Preliminary Results from an Implementation Trial of Obesity Prevention Practices in Head Start

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Hello!

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Disclosures

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1. The WISE Intervention

Together, We Inspire Smart Eating
• 8 Fruit and Vegetable Units
  • Simple, low-cost recipes
• Implemented by Early Care and Education Teachers
# Evidence-Based Practices (EBPs)

## Component Behaviors

<table>
<thead>
<tr>
<th>Component</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Mascot</td>
<td>- Uses mascot during activity.</td>
</tr>
<tr>
<td></td>
<td>- Leads chant with mascot.</td>
</tr>
<tr>
<td>Role Modeling</td>
<td>- Eats food with the children.</td>
</tr>
<tr>
<td></td>
<td>- Makes positive comments about the target food.</td>
</tr>
<tr>
<td>Hands-On Exposure</td>
<td>- Completes lesson in prescribed group size.</td>
</tr>
<tr>
<td></td>
<td>- Involves children in lesson.</td>
</tr>
<tr>
<td>Positive Feeding Practices</td>
<td>- Cues hunger and satiety.</td>
</tr>
<tr>
<td></td>
<td>- Encourages food exploration.</td>
</tr>
<tr>
<td></td>
<td>- Supports without pressure.</td>
</tr>
</tbody>
</table>
WISE Results

- Improvements in educator knowledge which are sustained
  - Whiteside-Mansell L., Swindle, T., 2017

- Outperforms standard of care for improving child dietary intake (FFQ)
  - Whiteside-Mansell L., Swindle, T., 2018

- Parent-reported increases supported by biomarker improvements
  - Whiteside-Mansell L., Swindle, T., In Press
Gaps in Implementation

Educators struggle to use EBPs
Implementation Science – Crash Course!

Innovation – the thing!

An implementation strategy

Context
Implementation Framework

Facilitation

Context

Innovation

Recipient

Successful Implementation

i-PARIHS Framework
## Prioritized Barriers & Facilitators

<table>
<thead>
<tr>
<th>Context</th>
<th>Innovation</th>
<th>Recipients</th>
</tr>
</thead>
</table>
| • Leadership Support  
• Capacity & climate for change | • Time  
• Perception of fit & advantage | • Classroom Skills  
• Beliefs |
2. The Research Design
Cluster Randomized Hybrid Type III Trial
“Will stakeholder-selected strategies outperform a basic implementation approach on implementation and child outcomes?”
Strategy Selection

- Rate most important barriers and facilitators
- Link priorities to possible ERIC strategies
- Rate potential strategies on importance and feasibility
- Gather feedback to improve

Set priorities
Map to Possible Strategies
Concept Mapping
Present draft materials

Enhanced Support

- Handouts
- Videos
- Incentives
- Reminders

- Champion
  - Formal Commitment
  - Blueprint

- Educator Support
- Context Support

EXTERNAL FACILITATION
The Strategies Specified: Examples

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Actor</th>
<th>Action</th>
<th>Temporality</th>
<th>Dose</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify and prepare champions</td>
<td>Volunteer or designated champion at each enhanced site</td>
<td>Provide 3 hour training in how to advocate, educate, and navigate for WISE</td>
<td>Within 2 months of teacher training</td>
<td>One-time training with facilitator contacts thereafter</td>
<td>Provide local contact to increase capacity for change.</td>
</tr>
<tr>
<td>Incentives</td>
<td>Classroom teacher pairs will receive incentives (i.e., classroom supplies) from WISE staff</td>
<td>Provide tailored incentives reflective of use of 4 key practices.</td>
<td>Educators can earn new incentives each quarter</td>
<td>Varies by teacher (0 – 8 incentives may be earned)</td>
<td>Increase likelihood that educators will try WISE practices and create first-hand experience with advantages of practices; leverage social norms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Enhanced</th>
<th>Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Classrooms</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Teachers</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
<td>Children</td>
<td>305</td>
<td>316</td>
</tr>
</tbody>
</table>
## Educator Demographic Characteristics by Treatment Group

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Enhanced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female, (^1) % (n)</td>
<td>100 (30)</td>
<td>100 (31)</td>
<td>100 (61)</td>
</tr>
<tr>
<td>Latina, % (n)</td>
<td>10 (3)</td>
<td>3.2 (1)</td>
<td>6.6 (61)</td>
</tr>
<tr>
<td>35+ years old, % (n)</td>
<td>70 (21)</td>
<td>74.2 (23)</td>
<td>72.1 (61)</td>
</tr>
<tr>
<td>1-10 years teaching experience, % (n)</td>
<td>70 (21)</td>
<td>61.3 (19)</td>
<td>65.6 (61)</td>
</tr>
<tr>
<td>White, % (n)</td>
<td>25.8 (8)</td>
<td>12.9 (4)</td>
<td>19.4 (62)</td>
</tr>
<tr>
<td>Black, % (n)</td>
<td>67.7 (21)</td>
<td>80.6 (25)</td>
<td>74.2 (62)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>Enhanced</td>
<td>Total % (N)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Female, % (n)</td>
<td>62.6 (119)</td>
<td>54.4 (124)</td>
<td>58.1 (418)</td>
</tr>
<tr>
<td>Age, M (SD)</td>
<td>4.08 (0.58)</td>
<td>4.07 (0.58)</td>
<td>-</td>
</tr>
<tr>
<td>Latino/a, % (n) ***</td>
<td>39.6 (67)</td>
<td>21.8 (46)</td>
<td>29.7 (380)</td>
</tr>
<tr>
<td>White, % (n)</td>
<td>10.7 (13)</td>
<td>14.3 (15)</td>
<td>12.4 (226)</td>
</tr>
<tr>
<td>Black, % (n)**</td>
<td>61.4 (108)</td>
<td>75.6 (149)</td>
<td>68.9 (373)</td>
</tr>
<tr>
<td>Parent no high school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>degree, % (n) **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline RSS, M (SD)</td>
<td>25095.89 (9449.77)</td>
<td>24642.20 (9464.97)</td>
<td>-</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
<table>
<thead>
<tr>
<th>Construct</th>
<th>Measures</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach</td>
<td>Number of Lessons delivered</td>
<td>Educator-Report</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>• Child BMI</td>
<td>• Record Review</td>
</tr>
<tr>
<td></td>
<td>• Child RRS scan</td>
<td>• Measured with Nuskin</td>
</tr>
<tr>
<td>Adoption</td>
<td>• Organizational Readiness for Implementing Change$^1$</td>
<td>• Educator-Report</td>
</tr>
<tr>
<td>Implementation</td>
<td>• WISE fidelity$^2$</td>
<td>• Observed</td>
</tr>
<tr>
<td></td>
<td>• Feasibility, Appropriateness, Acceptability$^3$</td>
<td>• Educator-Report and Formative Interviews</td>
</tr>
<tr>
<td></td>
<td>• Perceived barriers$^4$</td>
<td>• Educator-Report</td>
</tr>
<tr>
<td></td>
<td>• Implementation Leadership$^5$</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Fidelity in following school year</td>
<td>To be measured in Fall 2019</td>
</tr>
</tbody>
</table>

3. Results
Guided by Re-Aim
Delivery of Support

• 129 hours
• 78 visits
• Onboarding meetings
• Champion training and contacts
• 46 handouts
• 37 videos
• 79 incentives

EXTERNAL FACILITATION

CHAMPION

Formal Commitment
Blueprint

Handouts
Videos
Incentives

Educator Support
Reminders
Context Support
Dose of Support

- 76.5% used educational handouts
  - 3+ times per month
  - SAME for cutting board

- 64.7% had consultation with champion
  - 2+ times per month
  - SAME for WISE facilitation support

- 48.5% used incentives
  - 2+ times per month

- 33.4% used educational videos
  - 2+ times per month
Cost

- $585 to deliver basic support
- $5,218 to deliver enhanced support
  - 8 hr of facilitation per class
  - $24 per class
  - Averaged less than 15 min travel per activity
## Reach

<table>
<thead>
<tr>
<th></th>
<th>Basic</th>
<th>Enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys Returned</td>
<td>82%</td>
<td>86%</td>
</tr>
<tr>
<td>Lessons Completed</td>
<td>69%</td>
<td>76%</td>
</tr>
</tbody>
</table>
Effectiveness

Fall and Spring RSS by Intervention arm with error bars

Intervention
- control group/group A
- intervention/enhanced group/group B

Mean RSS
- FallResult_r
- SpringResult_r

Error Bars: 95% CI
Adoption

- Are committed to implementing WISE.
- Want to implement WISE.
- Feel confident that they can keep the momentum going in implementing WISE.
- Are determined to implement WISE.
- Are motivated to implement WISE.

Treatment = 4.4  Control = 3.9
Implementation

- **Significant treatment effects:**
  - Fidelity to Role Modeling
  - Fidelity to Engaging Mascot

- **Marginal treatment effects:**
  - Fidelity to Hands-On Exposure
Implementation

Acceptability

Appropriateness

Feasibility

- Treatment
- Control
Implementation

- **Perceived Barriers**
  - E.g., *Not Enough training*
  - Almost twice as high in control group, sig difference
    - 5.9 versus 3.0

- **Implementation Leadership**
  - E.g., *Established clear standards for implementing WISE.*
  - Significantly higher in treatment group
Implementation - Qualitative Feedback

“‘I was very pleased with how they would come out to the center and talk with me to see if there was anything I needed. They went to the classrooms to check on the teachers to see how things were going… I just couldn’t believe how they just tagged on to us ....I just don’t think there was anything lacking that we didn’t get here that we needed or I needed.”

– Center director

“When we had our teacher meeting, I had them watch the videos. And they got some stuff from the videos. I liked the videos y’all sent. I got to learn more stuff and then pass it on to them.”

– WISE Champion

“She came back and gave the other classes a reward. We did all this and you still gave us a bad report? Nah. Something is wrong with this picture.”

- Assistant Teacher
Maintenance

Stay Tuned!
Formative Evaluation

**Soft Resisters**
*Passive attitude, low to moderate fidelity*
17%

**Enthusiastic Adopters**
*Positive attitude, high fidelity*
35%

**Hard Resisters**
*Negative attitude, low fidelity*
24%

**Over-Adapting Adopters**
*Positive attitude, fidelity inconsistent adaptations*
24%
“That puppet really works... That’s why I don’t bring her out right at the beginning. I sit here just to see who’s gonna start... One little boy don’t hardly want to taste nothing. But when I get it (the puppet).... they’ll go ahead. Just to make sure we get everybody into it, we’re going to use Windy.”
Targeted Facilitation

**Enthusiastic Adopter**
- W
- RM
- SG
- F

1. what do you see?
2. praise/reward
3. empower/connect
4. peer coaching

**Over-Adapting**
- Facilitator decides component to address

1. what do you see?
2. decide priorities
3. goal setting
4. coaching toolkit

**Soft Resister**
- ECE decides component to address

1. what do you see?
2. find buy-in
3. evidence/reinforce
4. coaching toolkit

**Hard Resister**

- W
- RM
- SG
- F

**MEET THEM WHERE THEY ARE**

- Focus on building relationship. Silence the negativity. Move them along the spectrum.

- REFER TO EVIDENCE ON THE BENEFITS OF WISE CURRICULUM AS A WHOLE.
## Turnover

<table>
<thead>
<tr>
<th>Centers</th>
<th>% Classrooms Affected</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Augustine*</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sherwood</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Davis*</td>
<td>34%</td>
<td>42%</td>
</tr>
<tr>
<td>Nathaniel Hill*</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>Metro</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Southwest</td>
<td>67%</td>
<td>39%</td>
</tr>
<tr>
<td>New Start</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Kennedy</td>
<td>100%</td>
<td>63%</td>
</tr>
<tr>
<td>King*</td>
<td>100%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>61%</strong></td>
<td><strong>43%</strong></td>
</tr>
</tbody>
</table>

* Indicates Treatment Sites
Lessons Learned for Implementation in Childcare

- Elevate champion role - but not too much
- Incentives are good until they are not.
- Options for resource delivery are key.
- Invest in quality materials.
- One size does not fit all.
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- Geoff Curran
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Any questions?

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