# Obesity and Healthy Living: Can Antecedent Interventions Alter College Students’ Snack Selections?

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# Introduction

* + In the past 20 years, there has been a dramatic increase in obesity in the U.S. (Centers for Disease Control, 2010)
  + Two major contributing factors to obesity are (National Institutes of Health, 2012)
    - High calorie intake
    - Low levels of exercise

# Background

* + Jeffrey, French, Raether, and Baxter (1994)
    - M = 368 consumers in a university office cafeteria
    - IV: Increased availability of fruits/veggies in salad bar + additional antecedent modifications
  + Olstad, Goonewardene, McCargar, and Raine (2015)
    - 17,262 items sold in two community pool kiosks
    - IV: Increased availability of healthier food/drink + additional antecedent modifications

A lack of

* + college student representation.

# Gaps in the Literature

* + research relating to snack selection.
  + behavioral research.

# Purpose

Evaluate the effect of

* + increasing availability of healthier snacks + adding variety and an advertisement of new healthier snacks on college students’ snack selection.
* 31 Graduate Students
* Age 22-34 years old
* Gender

o 8 males; 23 females

# Participants and Setting

* California State University, Northridge classroom
* Once a week; 6:00pm-9:45pm

# Material Selection Criteria

|  |  |
| --- | --- |
| **Healthier Snacks** | |
| Calories | ≤100 |
| Fat | <7g |

|  |  |
| --- | --- |
| **Less Healthy Snacks** | |
| Calories | >100 |
| Fat | ≥7g |

U.S. Department of Health and Human Services & U.S. Department of Agriculture, 2010; Bauersfeld, 2015

# Materials Intervention 1 (Includes Less Healthy + Healthy)

**Intervention 2 (Includes Les Healthy + Healthy + New Healthier + Advertisement)**

Less Healthy

Salty – Lays Potato Chips

Sweet – Chewy Peanut Butter Bars Cheesy – Cheetos

Healthy

Salty - Popchips

Sweet – Fiber One Cinnamon Bars Cheesy – Ritz Crackers and Cheese Dip

New Healthier Salty – Funyons

Sweet – Fiber One Brownie Bars Cheesy – Pretzels and Cheese Dip

Advertisement (of new healthier snacks)

# Response Measurement

1. Percentage of students who selected healthier snacks per session.
2. The mean of the total percentage of healthier snacks selected per condition.

IOA: Mean percentage of agreement between the data collectors across sessions

100% (Intervention 1); 100% (Intervention 2); 98.5% (Control)

Vocal Scripted Instruction:

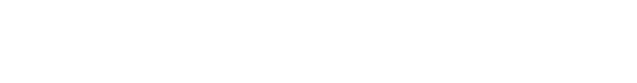
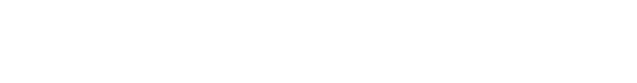
* + Complete and submit index card

# Procedures

* + Welcomed to make a snack selection during class break
  + Red ticket for snack
  + Blue ticket for water
  + Bring key tag to every class session
  + Blind to the purpose of the study



# Group’s Snack Selection

Intervention 1 vs. Control Intervention 2 vs. Control

100

90

**Percentage of Students Selecting**

**Healthier Snacks**

80

70

60

50

40

30

20

10

0

Intervention 1

Control

Intervention 2

1 2 3 4 5 6 7 8 9 10 11 12 13

# Sessions

**Group’s Statistical Analyses**

*\* p* < .05

100

**Mean of the Total Percentage of**

**Healthier Snacks Selected**

90

80

70

60

50

40

30

20

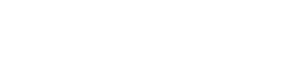
10

0

*M* = 43% *M =* 50%

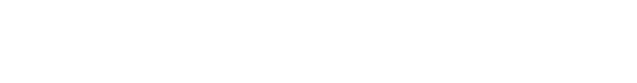
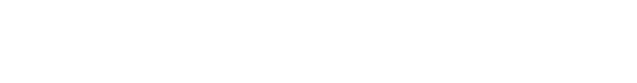
*M =* 80% \*

Control Intervention 1 Intervention 2



# Condition

# Individuals who Always Selected (N=3)

Intervention 1 vs. Control Intervention 2 vs. Control

100

**Percentage of Students Selecting**

**Healthier Snacks**

90

80

70

60

50

40

30

20

10

0

Intervention 1

Control

Intervention 2

1 2 3 4 5 6 7 8 9 10 11 12 13

# Sessions

**Summary**

* + Increasing availability of healthier snacks alone did not result in significant differences.
  + Increasing availability of healthier snacks + adding variety + advertising new healthier snacks did result in significant differences for the group.

Limitations include

# Discussion

* + having access to vending machines,



* + no consensus,
  + reactivity,
  + students sharing food,
  + students eating before class, and
  + only using non-perishable snacks in this study.

# Future Research

* + Extend the current study and add cost as an additional variable.
  + Isolate the component in Intervention 2

o For example: variety and advertisement

# Selected References

Frazao E., Stewart H., Hyman J., Carlson A. (2012). Gobbling Up Snacks: Cause of Potential Cure for Childhood Obesity? Retrieved on April 1, 2015. <http://www.ers.usda.gov/> amber-waves/2012-december/gobbling-up-snacks-cause-or-potential-cure-for- childhood-obesity.aspx#.Var28s5RHdl

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* 1. Department of Health and Human Services & U.S. Department of Agriculture. (2015).

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