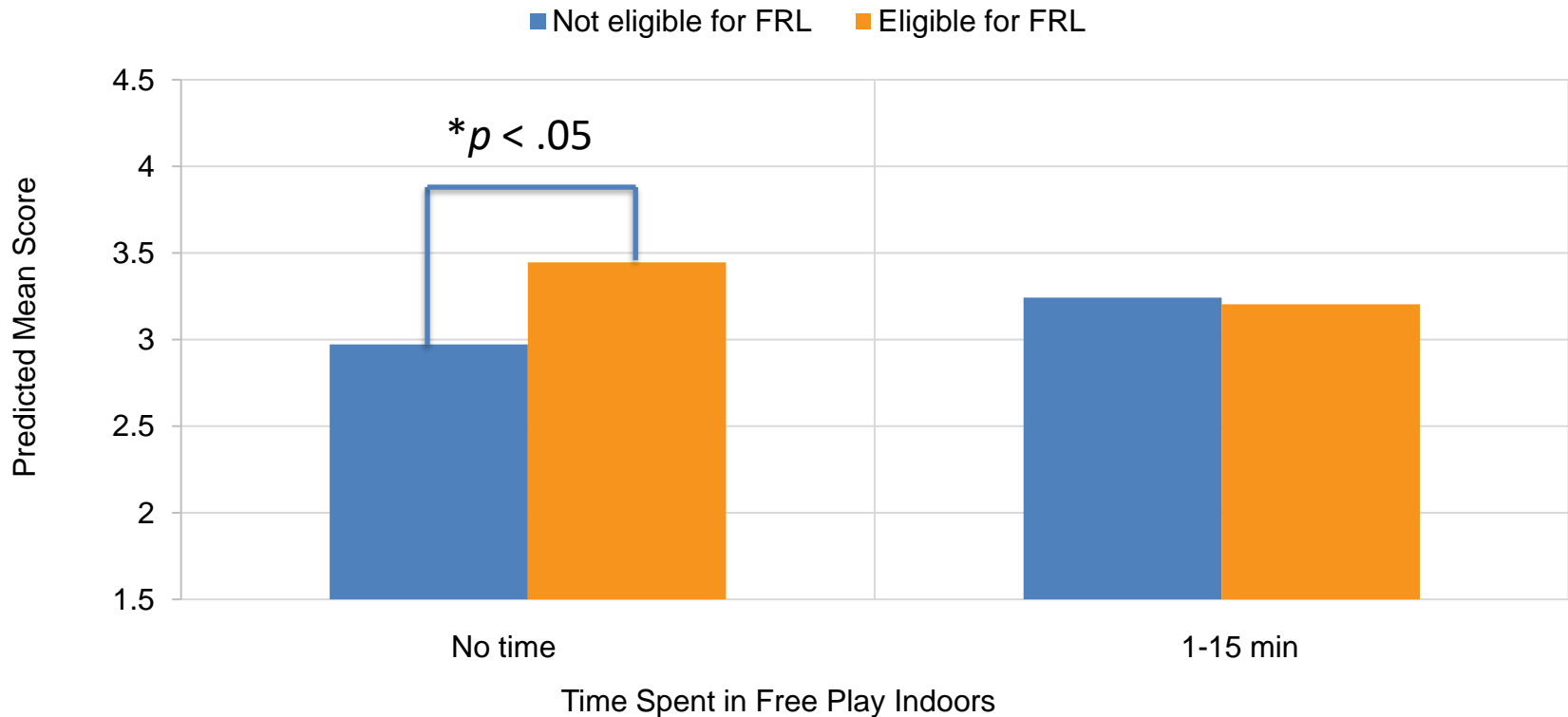
Science



The gap in teacher-reported Science ARS score between *non-low SES* and *low SES students* with 1-15 min outdoor play time closes with more outdoor play time.

Results: Research Question 2e

Social Studies



The gap in teacher-reported Social Studies ARS score between *non-low SES* and *low SES students* with no indoor play time closes with more indoor play time.

Discussion

- Approaches to learning, academic achievement, social-behavioral skills, and interactions are important competencies for 3rd grade children.
- Play could be one important malleable factor related to student outcomes.
- By third grade, 30% of Nebraska students receive less than 16 minutes of free play outside; 38% have no free play indoors.

Discussion

- By themselves, neither students' SES nor opportunities for play predicted approaches to learning, social-behavioral outcomes, student-teacher relationships or academic achievement.
- Rather, ***interactions between SES and amount of play appear to be associated with some, but not all, important outcomes.***

Discussion

For low-SES children:

- The biggest gaps appear when there is limited amounts of daily outdoor play (<16 minutes).
- The connections between play/SES and student outcomes are not fully understood.

Policy and Practice Implications

- Whether determined by district or school policy, it is important to preserve opportunities for play for children through 3rd grade despite increasing academic demands on scheduling.
- Attention to play may be especially important in light of the effects of the pandemic on students' stress and mental health.
- Flexibility is needed in the amount of time allowed for play based on student needs.



Thank You!