

A Longitudinal Analysis of School Garden Prevalence in Four New Jersey Cities

Naomi Reyes¹, MS and Punam Ohri-Vachaspati¹, PhD, RD
¹College of Health Solutions, Arizona State University

BACKGROUND

School gardens are a popular strategy to increase preference and consumption of fruits and vegetables (FV). The Healthy Hunger Free Kids Act (HHFKA) of 2010 supported implementation of school gardens for promoting FV consumption. Current research lacks longitudinal assessments of changes in prevalence of school gardens over time.

OBJECTIVES

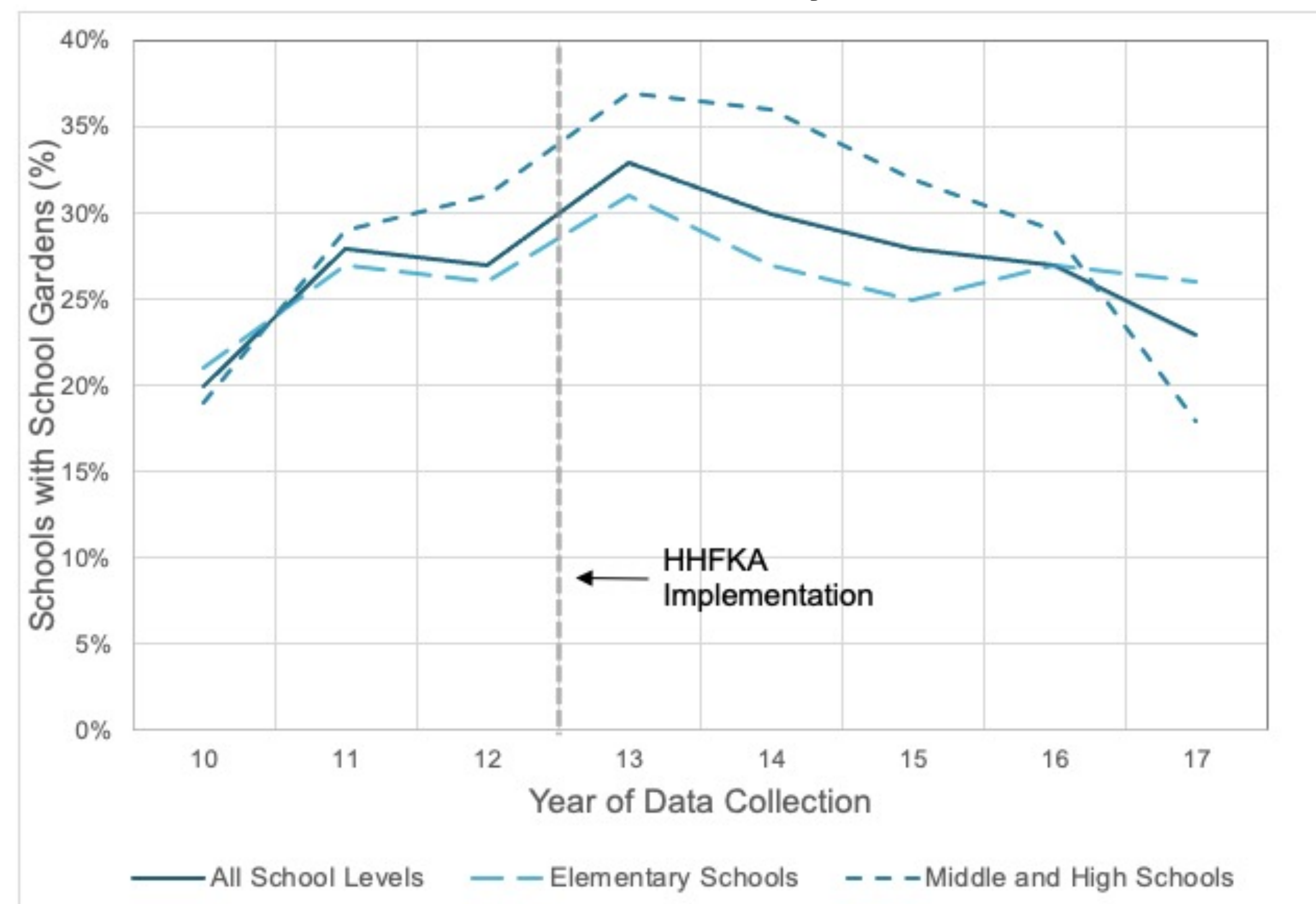
This study examines the prevalence of school gardens over time by school level factors before and after the implementation of the Healthy Hunger Free Kids Act (HHFKA).

METHODS

- Secondary analysis of cross-sectional data from the New Jersey Child Health (NJCHS), collected from K-12 public schools between SY 2010-11 to SY 2017-18 in four lower-income New Jersey cities: Camden, Newark, New Brunswick, and Trenton (n=148).
- Bivariate and multivariate analyses were conducted to examine prevalence for each year of data collection and time periods categorized as before and after the HHFKA, adjusting for school-level factors: school level (elementary vs middle/high), enrolled students' race/ethnicity, and enrolled students' eligibility for free and reduced-price meals (FRPM).

RESULTS

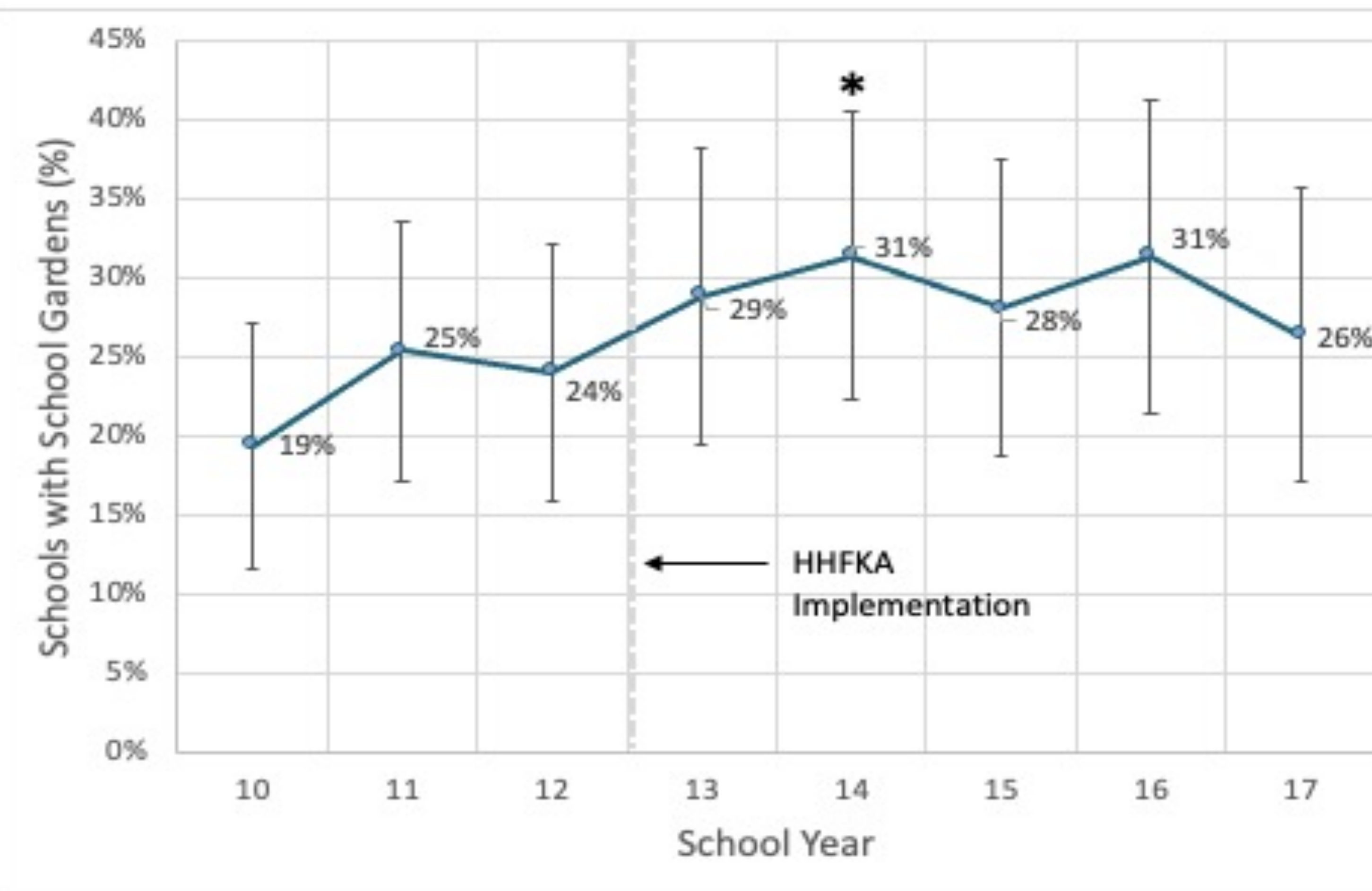
School Garden Prevalence Trends by Different School Levels



Descriptive Characteristics of All Study Schools

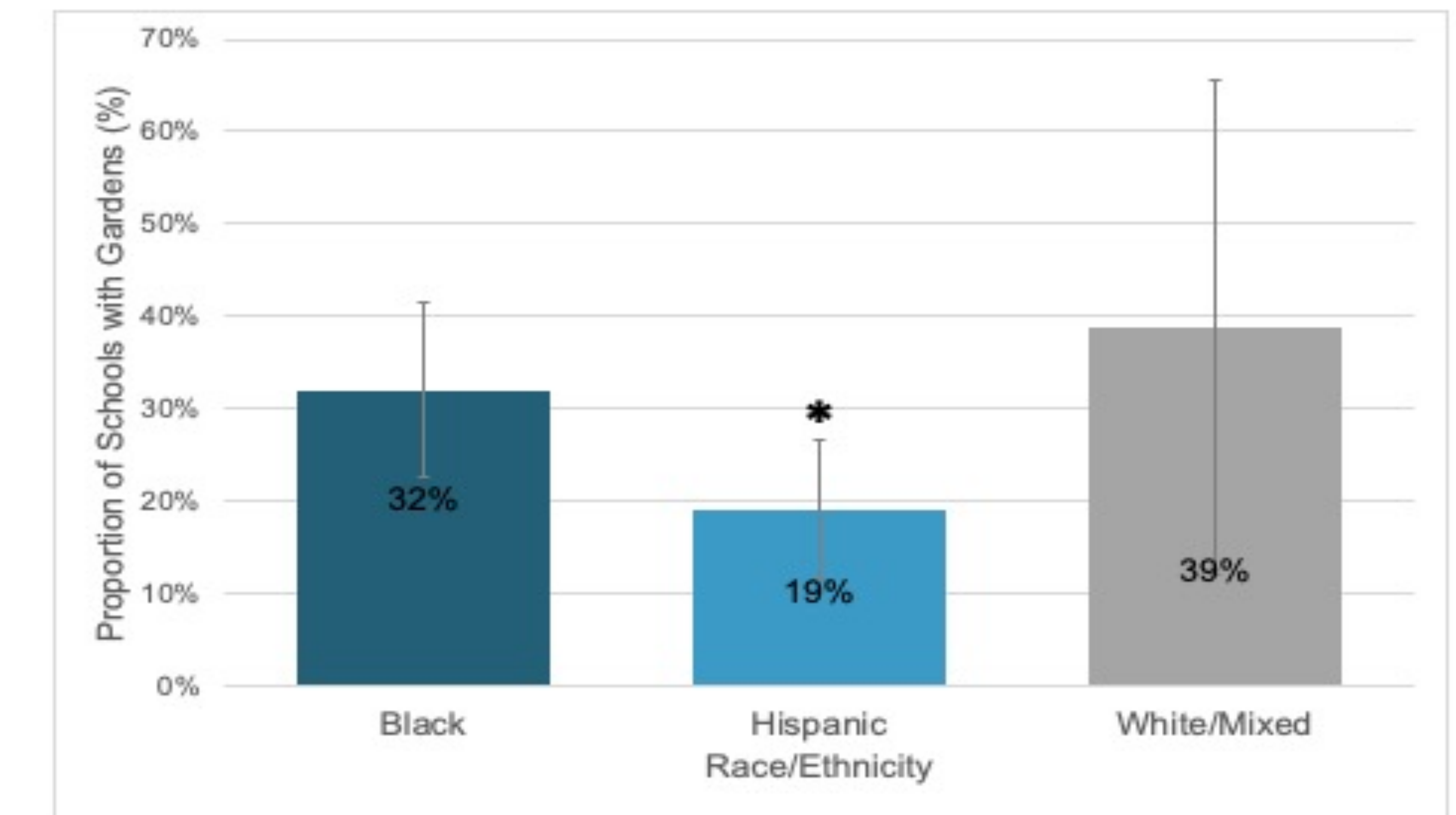
School Level Factors	2010	2011	2012	2013	2014	2015	2016	2017
Number of Schools	99	108	113	84	92	94	91	94
Race/Ethnicity of Enrolled Students (%)								
Majority Black	48.4	50.5	50.0	42.3	42.7	46.2	42.1	40.7
Majority Hispanic	46.2	43.4	44.3	48.7	50.6	50.5	54.6	56.0
Majority White and Mixed	5.4	6.1	5.7	9.0	6.7	3.2	3.4	3.3
Eligible for Free and Reduced-Price Meals (%)								
Lowest Eligibility Category	40.4	26.3	5.7	16.7	28.1	51.6	52.9	48.3
Middle Eligibility Category	27.7	38.4	34.3	33.3	42.7	28.0	32.2	31.5
Highest Eligibility Category	31.9	35.4	60.0	50.0	29.2	20.4	14.9	20.2
School Level (%)								
Elementary	68.7	64.8	65.5	64.3	64.1	67.0	65.9	64.9
Middle and High	31.3	35.2	34.5	35.7	35.9	33.0	34.1	35.1
Study City (%)								
Camden	18.2	19.4	19.5	21.4	22.8	23.4	20.9	19.2
New Brunswick	11.1	11.1	12.4	14.3	13	12.8	13.2	13.8
Newark	55.6	53.7	53.1	42.9	42.4	43.6	47.3	47.9
Trenton	15.2	15.7	15.0	21.4	21.7	20.2	18.7	19.2

School Garden Prevalence Across All Schools



*Represents significance, p<0.05. Adjusted values came from logistic regression model.

School Garden Prevalence in Relation to School Racial/Ethnic Student Population Majority



*Represents significance, p<0.05. Adjusted values came from logistic regression model.

Schools with a majority Hispanic student population were less likely to have school gardens.

Future research should investigate strategies for increasing prevalence of school gardens, especially in schools serving a high proportion of children from Hispanic households.

ACKNOWLEDGEMENTS

This study and the NJCHS were made possible through the support of the Robert Wood Johnson Foundation, Rutgers University, and Arizona State University, College of Health Solutions. This research was supported by grants from the Robert Wood Johnson Foundation, the Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health (1R01HD071583-01A1), and the National Heart, Lung, and Blood Institute, National Institutes of Health (1R01HL137814-01).