School Food Environments: Ongoing Potential for Policies to Benefit School Meal-Related Practices

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Research Professor
ACKNOWLEDGEMENTS

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OVERVIEW

National Wellness Policy Study

- Multiple primary and secondary data sources
- Linkages with the USDA’s School Nutrition and Meal Cost Study (SNMCS)

Examining associations between school practices and policies at the district level and state level

Policy implications: how might we be able to leverage policy development at the local and state level to increase school-level adoption of strategies to improve child nutrition
A BRIEF HISTORY OF SCHOOL NUTRITION POLICIES

Beginning of SY2006-07
USDA’s Local Wellness Policy (LWP) requirement takes effect

December 2010
The Healthy, Hunger-Free Kids Act passes out of Congress with bipartisan support and is signed into law

Beginning of SY2012-13
New nutrition standards for school meals

Beginning of SY2014-15
Smart Snacks in School standards take effect

July 2016
Final rule on Local School Wellness Policies

??
Reauthorization of Child Nutrition funding

Photo credit:
USDA Flikr collection
LUNCHES HAVE IMPROVED

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Food is only nutritious if students eat it...

Greeley Schools, CO
Strategies to increase consumption...

USDA’s Economic Research Service estimates 31% of the overall food supply at the retail and consumer level went uneaten in the U.S. in 2010.

Scheduling recess before lunch can reduce plate waste by as much as 30%.

Extending lunch periods from 20 to 30 minutes reduced plate waste by nearly one-third.

Smarter lunchroom strategies, such as how foods are named and where they are placed in the cafeteria, can facilitate healthy choices and increase fruit and vegetable consumption by up to 70%.
KEY TOPICS

Scheduling recess before lunch

Adequate duration for lunch

Promotion strategies:
• student engagement
• parent/community engagement
• nutrition information, marketing, etc.
RESEARCH METHODS

SNMCS study, 2014-15 school year
• 1,282 schools
  • Principal n = 1,090 (response rate = 97%)
  • School Nutrition Manager n 1,210 (response rate = 87%)
  • Schools nested within ~400 School Food Authorities
Nationally representative of schools participating in NSLP

Primary data collection
• District policies (board policies, wellness policies, regulations, cross-referenced policies)
• State laws (50 states + DC)
SCHEDULING RECESS BEFORE LUNCH

Research indicates that it can:

• Decrease plate waste/increase consumption of meals (Bergman et al, 2004)

• Increase consumption specifically of fruits and vegetables (Price et al, 2015)
Do any students have recess before lunch?
Elementary only (n = 389)
Principal survey

**District Policy**
- Yes: 80%
- No: 17%
- Weak: 2%

**State Law**
- No: 94%
- Weak: 6%
RESULTS: SCHEDULING RECESS BEFORE LUNCH

Adjusted prevalence, by district policy

- No policy: 51%
- Weak policy: 74%
- Strong policy: 78%

District Policy
- Strong: 2%
- Weak: 17%
- No policy: 80%
RESULTS: SCHEDULING RECESS BEFORE LUNCH

State law not significantly associated with school practices (but few states have laws)

Important demographic variations in school practices

<table>
<thead>
<tr>
<th></th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>Adjusted %</th>
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<tbody>
<tr>
<td>Urban referent</td>
<td></td>
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<td>63.8%</td>
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<tr>
<td>Suburban 0.75</td>
<td>0.39,1.44</td>
<td>57.3%</td>
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<tr>
<td>Rural 0.45*</td>
<td>0.21,0.94</td>
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<tr>
<td>School size: large (1000 or more students) referent</td>
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<td>79.2%</td>
</tr>
<tr>
<td>School size: medium (500 to 999 students) 0.32</td>
<td>0.09,1.19</td>
<td>56.5%</td>
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<tr>
<td>School size: small (fewer than 500 students) 0.27*</td>
<td>0.07,0.98</td>
<td>52.3%</td>
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</tbody>
</table>
SCHEDULING RECESS BEFORE LUNCH

A promising practice in terms of outcomes for elementary school students

Logistical challenges (scheduling, labor laws, cafeteria capacity)

Potentially can be impacted by local-level policy (at the district level), with buy-in from school administrators
ADEQUATE LUNCH DURATION

Lunch periods of at least 20 minutes allow students to consume more fruit/veg, milk, and entrees

(Gosliner, 2014)
(Cohen et al, 2016)

30 minutes is even better than 20 minutes; higher nutrient intake

(Bergman et al, 2004)
RESULTS: ADEQUATE LUNCH DURATION

School level (principal survey): Does the school have a wellness policy addressing the issue of providing students a minimum amount of time to eat lunch, and has it been implemented?

In policy, fully implemented: 20%
In policy, partially implemented: 2%
Still being planned: 0%
No policy: 78%
**RESULTS: ADEQUATE LUNCH DURATION**

**District Policy**
- No: 35%
- Weak: 52%
- Strong: 13%

**State Law**
- No: 74%
- Weak: 23%
- Strong: 3%

*Adjusted prevalence (% of schools with full implementation), by district policy*

- No policy: 20%
- Weak policy: 16%
- Strong policy: 35%

*p < .05*
PROMOTING SCHOOL MEALS

- Strategic changes (e.g., Smarter Lunchrooms)
- Student engagement
- Parent/community engagement
STRATEGIES TO ENGAGE STUDENTS

School level (food service manager survey)

- Involve students in menu planning
  - No: 54.4%
  - Yes, since before 2012-13: 29.9%
  - Yes, beginning 2012-13: 15.7%

- Seek input on vegetable offerings
  - No: 47.7%
  - Yes, since before 2012-13: 26.6%
  - Yes, beginning 2012-13: 25.7%

- Seek input on creative names for dry beans & peas
  - No: 78.9%
  - Yes, since before 2012-13: 12.6%
  - Yes, beginning 2012-13: 8.5%

- Encourage students to select fruit
  - No: 3.7%
  - Yes, since before 2012-13: 62.6%
  - Yes, beginning 2012-13: 33.7%

- Taste tests with students
  - No: 30.2%
  - Yes, since before 2012-13: 41.8%
  - Yes, beginning 2012-13: 28%
STRATEGIES TO ENGAGE STUDENTS

Policy: Strategies to increase participation in school meal programs (SM4)

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<th>District Policy</th>
<th>State Law</th>
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<tbody>
<tr>
<td>No</td>
<td>51%</td>
<td>75%</td>
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<tr>
<td>Weak</td>
<td>26%</td>
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STRATEGIES TO ENGAGE STUDENTS

Policy: Methods to solicit stakeholder input (CP2)

District Policy
- Strong: 26%
- Weak: 11%
- No: 63%

State Law
- Strong: 9%
- Weak: 15%
- No: 76%

Fairfax School District (VA) & School Meals That Rock
STRATEGIES TO ENGAGE STUDENTS

Involve students in menu planning
• 45.6% of schools overall
• No differences by district policy
• Significant difference by state law (any)
  • 59.0% vs. 40.8%

Seek student input into vegetable offerings
• 52.3% of schools overall
• No difference by district policy
• Significant difference by state law (any):
  • 65.5% vs. 48.7%
STRATEGIES TO ENGAGE STUDENTS

Seek student input into names for dry bean and pea entrées
• 21%; not associated with district policy or state law

Encouraged students to select fruit*
• 96%; not associated with district policy
• Associated with state recommendations (99.7% vs. 95.5%)

Conducted taste test with students*
• 70%; not associated with district policy
• Associated with state recommendations (82.7% vs. 66.6%)

* Match to CP2 (methods to solicit student input)
STRATEGIES TO ENGAGE STUDENTS

Number of strategies used
range from 0 to 5; Mean = 2.8 (SD = 1.4)

Number of strategies not associated with district policy

Significantly associated with state law.
• 2.7 strategies in states without a law
• 3.2 in states with a law

No demographic variations
**Strategies to Engage Parents**

- **Set up a booth at school event (e.g., family night)**
  - No: 62.5, 25.7, 11.9
  - Yes, since before 2012-13: 20.3, 50.1, 29.6
  - Yes, beginning 2012-13: 59.6, 26.8, 13.7

- **Provide info about school meals to families**
  - No: 62.5, 25.7, 11.9
  - Yes, since before 2012-13: 20.3, 50.1, 29.6
  - Yes, beginning 2012-13: 59.6, 26.8, 13.7

- **Attend a PTO/PTA meeting or other meeting with parents to discuss school meals**
  - No: 62.5, 25.7, 11.9
  - Yes, since before 2012-13: 20.3, 50.1, 29.6
  - Yes, beginning 2012-13: 59.6, 26.8, 13.7

* Linked with CP3 policy (methods to engage parents/community)
**STRATEGIES TO ENGAGE COMMUNITY**

- **Invite community members to promote meals (e.g., local chefs, farmers, athletes, celebrities)**
  - No: 65.1
  - Yes, since before 2012-13: 22.1
  - Yes, beginning 2012-13: 12.7

- **Present info to local groups (e.g., chamber of commerce)**
  - No: 80.2
  - Yes, since before 2012-13: 12.5
  - Yes, beginning 2012-13: 7.3

* Did not match with policy coding; descriptives shown to assess frequency of these strategies
Strategies to engage parents/community

Summary:

Schools tend to be using more practices to engage students than outside stakeholders (but parents matter too).

Policies tend to be more associated with practices pertaining to student engagement—state, not district.
Does school routinely make information on the calorie or nutrient content of school meals available to students or parents?

- Yes: 65%
- No: 35%
Strategies to Engage Parents/Community

Policy: schools to provide nutrition information about school meals (SM11)
STRATEGIES TO ENGAGE PARENTS/COMMUNITY

Adjusted prevalence, by district policy

- No policy: 61%
- Weak policy: 76%
- Strong policy: 78%

District Policy

- No policy: 75%
- Weak: 12%
- Strong: 13%

\( p < 0.05 \)
WHAT ELSE WORKS?

Implement complementary programs to promote F&V taste testing and education, school gardens, and field trips to local farms. FSDEs reported that taste testing allows students to try F&Vs in a "safe" environment and increases their likelihood of trying it when it appears again on the tray.

Promote F&V consumption through the use of salad bars. Several FSDEs reported strategies that enhanced the success of salad bars:
- Ensure salad bars are easily accessible and visible to all students.
- Offer pre-dressed salads (tossing greens with dressing prior to serving them) as an option.
- Employ "Salad Bar Ambassadors," employees who are in the cafeteria to encourage F&V consumption.

Accessibility to salad bars was also associated with higher green vegetable consumption in related studies.5,6

Use vegetables creatively. FSDEs employed innovative ways to incorporate vegetables into the meal, rather than as standalone side dishes. For example, vegetables are used to complement an entree by adding spinach to a meatball sub. Another example is to offer hummus/chickpea dips with salads.

"SHARE TABLES" OR "COMMUNITY TABLES"

FSDEs reported creating Share Tables that were used to offset plate waste. Unwanted, unopened F&Vs can be placed on the table or in boxes and other students can help themselves to the products.

Whole Grain-Rich Implementation
FSDEs found mixed experiences with implementation of the whole grain-rich requirement: some faced no challenges, while others found it difficult to meet the requirements that involved sourcing. Initial reports indicated that some districts were able to successfully meet the requirements by establishing partnerships with local suppliers or by incorporating whole grain-rich products into the meal service.

"How many meals do I cook a day? Zero. How many menus does my staff prepare? One..." - [FSDE] When asked why the meal service is so efficient, the FSDE responded, "We can have a variety of options, but we don't need to spend too much time on it. We're going for variety, not overkill."
CONCLUSIONS

Serving nutritious food is important, but...

Many other factors combine to create an environment that supports healthy behaviors (buying lunch and eating it)

Focusing not only on what, but also when, where, and how
CONCLUSIONS

Policy actions at the state and local level can facilitate these school practices.

Technical assistance, training, and other supports still remain crucial.

Many such programs exist—through various agencies—but ongoing support is essential!
THANK YOU!  QUESTIONS?

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