

Food Waste is Reduced When Elementary School Children Have Recess Before Lunch

Mary Jane Getlinger, MS

Human Nutrition and Dietetics

University of Illinois-Chicago

USDA, Food and Nutrition Service

The purpose of this study was to evaluate the effect of recess scheduling on food waste for children in grades 1-3.

The findings of this study may lead school administrators to do better planning which will enhance the students' nutritional and health status.

Importance of School Lunch to Children

- provides 1/3 to 1/2 of daily nutritional intake
- eliminates transient hunger
- enables children to be ready to learn
- increases alertness in the classroom
- means fewer discipline problems

However....

food that is served and not eaten does not benefit children and also represents a cost factor for food service operations.

Factors Which Affect Eating

- anxiety about eating
- peer pressure
- peer influence
- familiarity with foods
- time
- need for social interaction

Hypothesis

If recess is taken before lunch, food waste will be lower.

Subjects and Setting

Washington Magnet School in Rockford, IL

67 children

33 boys and 34 girls

grades 1-3

Spring 1995

Study Period: Phase I (Week 1)

- Established a baseline
- Students remained on their usual 15 minutes of lunch followed by 15 minutes of recess
- Measured plate waste
- First week of April

Study Period: Phase II

(Weeks 2-4)

- Students take recess first, lunch second
- Become accustomed to schedule change

Study Period: Phase III (Week 5)

- Students continued to take recess first, lunch second
- Measured plate waste

To maintain consistency, the same menu was served during each data collection period.

National School Lunch Program requirements (grades 1-3):

Offer 5 food items including:

- 1.5 oz of meat/meat alternate
- 2 plus servings of vegetable and/or fruit (1/2 cup)
- 1 plus servings of bread/bread alternate (8/week)
- 8 oz. milk

Offer vs. Serve

- Students could select 3, 4 or 5 food items

Biases were minimized.

- No nutrition education during the 5-week study period
- No birthday or other special snacks in the morning
- No comments from cafeteria workers about food eaten or served
- Same cafeteria worker served same foods

- Food items selected were recorded at the serving line
- Verified for accuracy by teacher/monitor
- Waste trays were removed
- Individual wastes were recorded by component--meat/meat alternate, fruit-vegetable, bread, milk and other food

Percentage waste per student, per food group,
was determined by:

$$\frac{\text{amount of food wasted (gm)}}{\text{amount of food served (gm)}} \times 100 = \text{percentage waste}$$

Food wastes were determined



All Children



Girls



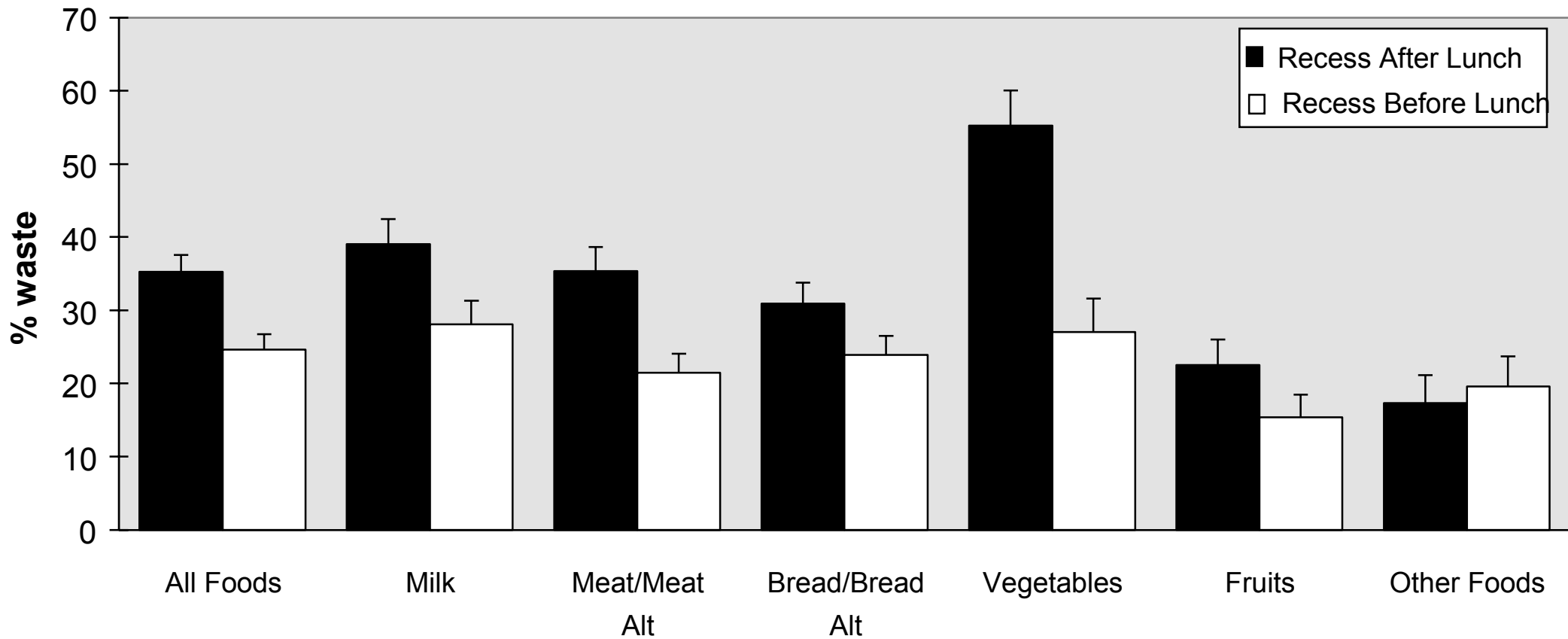
Boys

Results: There were no significant differences in the amounts of food selected by children during the data collection periods.

	Recess after lunch (g)	Recess before lunch (g)
All children	502.4 ± 73.5	500.1 ± 75.0
Girls	491.8 ± 70.3	497.0 ± 84.6
Boys	511.3 ± 75.1	502.8 ± 65.7

Effects of Recess Scheduling on Food Waste

Boys and Girls Grades 1-3



Implications

This study clearly demonstrates that if recess and lunch time are 30 minutes, elementary children, in grades 1-3, will waste less food if recess is before lunch rather than after lunch.

Conclusion

Recess is a factor that teachers, food service, and school administrators can control to promote better nutrition and enhance student achievement.

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*When health is absent
Wisdom cannot reveal itself
Art cannot become manifest
Strength cannot be exerted
Wealth becomes useless, and
Reason is powerless*

-Greek philosopher
Herocropolis 300 BC