



Gap between food service workers' attitudes and behaviors regarding fruit and vegetable selection among elementary school students



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Background

- ❖ Fruit and vegetable consumption among school-aged children is low.

Biing-Hwan, Guthrie, & Frazao. *Food Review*. 2001, 24:18-22.

- ❖ Children know which foods are most healthful, but are not choosing them.

Kann et al. *Journal of School Health* 2004, 75(10):370-374.

- ❖ Availability of fruits and vegetables important to consumption.

- ❖ In schools, NSLP regulates food availability.

National School Lunch Program

~Elementary School Lunch Guidelines~

❖ Elementary school lunches must **offer 5** components:

- a 2 oz meat/meat substitute
- 8 oz milk
- 1 serving of grain, and
- 2 servings (3/4 cup) of a fruit/vegetable



❖ Children are **only** required to take 3 components.



Previous Interventions

- ❖ Nutritional quality of school lunches **available** differs from the quality of what is eaten.

Noble et al. *Hospitality Management* 2003, 22:197-215.

- ❖ Cafeteria-based interventions can influence fruit and vegetable consumption by students.

Schwartz. *Intl J Behav Nutr Phys Activ* 2007, 4:6.; French, Stables. *Prev Med* 2003, 37(6 Pt 1):593-610. ; Perry et al. *Health Educ Behav* 2004, 31(1):65-76.





Questions

- ❖ What roles do the school environment, the school lunchroom staff and cafeteria workers play in influencing student fruit and vegetable selection?
- ❖ What are the attitudes and behaviors toward fruit and vegetable selection of the food service personnel and members of the school administration?

FRESH

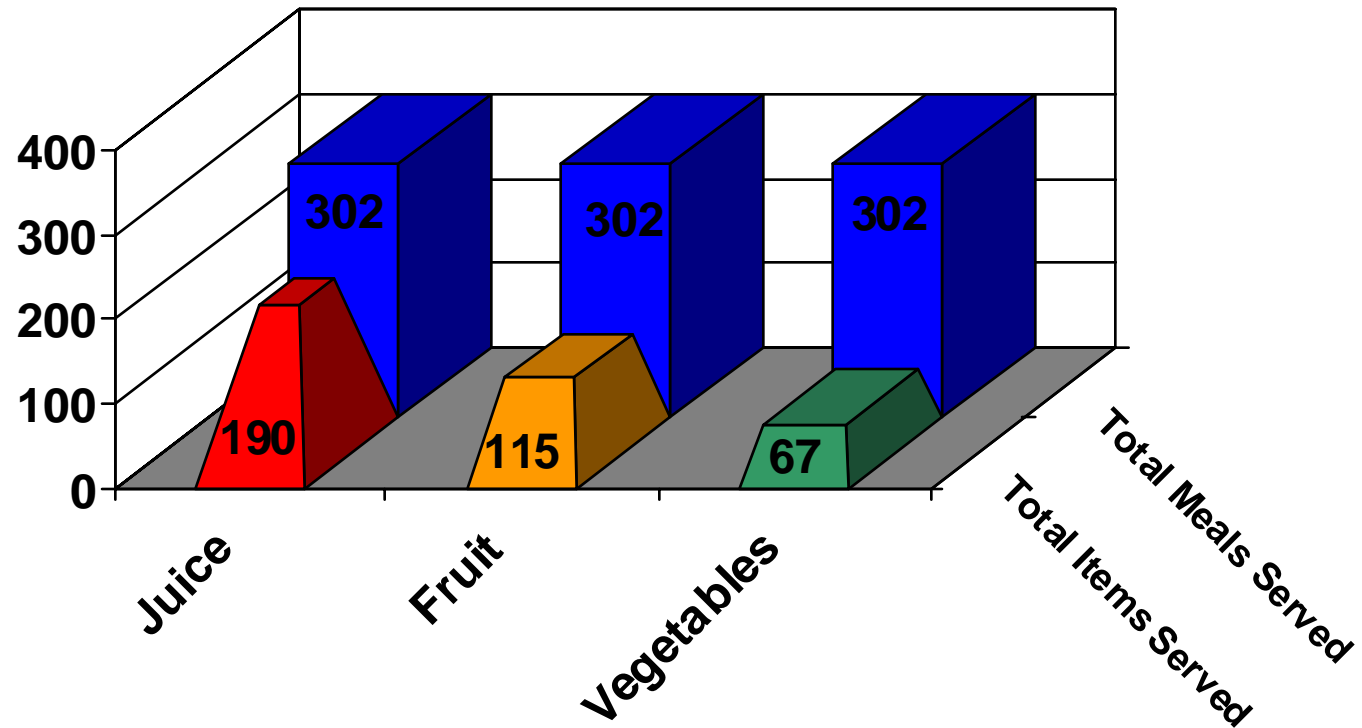
❖ F.R.E.S.H.



- ❖ **F**ruits & Veggies **R**aise **E**nergy for **S**chool **H**ealth
- ❖ Systems level approach to increase selection of fruits and vegetables in the cafeteria by elementary school youth
- ❖ Improve the school nutrition environment to promote healthy eating

FRESH Pilot School District

Baseline Average Count of Juice, Fruit and Vegetables Served by Total Meals Served





Data Collection

- ❖ Two Low-Income*, Urban Elementary Schools
 - Food Service Workers
 - Cafeteria Observation
 - School Nutrition Environment Policies



Food Service Worker Survey

- ❖ 10 items measuring food service worker role in cafeteria
- ❖ Based on the CATCH Questionnaire
- ❖ Administered after lunch in about 5 minutes



Food Service Worker Focus Group

- ❖ Focus Groups were conducted following Food Service Worker questionnaire completion.
- ❖ Moderator used questionnaire to prompt discussion.
- ❖ The moderator prompted the workers to discuss their cafeteria experience serving fruit and vegetables.
- ❖ Focus group session was tape recorded and then transcribed.



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Cafeteria Observation

- ❖ A team of six trained observers
- ❖ Two elementary school cafeterias
- ❖ Every 10th child entering the cafeteria food line was observed.
- ❖ Observation of the layout of the cafeteria including:
 - Print and picture messages in the cafeteria
 - Food line flow
 - Interaction between adults and students



School Nutrition Environment Survey

- ❖ 25 items completed by school administrator
- ❖ Based on
 - CDC *School Health Index: Module 4. Nutrition*
- ❖ Used to determine presence of school policies, practices, and activities that support nutrition.

Results

Food Service Workers Questionnaire

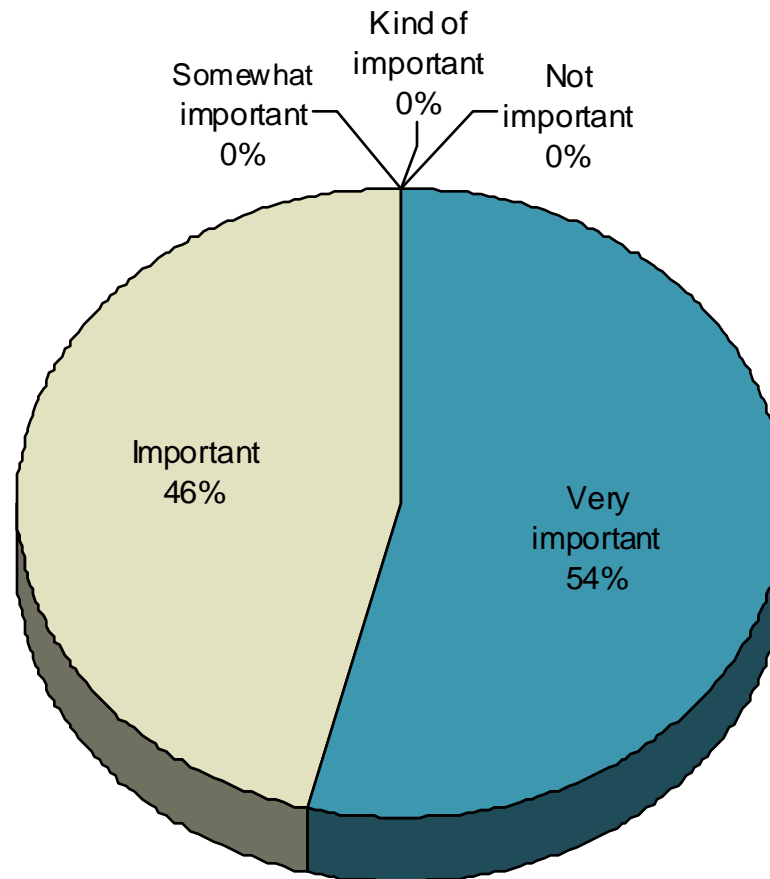
- ❖ N = 13 food service workers
- ❖ Important to encourage elementary school children to eat 5 fruits and vegetables a day.
 - 69% agreed
- ❖ It is my responsibility to encourage students to select fruits and vegetables at lunch
 - 76% agreed
- ❖ Lack of parent support make sit harder to serve fruits and vegetables
 - 62% agreed

Results

Food Service Workers Focus Group

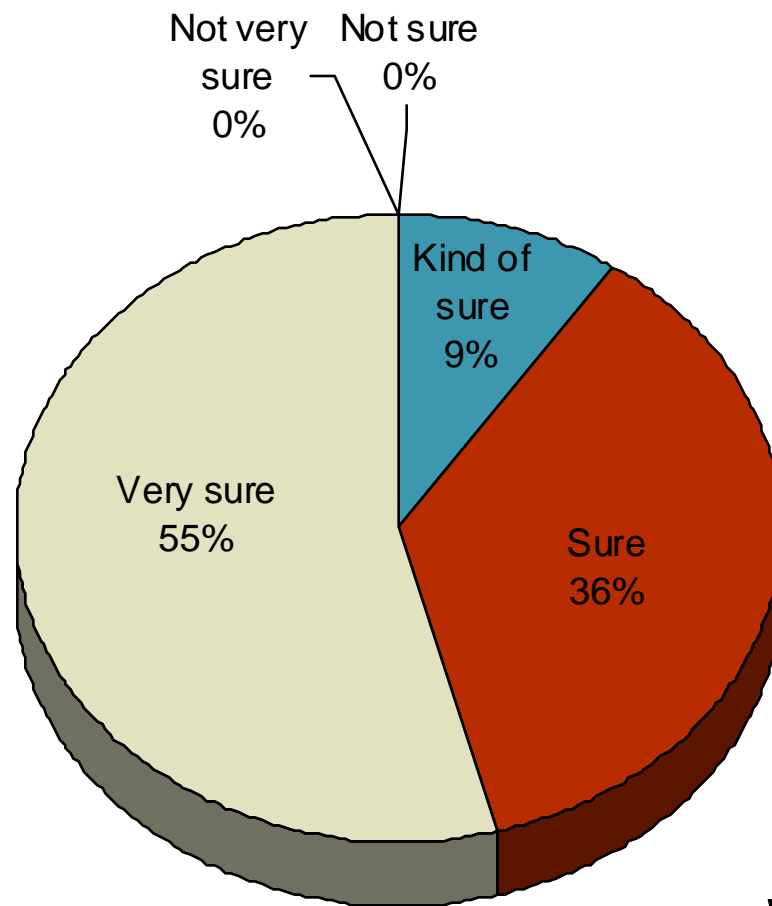
- ❖ Most food service workers saw it as their responsibility to encourage the students to select fruits and vegetables.
- ❖ They stated that they always encourage the students to take fruits and vegetables even if the students do not always follow their suggestions.
- ❖ All of the food service workers in the focus groups recognized their principal as supportive of their efforts.
- ❖ Many of the food service workers identified lack of support from parents and student preferences as barriers to serving fruits and vegetables.

How important is it to encourage elementary school children to eat 5 fruits and vegetables a day?



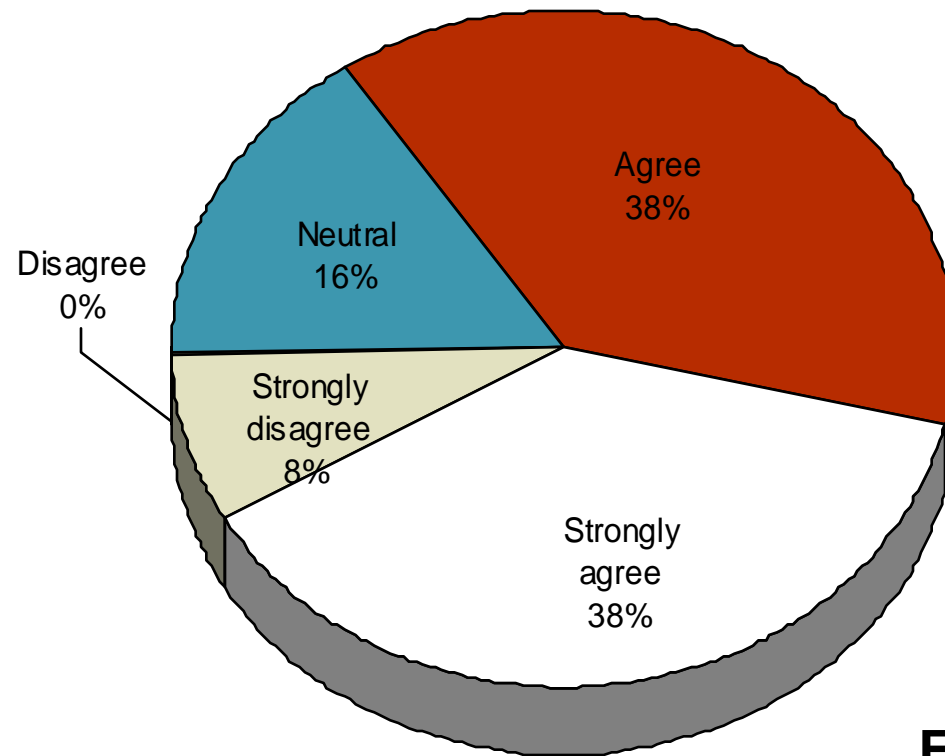
**Food Service
Worker Beliefs**

How sure are you that you can serve fruits and vegetables as school foods?



**Food Service
Worker Beliefs**

I believe it is my responsibility to encourage students to select fruits and vegetables at lunch.



**Food Service
Worker Beliefs**



School Nutrition Environment Policies

❖ The school administrative staff reported:

- Policies were in place to promote healthy choices and a healthy school food environment.
- Food policies related fundraising and extracurricular events with families were not being considered.

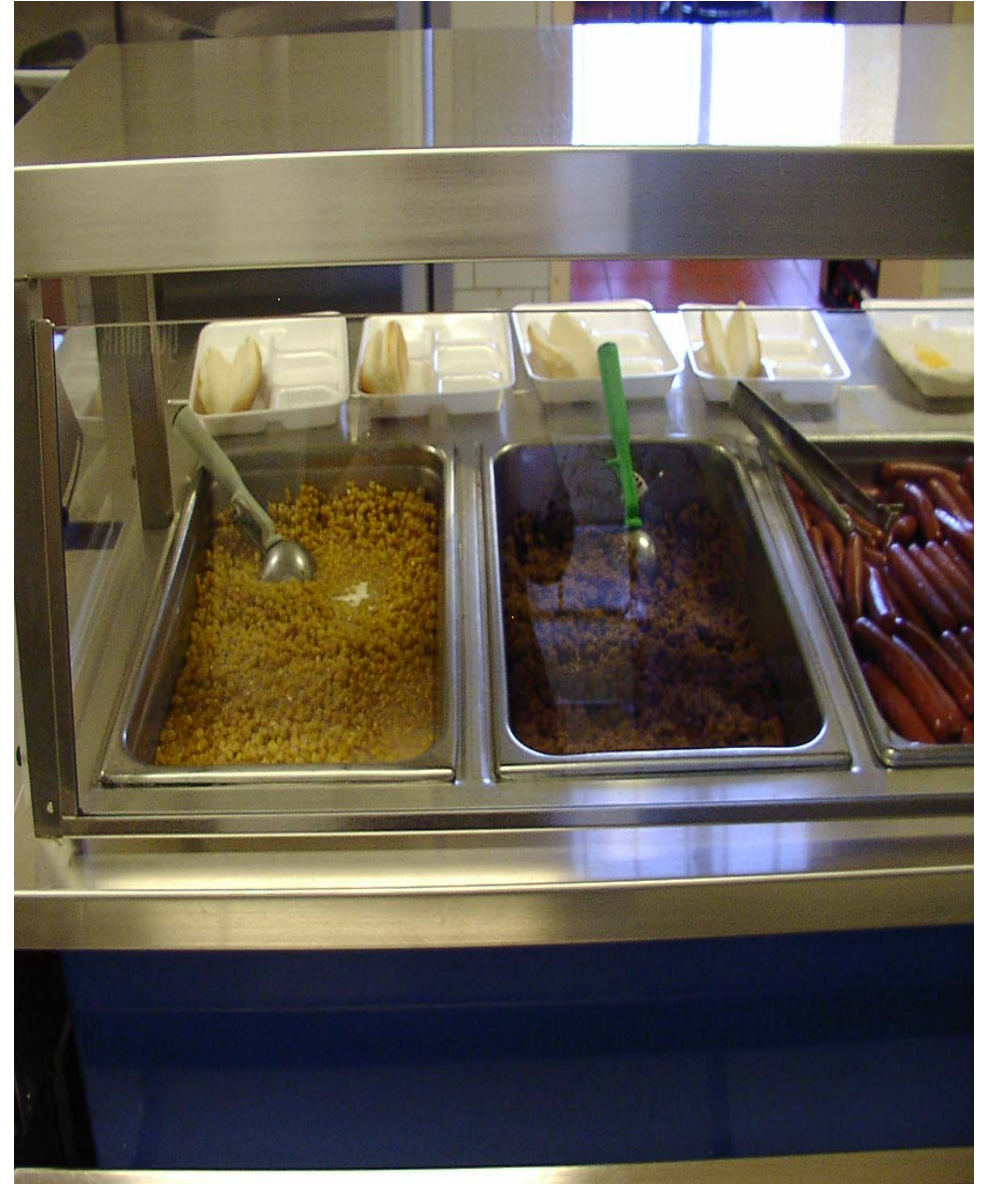
Cafeteria Environment



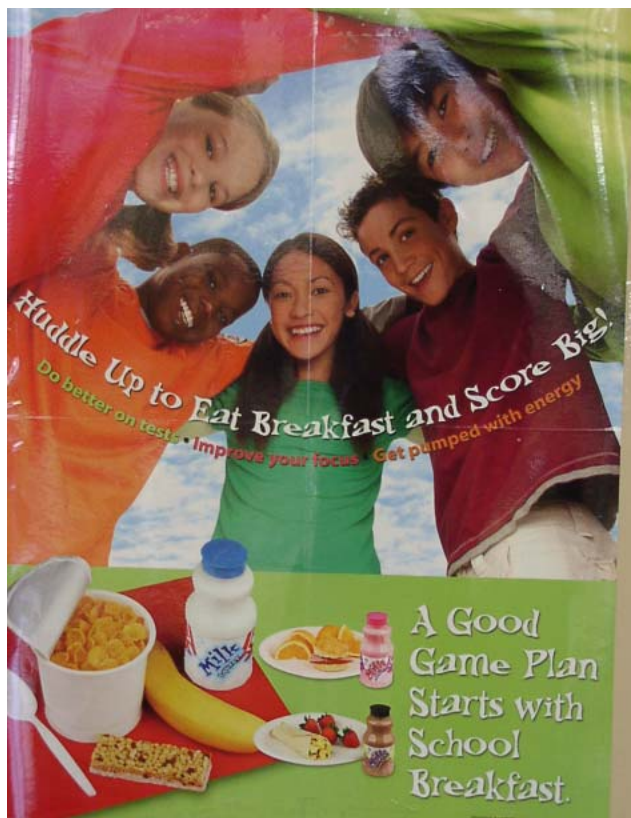
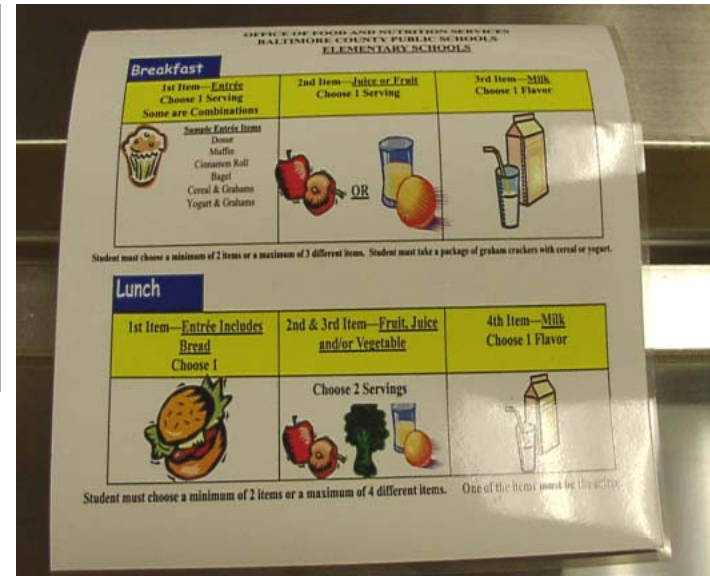
Cafeteria Line



Beverages often come before vegetables



Nutrition Educational Materials

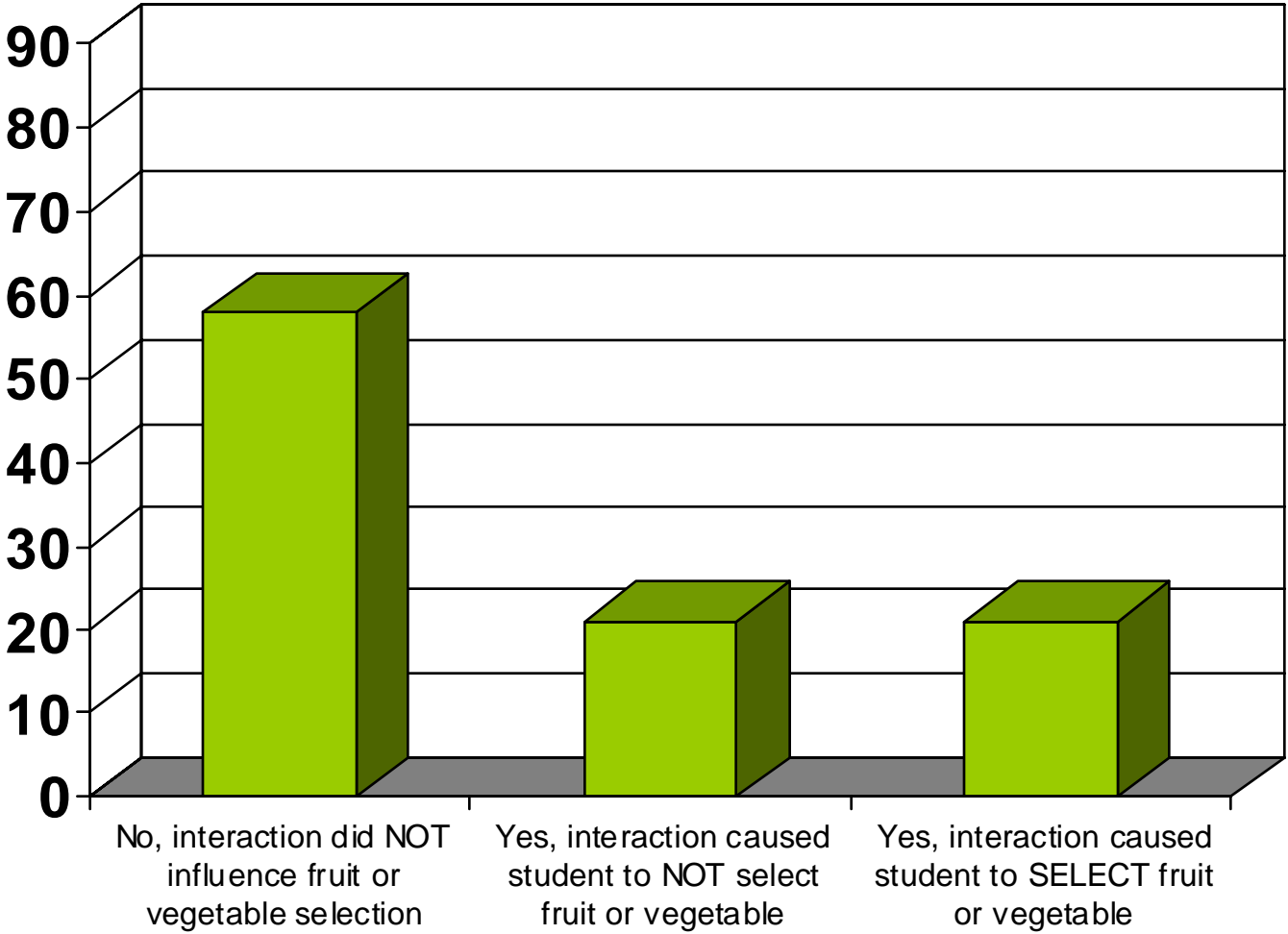




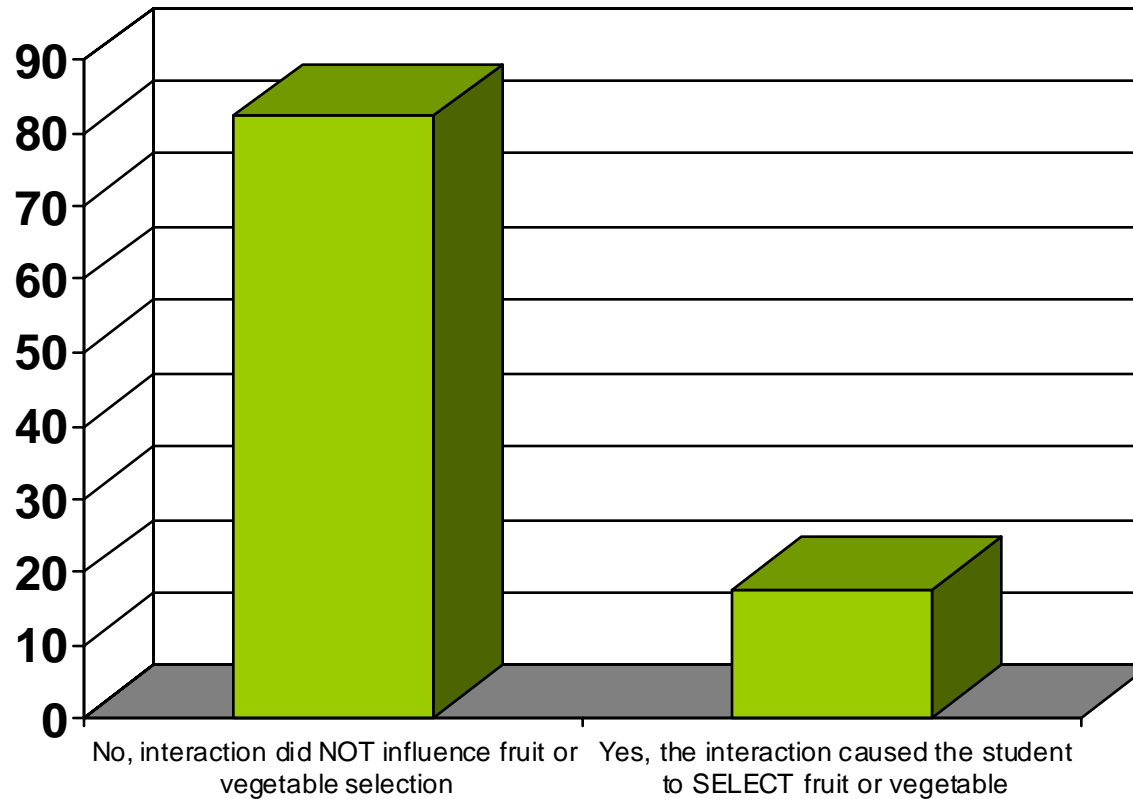
Cafeteria Observation

- ❖ 29 students observed
- ❖ 86% Students interacting with lunchroom staff
- ❖ Of students who had an interaction with lunchroom staff
 - ▶ 27.6% *resulted in the student **selecting** a fruit or vegetable.*
 - ▶ 20.7% *resulted in the student **not selecting** a fruit or vegetable.*

65% of students interacted with food service workers. Of those,

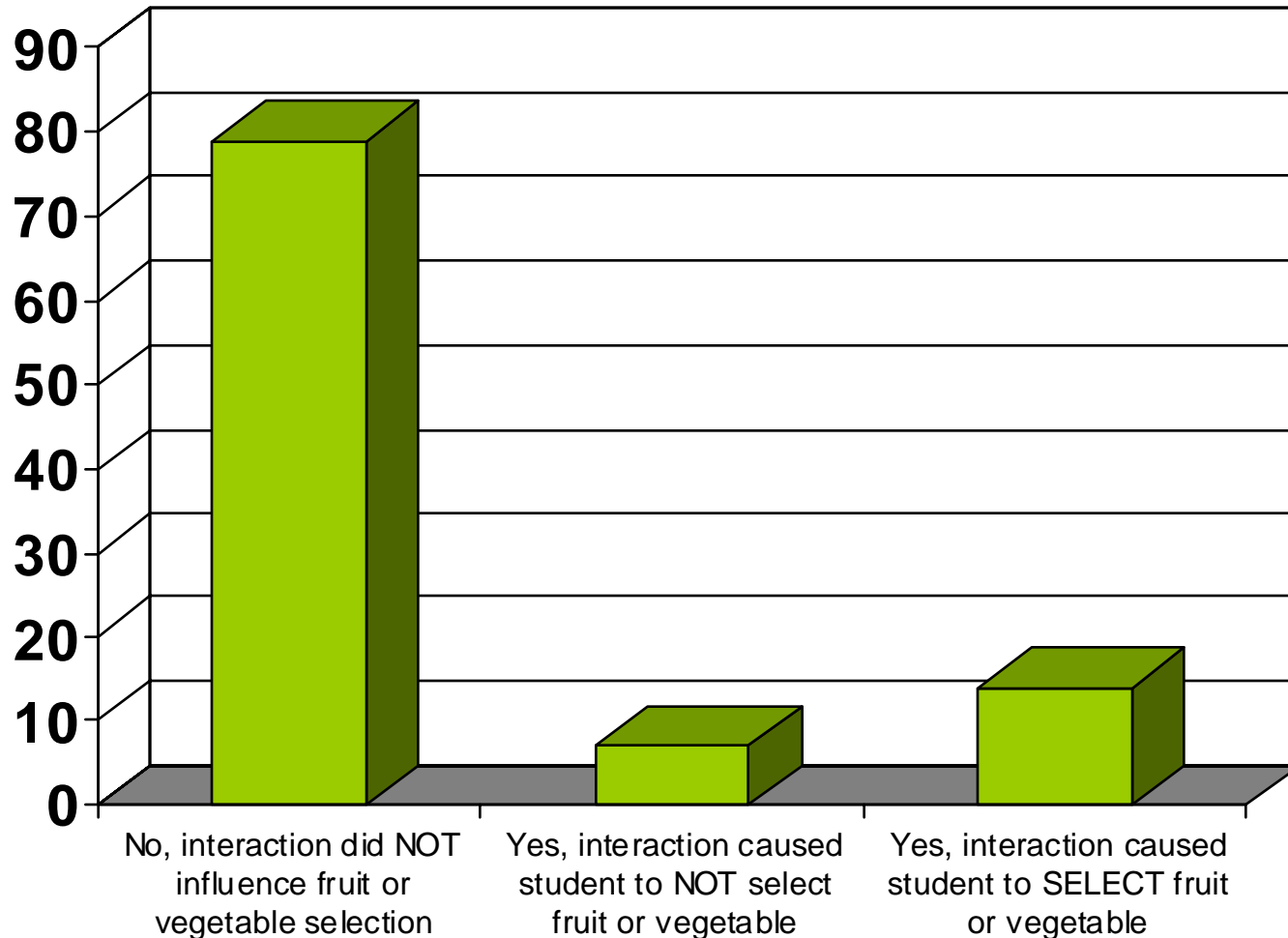


59% of students interacted with the cashier. Of those,





48% of students interacted with the other lunch room staff. Of those,



Conclusions

- ❖ From Food Service Worker Questionnaire:
 - Food service workers felt very strongly that it was their responsibility to promote fruits and vegetables in the lunch line.
- ❖ From Cafeteria Observation
 - Interactions of lunch room staff with students influenced the selection of fruits and vegetables.
 - Food service workers missed opportunities to encourage fruit and vegetable selection.
- ❖ From School Environment Questionnaire:
 - Supportive school involvement in fruit and vegetable consumption.
- ❖ Programming should involve both students and those who reinforce their selection behaviors such as lunchroom staff.



Future Steps

- ❖ Expanding our data collection
- ❖ Collaborate with Food Service Workers
- ❖ Repeated observations



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