

Examining the Association Between Student Perception of Cafeteria Environment and Where Students get their Lunch



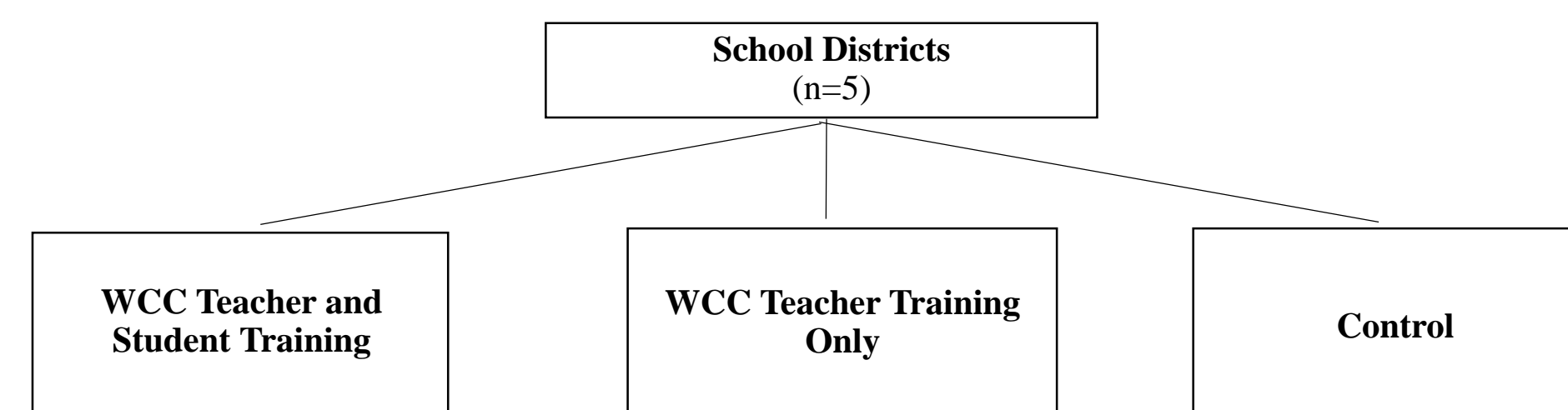
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Background

- 1 in 5 US school-aged children (6 to 19 years) have obesity¹
- Sedentary behavior and poor diet are major contributors to obesity
- Eating school lunches is associated with higher overall diet quality compared to lunches brought from home²
- Previous studies have shown that lunches brought from home have more sugar, salt, and saturated fat content compared to school lunches³
- Very few studies have examined student perception of cafeteria environment and whether these perceptions are associated with where students get their lunch
- **Wellness Champions for Change (WCC)**, a 3-armed pilot randomized controlled trial in 63 Maryland schools (5 systems), aimed to enhance local wellness policy (LWP) implementation



Study Objectives

Research Question: Is student perception of cafeteria environment associated with where they get their lunch?

Hypothesis: Students who have more favorable perceptions of the cafeteria will be more likely to purchase school lunches compared to those with poor perceptions.

Study Methods

Participating Schools:

- 21 schools from 3 different counties in Maryland that participated in the Wellness Champions for Change project were included in analysis. These school districts had diverse demographic arrangements
 - 9 middle schools
 - 12 elementary schools

Participating Students:

- Students were recruited and screened for eligibility upon obtaining consent from parents
 - Baseline measurements, demographic information, and data collected were collected at schools
 - Survey's were administered via computers using Audio Computer-Assisted Self-Interview Software (ACASI)
 - Excluded if students had missing perception data, or responded with "Other" or "I never eat lunch" in the survey

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Study Methods

Patterns of Diet at School (PODS) Survey⁴

- Included seven Likert-type items related to student perception of cafeteria environment. Summed for a final Likert scale ranging from 0-28.
 - Cronbach Alpha = 0.81
- Assessed where students received their lunch most of the time
 - Your home or the home of the person that cares for you
 - From the school cafeteria
 - Other (excluded)
 - I never eat lunch (excluded)

Perception of Environment at School: Cafeteria Subscale

Perception of Environment at School: Cafeteria Subscale Items
The breakfast provided by the school is healthy.
The breakfast provided by the school tastes good.
The lunch provided by the school is healthy.
The lunch provided by the school tastes good.
My school cafeteria is clean and a nice place to eat.
I have enough time to eat my lunch during my lunch period.
At my school, we get to try new foods (like taste tests).

Analysis

- Analysis was conducted in SAS 9.4
- Bivariate analysis and generalized linear mixed models were constructed to assess the relationship between location of lunch and student perceptions.

Results

Bivariate Analysis Between Lunch Location and Participant Characteristics

	Where Students get their Lunch		X ² (p) or t (p)
	Home	School	
Gender			
Male	105(39%)	168(41%)	0.24 (.62)
Female	165(61%)	244(59%)	
Age			
Years	10.35 ± 1.50	10.86 ± 1.64	-4.18 (.001)
School Type			
Elementary	187(69%)	206(50%)	24.78 (<.0001)
Middle	83(31%)	206(50%)	
BMI-for-age-z			
z	.81 ± 1.1	.90 ± 1.1	-1.06 (.29)
Weight Status			
Underweight	3(1%)	6(1%)	2.71 (.44)
Normal weight	148(55%)	200(49%)	
Overweight	43(16%)	69(17%)	
Obese	76(28%)	136(33%)	
County			
Baltimore City	88(33%)	101(25%)	11.95 (.003)
Prince George's	85(31%)	183(44%)	
Charles	97(36%)	128(31%)	
Perception			
Score	11.99 ± 6.42	13.16 ± 5.90	-2.43 (.016)

The initial model tested the interaction between perception and school type, indicating there was a significant interaction between the two (p=0.014). Therefore, the results were stratified between school type.

Results

Mean Perception Scores

Analysis of Perception				
School	Where do you get your lunch most of the time	N	Mean	Std. Deviation
Elementary	Home or Home of Caretaker	181	13.28	6.55
Elementary	School Cafeteria	199	14.73	6.22
Middle	Home of Home of Caretaker	83	9.13	5.14
Middle	School Cafeteria	206	11.65	5.14

Adjusted Type III Tests of Fixed Effects Between Location of Lunch and Covariates

Fixed Effects	Elementary Schools		Middle Schools	
	F Value	Pr > F	F Value	Pr > F
Perception	3.97	0.0471	16.26	<0.0001
Sex	0.00	0.9670	0.79	0.3756
County	1.37	0.2557	2.21	0.1117
BMI-for-age-Z	0.28	0.5997	1.21	0.2729

Conclusions

Discussion

- There is a significant relationship between student perception of their cafeteria environment and where they get their lunch. The relationship between perception and location of lunch is stronger for middle school students than elementary school students.
- Future studies should evaluate ways to improve perception of student perceptions and what factors play into the perception.
- **Limitations**
 - Due to the cross-sectional nature of the analysis, cannot determine if perception influences lunch location decision, or where students get their lunch influences their perception. Future studies should be conducted to address this.
 - Survey data is self-reported which may introduce information bias.

Contribution to Public Health

The results of this analysis demonstrate novel findings that can be utilized to influence policies and practices in the school environment to promote healthier diet choices in elementary and middle school aged children.

References

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