

Evaluation of the Effectiveness of a Nutrition Education Program for High School Students

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ABSTRACT

Objective: To evaluate the effectiveness of nutrition education interventions on the knowledge level and behaviors of high school students.

Design: Series of nutrition education interventions with pre and post-intervention assessments.

Setting: Oneida County, New York

Participants: Twenty high school students (ages 14-18) at Sauquoit Valley High School in Foods & Nutrition class.

Intervention: Four, thirty-minute, nutrition focused education sessions delivered in person by a Registered Dietitian.

Outcome: Nutrition-related knowledge and behavior changes.

Analysis: Results of the pre and post-intervention surveys were analyzed using multiple Mann Whitney U tests to determine the significance in the change of nutrition knowledge and behaviors.

Results: A majority of the students displayed an increase in knowledge levels after the intervention was implemented.

Conclusion: Although beneficial changes were seen from the pre to post test, statistical significance cannot be verified for this study.

INTRODUCTION

- Overweight and obesity among adolescents continues to be a growing public health concern that affects close to 13 million children and teens in the United States.
- Traditional nutrition education programs provided to children have been shown to be ineffective because of the focus on potential medical conditions as opposed to providing the population with skills.
- The purpose of this study is to evaluate the effectiveness of the nutrition education program that was provided to high school students that encompasses nutrition topics that are realistic, attainable and sustainable throughout their lifetime.
- This study consisted of 20, 11th and 12th grade students that completed four, 30 minute nutrition education sessions with a Registered Dietitian while completing pre and post questionnaires to assess knowledge and behavioral changes.

METHODS

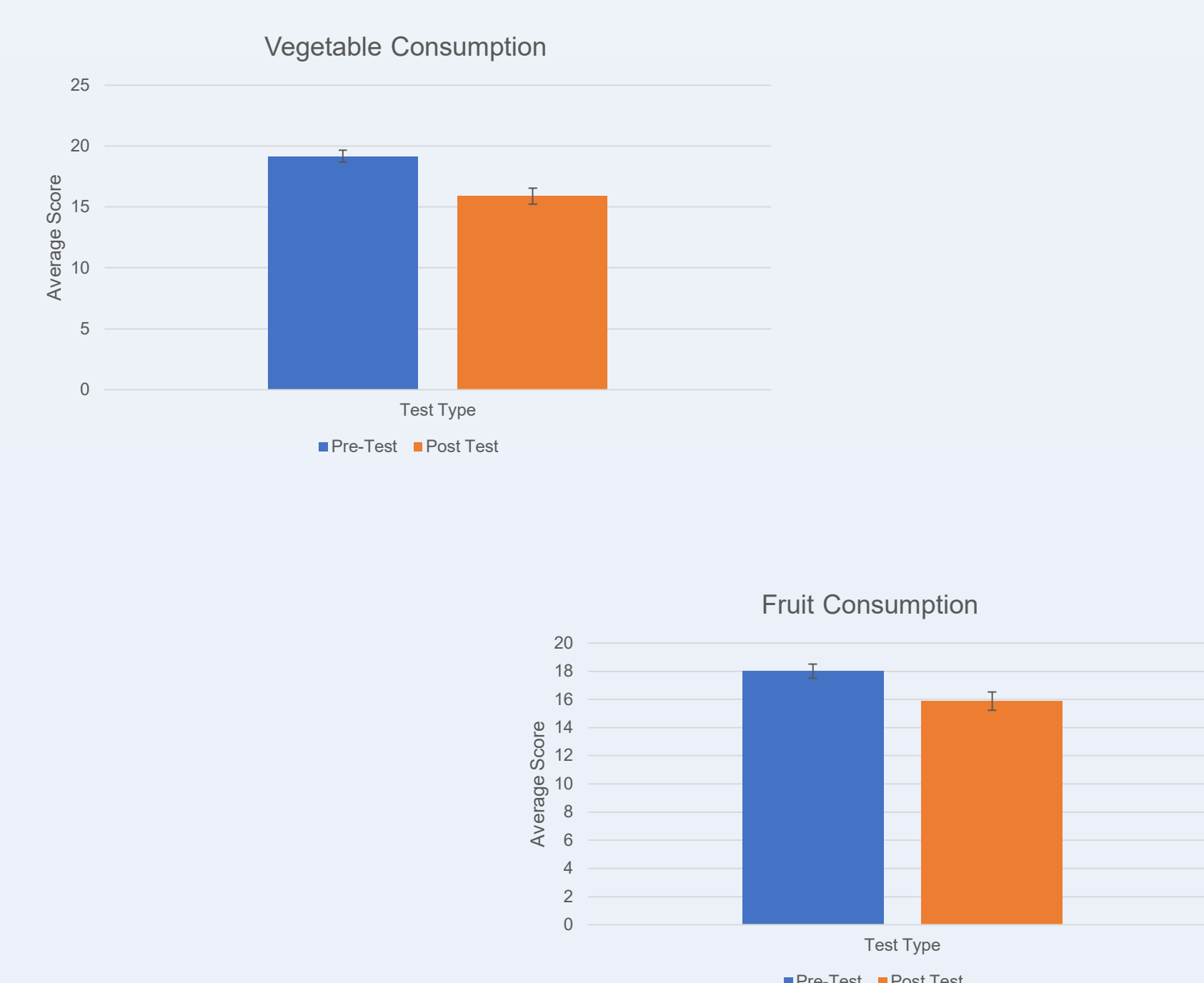
- Study Design** - Participants completed consent and assent forms before participating in the study. Four, thirty minute nutrition education modules were presented by a trained chef and Registered Dietitian during the participants designated class period.
- Tools** – The pre-survey was focused on the prior knowledge the participants had about general nutrition and food consumption. The post-survey contained questions about the content from the nutrition education and the retention that participants had.
- Intervention** – Four, 30- minute nutrition education modules were given during the Foods & Nutrition class periods to participants. All of the intervention modules took place at Sauquoit Valley High School, in the Foods & Nutrition classroom. The modules were led by a Registered Dietitian and covered multiple basic nutrition topics.
- Participants** - Included 20, 11th and 12th grade students from Sauquoit Valley High School that were enrolled in Mrs. Carangelo's Foods & Nutrition course during the spring semester.
- Data Analysis** – Multiple Mann Whitney U-Tests were utilized to evaluate and analyze the data from both surveys because of their categorical nature and the analysis revealed whether or not there was a significant difference between knowledge levels in each of the survey results.

RESULTS

Table 1. Demographic Profile of Participants in the Nutrition Education Program (n = 20)

Age (y)	13-18	20
Education Level	< High School	0
	High School	20
	> High School	0
State	New York	20

Figure 1. Demographic identifiers of the participants are shown in this table. Participants did not provide their name, sex or gender for this intervention.



RESULTS, CONTINUED



Figure 2: Reported behaviors pre- and post-implementation of the intervention. Graphs show results of the Mann Whitney U-Tests done. (A) Vegetables consumed, (B) fruit consumed, (C) whole-grains consumed, (D) refined grains consumed (E) water consumed, (F) sugar sweetened beverages (G) times eating out, (H) days participating in exercise. n=20 participants for both pre and post questionnaires.

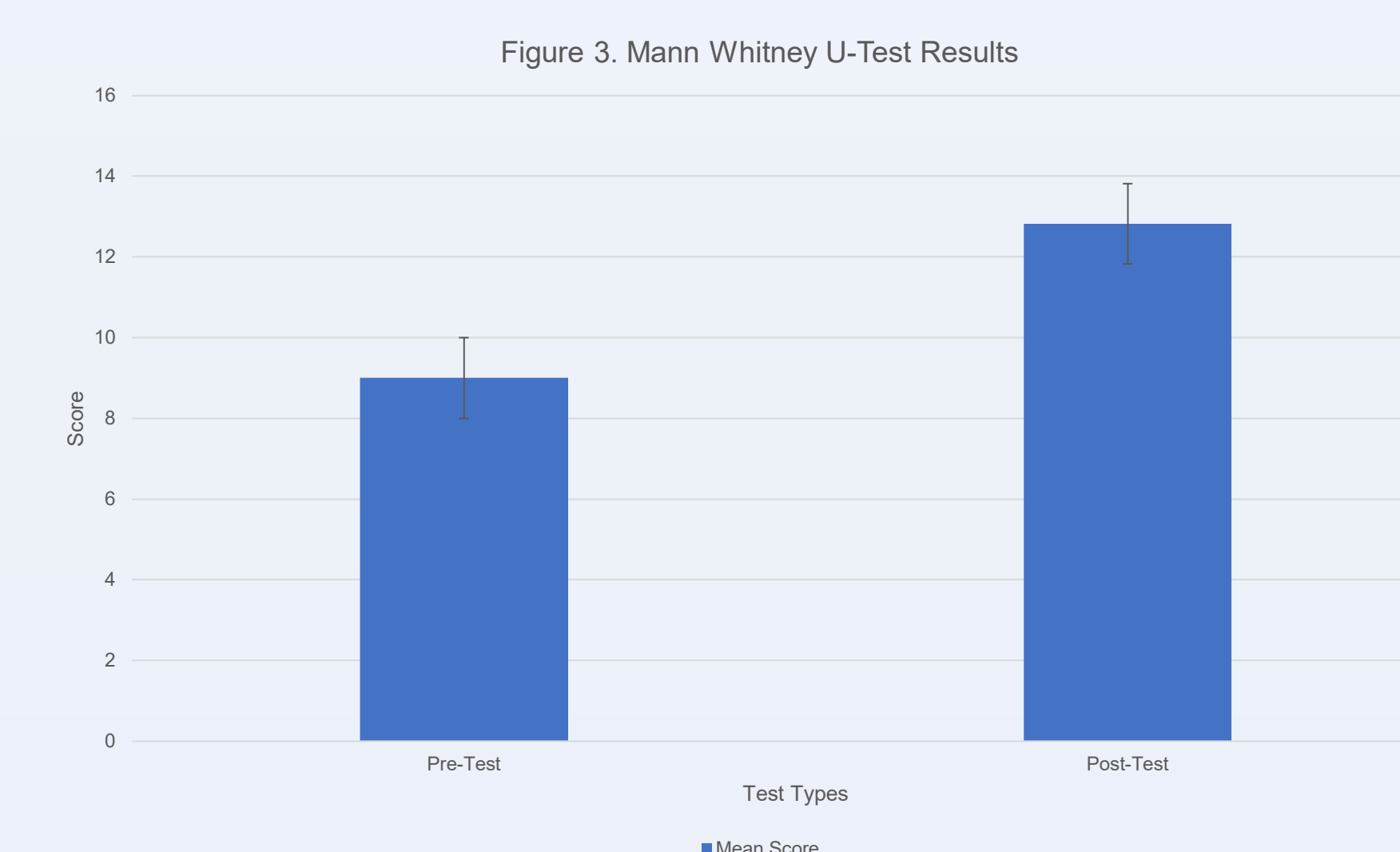


Figure 3. Knowledge test scores pre- and post-implementation of the nutrition education program. Mann Whitney U-Test, $p = 0.483$. Standard deviations noted using error bars.

CONCLUSION

- Participants had ample knowledge to utilize within their daily lives, diets and habits surrounding food and nutrition
- Extent of the nutrition education sessions, the data was fully recorded and analyzed based on the entire anticipated population size.
- Behavioral:** Increases in amounts of whole grains, water and days of activity did occur from the pre to post test. Decreased consumption of refined grains, sugar sweetened beverages did occur from the pre to post test.
- Knowledge:** Participants did increase knowledge level following the intervention, but based on the Mann Whitney U-test, statistical significance cannot be verified due to the p value of 0.483.
- Although many beneficial outcomes took place after the implementation of the intervention, statistical significance cannot be made during this study and cannot verify that this intervention was successful.

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