Farm to School Prevalence: Do School Characteristics Matter?

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INTRODUCTION

- Farm to school program (FTSP) policies increased after the enactment of the Healthy, Hunger-Free Kids Act (HHFKA).[1]
- Lack of implementation and sustainment found in lower-income school districts.[2]
- FTS found to have increased fruit and vegetable consumption and increased knowledge of local foods for high school students. [3,4]
- Hypothesized higher FTSP and school garden prevalence after the implementation of the HHFKA, for elementary schools versus middle/high schools, in schools with a lower proportion of students eligible for FRPM, and in schools with a low ethnic minority student population.

METHODS

- Secondary analysis of data collected between SY 2010-11 to SY 2017-18 from 148 participating schools in the New Jersey Child Health Study (NJCHS).
- Two multivariate logistic regression models were used to analyze the linear trend of FTSP over the 8-year study period and the prevalence of FTS during the pre-HHFKA study period versus the post-HHFKA period. Both models adjusted for school characteristics

Table 1. Demographic characteristics of schools included in the sample

	SY[a] 2010-11 (N=127)	SY[a] 2013-14 (N=110)	SY[a] 2017-18 (N=108)
Enrollment (mean)	529	591	675
School Level (%)			
Elementary	68	67	68
Middle or High	32	33	32
School Race/Ethnicity (%)			
Majority Black	49	46	41
Majority Hispanic	47	47	56
Majority White/Other	4	7	3
FRPM[b] Eligibility (%)	81	88	77
Farm to School Program participation (%)	13	22	31
City (%)			
Camden	21	22	18
New Brunswick	11	12	12
Newark	51	46	49
Trenton	17	20	21

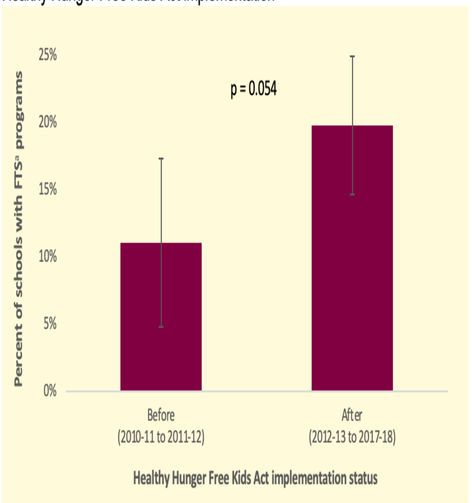
[a]School year
[b]FRPM: Free and reduced-price meals

Table 2. Logistic regression with cluster adjustment of schools in the sample between SY 2010-11 and SY 2017-18

	OR (95% CI)	p-value
School year	1.18 (1.04, 1.35)	0.010
School Level (Ref: Elementary)		
Middle or High	0.50 (0.23, 1.10)	0.086
School Race/Ethnicity (Ref: Majority Black)		
Majority Hispanic	1.09 (0.60, 1.97)	0.776
Majority White/Other	0.75 (0.19, 2.98)	0.679
Enrollment	1.00 (1.00, 1.00)	0.522
FRPM Eligibility Category (Ref: Low)		
Medium	1.14 (0.62, 2.07)	0.677
High	1.30 (0.67, 2.52)	0.438
City (Ref: Camden)		
Newark	0.81 (0.36, 1.81)	0.609
New Brunswick	0.43 (0.13, 1.43)	0.169
Trenton	1.24 (0.51, 2.98)	0.638

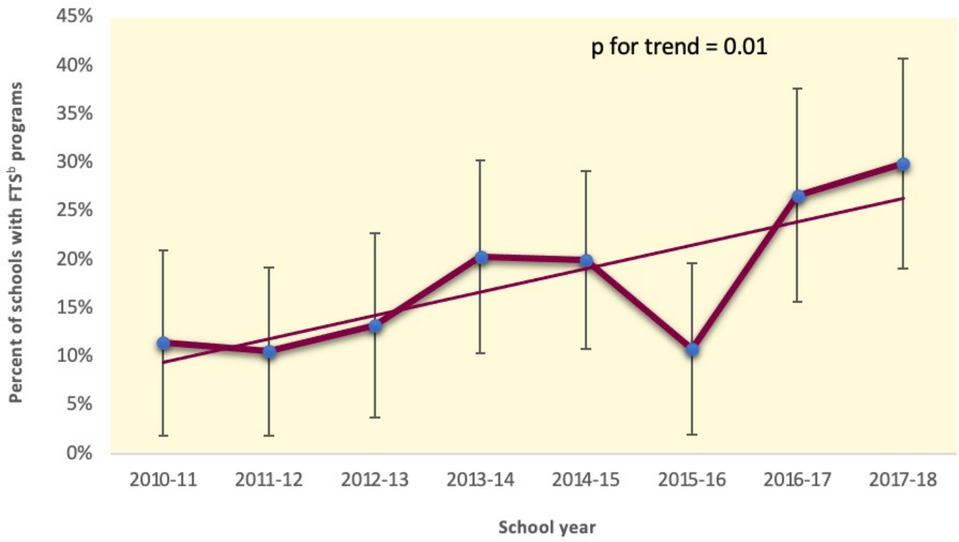
RESULTS

Figure 1. Adjusted[a] mean prevalence of Farm to School programs before and after Healthy Hunger Free Kids Act implementation



[a] From logistic regression model controlling for school level, school race/ethnicity, enrollment, school free and reduced-price meal eligibility tertiles, and city.
[b]Farm to School

Figure 2. Adjusted[a] mean prevalence of Farm to School programs by school year



[a]From logistic regression model controlling for school level, school race/ethnicity, enrollment, school free and reduced-price meal eligibility tertiles, and city
[b]Farm to School

CONCLUSIONS

There are significantly more FTSPs after HHFKA implementation for both school levels.

There is a significant dip in FTSP participation in SY 2015-16.

Only 20% of schools participated in FTS for three or more years over the 8-year study period.

This suggests more complex interactions greater than the availability of funding that need to be investigated further.

REFERENCES

1. Rouse S. Renewing the Healthy, Hunger Free Kids Act and Strengthening the Farm to School Program. *JL & Educ.* 2018;47:177.
2. Lee E, Smathers C, Zubieta AC, Ginnetti S, Shah A, Freedman DA. Identifying Indicators of Readiness and Capacity for Implementing Farm-to-School Interventions. *J Sch Health.* 2019;89(5):373-381. doi:10.1111/josh.12747
3. Rains CB, Giombi KC, Joshi A. Farm-to-school education grants reach low-income children and encourage them to learn about fruits and vegetables. *Transl Behav Med.* 2019;9(5):910-921. doi:10.1093/tbm/ibz092
4. Greer AE, Davis S, Sandolo C, Gaudet N, Castrogivanni B. Formative Research to Create a Farm-to-School Program for High School Students in a Lower Income, Diverse, Urban Community. *J Sch Health.* 2018;88(6):453-461. doi:10.1111/josh.12627

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