



EAT RIGHT, THINK BRIGHT!: NUTRITION CHANGES IN 5TH AND 6TH GRADE STUDENTS

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ABSTRACT

Objective: To evaluate the effectiveness of an intervention designed to positively impact body image and nutrition knowledge in 5th and 6th grade students.

Design: Quasi-experimental design with intervention

Methods: Pre-post surveys and focus groups

Setting: Randolph Elementary school in Randolph, VT

Participants: 46 students, ages 10 - 12 years who were in 5th and 6th grade.

Intervention: Three week intervention was based on social cognitive theory and included presentations, videos, handouts, and food demonstrations related to food groups, intuitive eating, and body image.

Results: Changes in nutrition-related knowledge, body dissatisfaction, and body image were evaluated using paired t-tests and Wilcoxon signed-rank tests. After the intervention, both student knowledge and body image significantly increased ($p < 0.001$). A Spearman correlation was used to evaluate the association between changes in knowledge and changes in body image scores. No significant association was found between knowledge and body image scores ($p = 0.53$).

Conclusion: These results indicate that a 3-week program integrated into the school curriculum can improve body image and nutrition knowledge in 5th and 6th grade students.

INTRODUCTION

- Eating disorders among children have become a major problem worldwide
- The National Association of Anorexia and Associated Disorders statistics found that 46% of children ages 9 to 11 years old are “sometimes” or “very often” on diets.¹
- Body image dissatisfaction and disordered eating is common among elementary school students.²
- Intuitive eating may increase student’s ability to trust their bodies to tell themselves how much to eat.³
- The purpose of this study was to evaluate the effectiveness of a nutrition intervention with hands-on food demonstrations and assess its impact on students’ body image concerns and eating habits.

METHODS

- This study was conducted at Randolph Elementary school in Randolph, VT.
- This study included 46, 5th and 6th grade students
- All students completed parental and student consent forms before participating in the study
- Student’s dietary intake was assessed using Food Frequency Questionnaires (FFQ) pre- and post-intervention
- Nutrition knowledge was analyzed using a pre-test and post-test distributed via Kahoot
- Body image concerns were assessed using a survey and Likert scale responses were numerically scored
- Quantitative data from quizzes and surveys were compared using paired t-tests if results were normally distributed or Wilcoxon signed-rank tests if data was not normally distributed
- Each student was given a code number to keep anonymity, while pairing pre- and post-test results

RESULTS

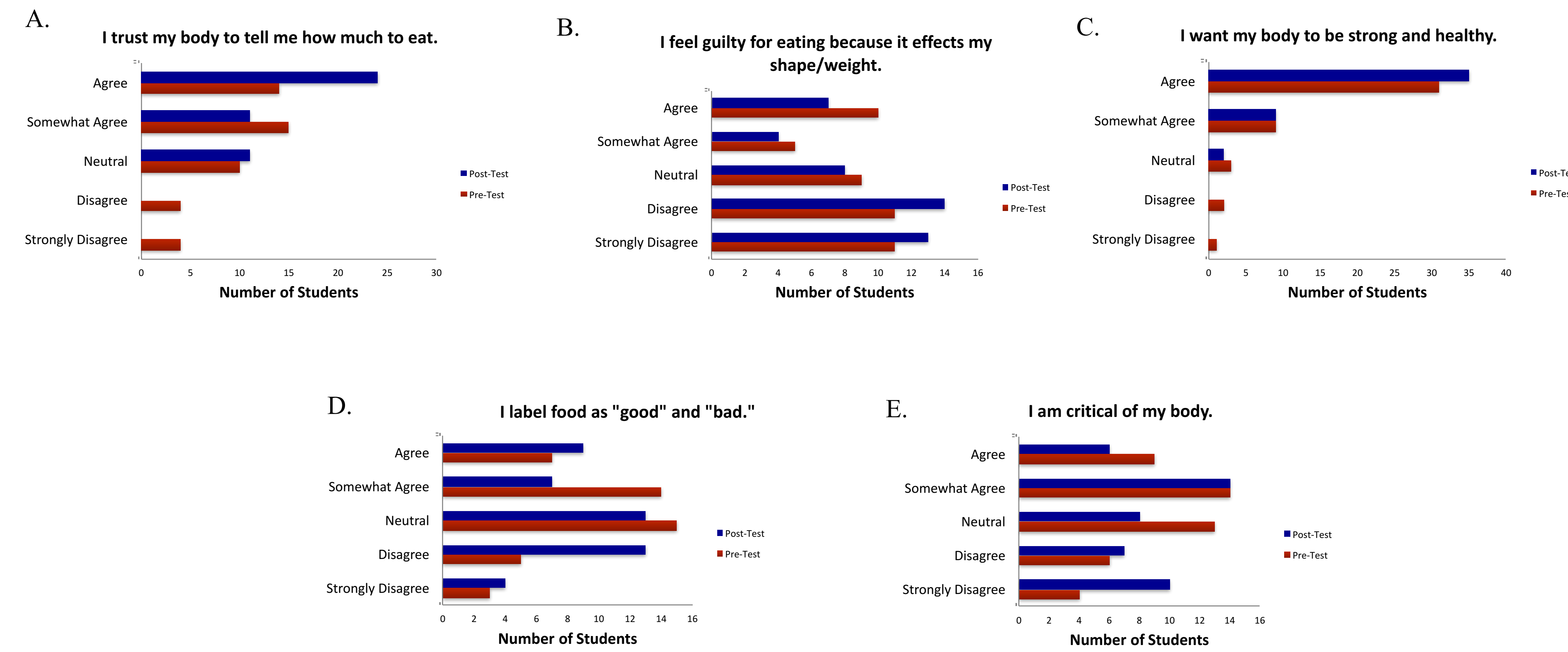


Figure 1. Pre- and post-intervention body image questionnaire data. Results found that 50% of the students on the pre-intervention questionnaire indicated that they agree/somewhat agree that they are critical of their body. Also, 45.7% of the students agree/somewhat agree that they label foods as good and bad. On the post-intervention questionnaire, there was a 6.5% decrease in students reporting being critical of their body, a 10.8% decrease in students labeling food as “good” and “bad” and a 7% increase in students’ reported ability to trust their body to tell them how much to eat. Student Likert scale responses were scored, and total scores on the pre- and post-intervention body image questionnaire were calculated. The Wilcoxon Signed Rank test was conducted to compare changes in total student scores from the pre-intervention to the post-intervention body image questionnaire. Body positivity significantly increased from the pre-intervention to the post-intervention body image questionnaire ($p < 0.001$).

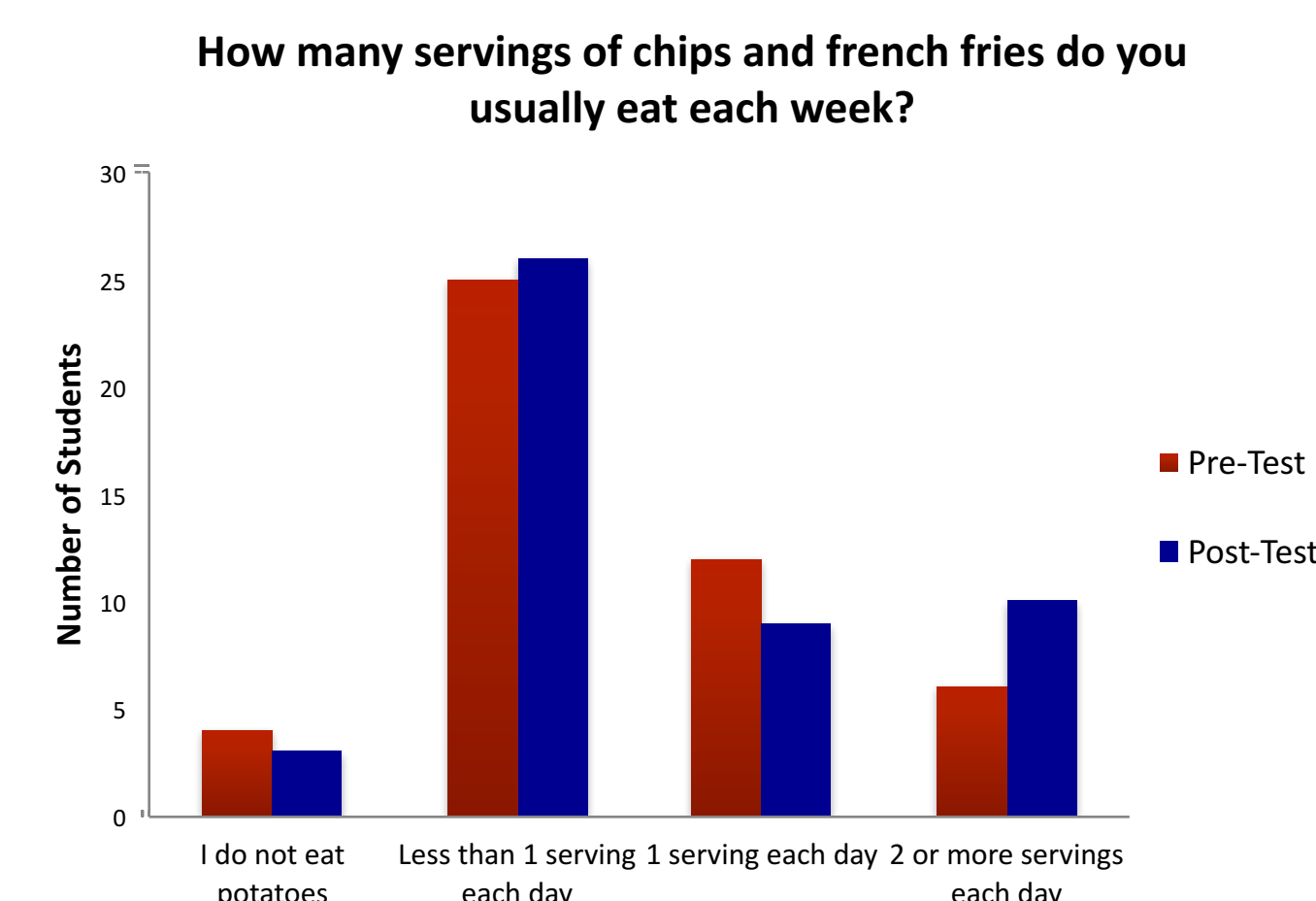


Figure 2. Chips and French Fries FFQ Pre- and Post-test results. There was an 8.7% increase in students who consumed 2 or more servings of chips/French fries daily.

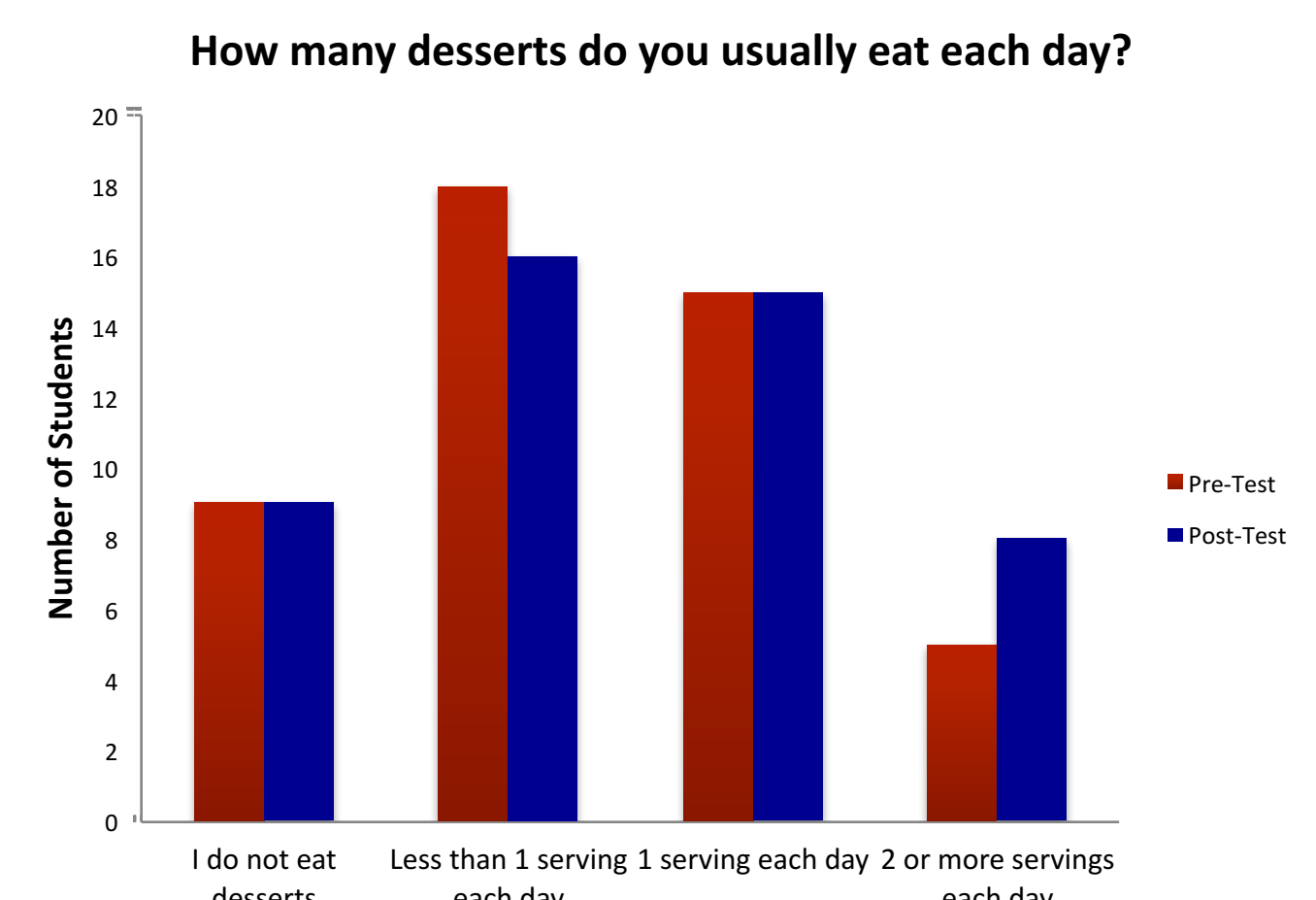


Figure 4. Dessert FFQ Pre- and Post-test results. There was a 4.3% decrease in the amount of students who consume 2 or more desserts each day.



Figure 3. Vegetable FFQ Pre- and Post-test results. There was a 46% increase in the number of students who indicated that they consume 2 or more vegetables each day.

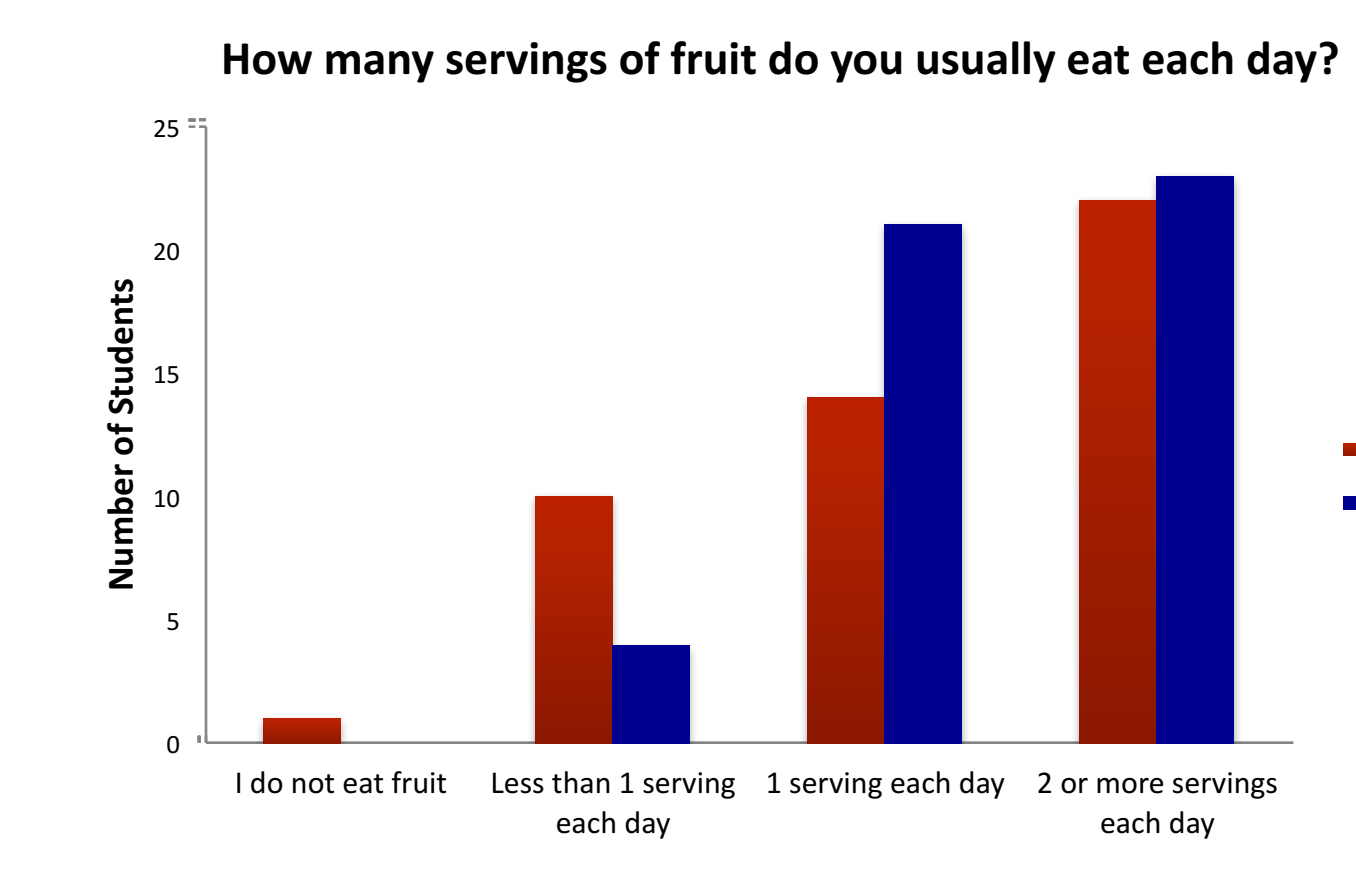


Figure 5. Fruit FFQ Pre- and Post-test results. There was a 33.3% increase in the number of participants who listed they consume 1 serving of fruit and a 3.75% increase in students who listed 2 or more servings each day.

RESULTS, CONTINUED

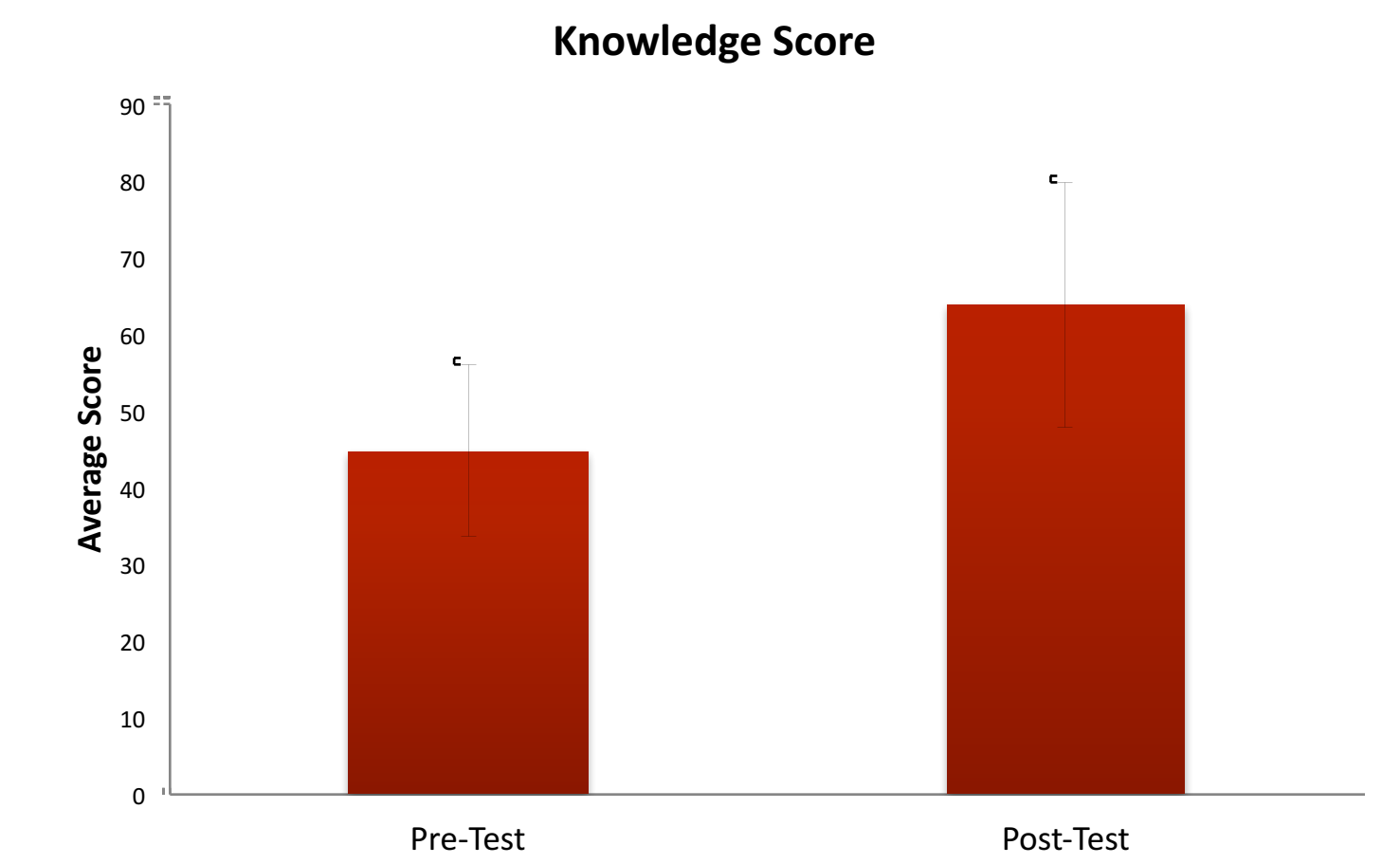


Figure 6. Kahoot Pre- and Post-test Score Analysis. Students had a significant increase in knowledge of healthy portion sizes and the functions of the major macronutrients, based on Kahoot results. $P < 0.0001$

Correlation Between Changes in Body Image Score and Knowledge Score

- A spearman correlation was used to analyze the association between change in body image score and change in knowledge score. The results show no significant association between the two scores $P = 0.53$

DISCUSSION

- After lessons on body positivity, participants’ body image scores improved based on post-test results ($p < 0.0001$).
- Student’s increase in their ability to trust their bodies to tell themselves how much to eat may have been due to the practices of intuitive eating used in this study.
- FFQ results indicated that the students had an improvement in fruit and vegetable intake.
- After nutrition education lessons, students had an increase in knowledge on healthy portion sizes and the functions of the major macronutrients, based on Kahoot results ($p < 0.0001$).

CONCLUSION

- These results indicate that a 3-week program integrated into the school curriculum can improve body image and nutrition knowledge in 5th and 6th grade students.
- Results found that there was no correlation between nutrition knowledge and body image concerns among students.

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- Eating Disorder Statistics. National Association of Anorexia Nervosa and Associated Disorders. <https://anad.org/get-informed/about-eating-disorders/eating-disorders-statistics/>. Published March 3, 2021. Accessed October 23, 2021.
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