

THE CENTER FOR FOOD SAFETY IN
CHILD NUTRITION PROGRAMS

Introduction

- Employee food safety knowledge and attitudes are important to protect children from foodborne outbreaks (Henroid & Sneed, 2004).
- Research has shown that increasing employee knowledge is not enough to change on-the-job behavior (Roberts et al., 2008).
- Interventions to change employee behavior should focus on behavioral, normative, and control beliefs; which precede behavior and behavioral intention (Mitchell, Fraser, & Bearon, 2007).

Purpose

Determined school nutrition employees' beliefs about three food safety practices:

1. Proper cleaning/sanitizing of food contact surfaces,
2. Proper handwashing, and
3. Proper use of a food thermometer



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Behavioral Intention of School Nutrition Employees to Perform Food Safety Practices

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Methods

Sample

- School nutrition employees from 163 randomly selected school districts in 7 states.

Questionnaire Development

- 31 questions (Direct measures, indirect measures, and demographics)

Data Collection

- 3,850 surveys mailed to school nutrition directors, who distributed it to employees

Data Analysis

- Descriptive statistics
 - Mean score range -21 to 21
- Linear regressions

Results

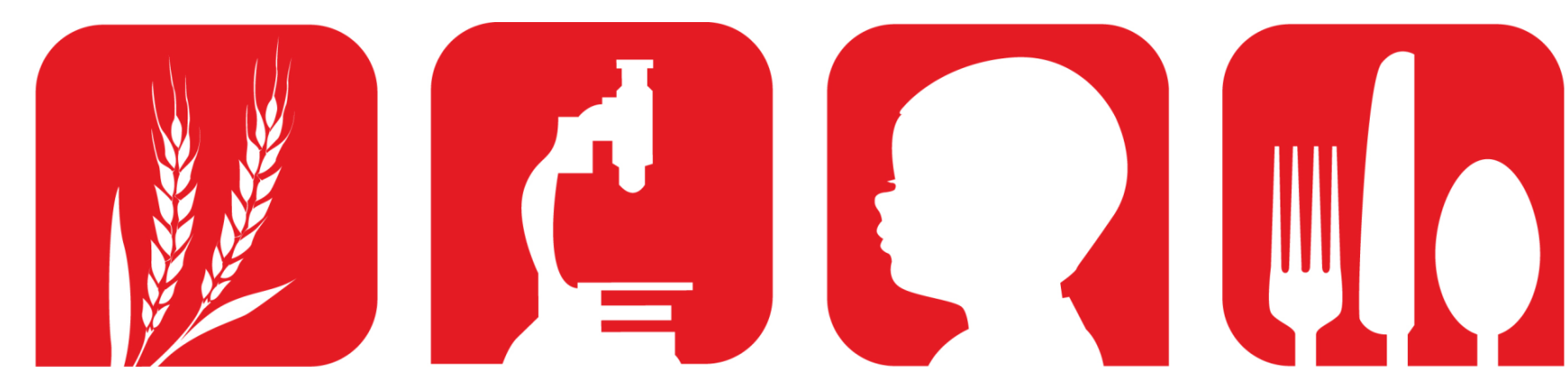
- A total of 408 usable questionnaires were received, for an usable response rate of 10.6%.
- **Behavioral Beliefs:** Employees generally favor performing the three food safety practices. For example to decrease the likelihood of students getting sick (cleaning and sanitizing $M=20.1\pm4.1$; handwashing $M=20.4\pm2.5$; thermometer use $M=20.6\pm2.1$).

Results, continued

- **Normative Beliefs:** Strong social pressures are felt to perform the three food safety practices. For example the health inspector was consider an important influence (cleaning and sanitizing $M=20.1\pm4.1$; handwashing $M=20.4\pm2.5$; thermometer use $M=20.6\pm2.1$).
- **Control Beliefs:** Main barriers identified were:
 - Lack of equipment to properly clean and sanitize of food contact surfaces ($M=-4.9\pm7.1$)
 - Lack of supplies for proper handwashing ($M=-5.3\pm7.4$) and thermometer use (-3.8 ± 8.0).
- Subjective norms ($p\leq0.000$) and perceived behavioral controls ($p\leq0.000$) contributed significantly to predicting the three behaviors however, attitude did not (cleaning and sanitizing: $p=0.063$; handwashing: $p=0.721$; thermometer use: $p=0.463$).

Applications to Child Nutrition

- Training and educational interventions should use emotional and motivational strategies to motivate behavior change.
 - Perspectives of health inspectors, supervisors, and school nutrition directors should be considered.
- School nutrition directors, managers and/or supervisors should emphasize the importance of food safety and ensuring employees have the necessary resources.



The Center of Excellence for
**FOOD SAFETY RESEARCH IN
CHILD NUTRITION PROGRAMS**

FOOD SAFETY PRACTICES IN SCHOOL NUTRITION PROGRAMS: BEHAVIORAL FACTORS THAT AFFECT EMPLOYEES' PERFORMANCE

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Introduction

- Child nutrition programs provide over 10 million breakfasts and 31 million lunches to children daily. Given the large volume of food and children served, reducing the risks associated with foodborne outbreaks is paramount.
- Employee knowledge and attitudes are important factors that impact the food safety practices used to protect children from foodborne illness outbreaks.
- Enhancing employees' food safety knowledge only provides a partial impact on workplace behaviors (Howes, McEwen, Griffiths, and Harris, 1996; Roberts et al., 2008).
- According to the Theory of Planned Behavior (TpB), perceived attitudes, social pressures, and behavioral controls influence employee behavior (Ajzen, 1985, 1991).

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Purpose

The purpose of this study was to assess employees' attitudes, social pressures, and behavioral controls to perform various food safety practices in school nutrition programs.

Methodology

- A convenience sample of school nutrition employees from three different states was selected for this study.
- Focus groups were conducted to determine behavioral factors that affect employees' behavior and may prevent them from applying their knowledge to follow ideal food safety practices.
- Food safety practices were related to:
 - proper handling of food and work surfaces
 - proper handwashing, and
 - using a thermometer to check food temperatures.
- Questions related to the likelihood of employees following the three practices were asked.
- Factors explored, included:
 - attitudes,
 - social pressures, and
 - behavioral control.

Results

- A total of 43 school nutrition employees participated in the focus groups.
- Employees' attitudes associated with a sense of pride for their job and having a commitment to doing their job correctly.
- Employees' perceived social pressure to engage or not in the behavior related to obeying state food safety regulations and the importance of keeping students, teachers, and staff healthy and safe.
- Employees' behavioral controls to perform the practice associated with ensuring food quality and taking time to implement the practice.

Applications

- This study informs child nutrition professionals about three behavioral factors that could affect employees' performance related to food safety practices.
- Results from this study serve as a reference for training initiatives that target specific food handling behaviors in order to encourage employees to follow safe food practices in schools.