

Empowering Young Learners: Nutrition Label Analysis with the HealthNUTZ App

Tamara Costello, MTSU Graduate Studies, College of Liberal Arts, Dr. Amy Sayward (Mentor)

INTRODUCTION

Childhood obesity, which has become a pressing public health concern in recent decades, is now considered a major public health threat of the 21st century (Sanyaolu et al., 2019). According to the Centers for Disease Control and Prevention (CDC), childhood obesity poses both immediate and long-term health risks, including the development of conditions like Type II diabetes and heart disease as well as adverse effects on mental health and academic performance (CDC.gov, 2022). One study suggests, that "obese children were significantly more likely to have school absences and school problems, to repeat a grade, and to have lower school engagement" (Carey et al., 2015, para. 3).

STATISTICS

The CDC reported that nearly 15 million children and adolescents between the ages of 2 and 19 in the United States are affected by obesity. This accounts for 19.7% of the population from 2017 to 2021 (CDC.gov, 2022 para. 1).

The CDC attributed this increase in the rate of obesity to various factors, including changes in diet, easy access to processed and high-calorie foods, lack of nutritional education, financial status, and reduced physical activity (2022).

A recent systematic review and meta-analysis by Martos et al. (2021) found that gamification can improve adherence to healthy practices and induce lifestyle changes in young people.

OBJECTIVES

The HealthNUTZ app concept is envisioned to help combat childhood obesity by providing children with a comprehensive educational tool.

Through the app, students can gain knowledge and skills to understand and interpret nutrition labels, analyze food products critically, and develop healthy eating habits for the future.

The app aims to leverage familiarity and engagement to make learning more engaging, fun, and effective.

OBJECTIVES (CONTINUED)

- Through label examination, the app promotes healthy eating habits for the future. By leveraging the familiarity and engagement of the digital era, the HealthNUTZ app's goal is to make learning about nutrition more interesting and enjoyable for children, ultimately contributing to cultivating a generation of health-conscious individuals.
- This initiative seeks to catalyze improved health outcomes and enhance academic performance while reducing the prevalence of childhood obesity. The HealthNUTZ game app student assignment can be pivotal in nurturing informed, health-conscious young individuals for a healthier future.

KEY OUTCOMES

- Educate children about the importance of understanding nutrition labels and how they can impact their health.
- Teach children to interpret essential nutrition label information, including serving sizes, calories, and macronutrient content, while fostering critical product labeling analysis.
- Encourage children to make informed food choices by identifying and selecting nutritious options based on label information.
- Promote lifelong healthy eating habits and empower children to control their health and well-being.
- Empower children to develop confidence and proficiency in navigating grocery store aisles at any supermarket.
- Encourage parental bonding through shared experiences such as exploring new foods and learning to identify ingredients with each other.

SOLUTION



© Tamara M. Costello 2024

Image Design: By Tamara Costello using Canva, 2024.

RESEARCH



Image Design: By Tamara Costello using Canva, 2024.

ANALYSIS

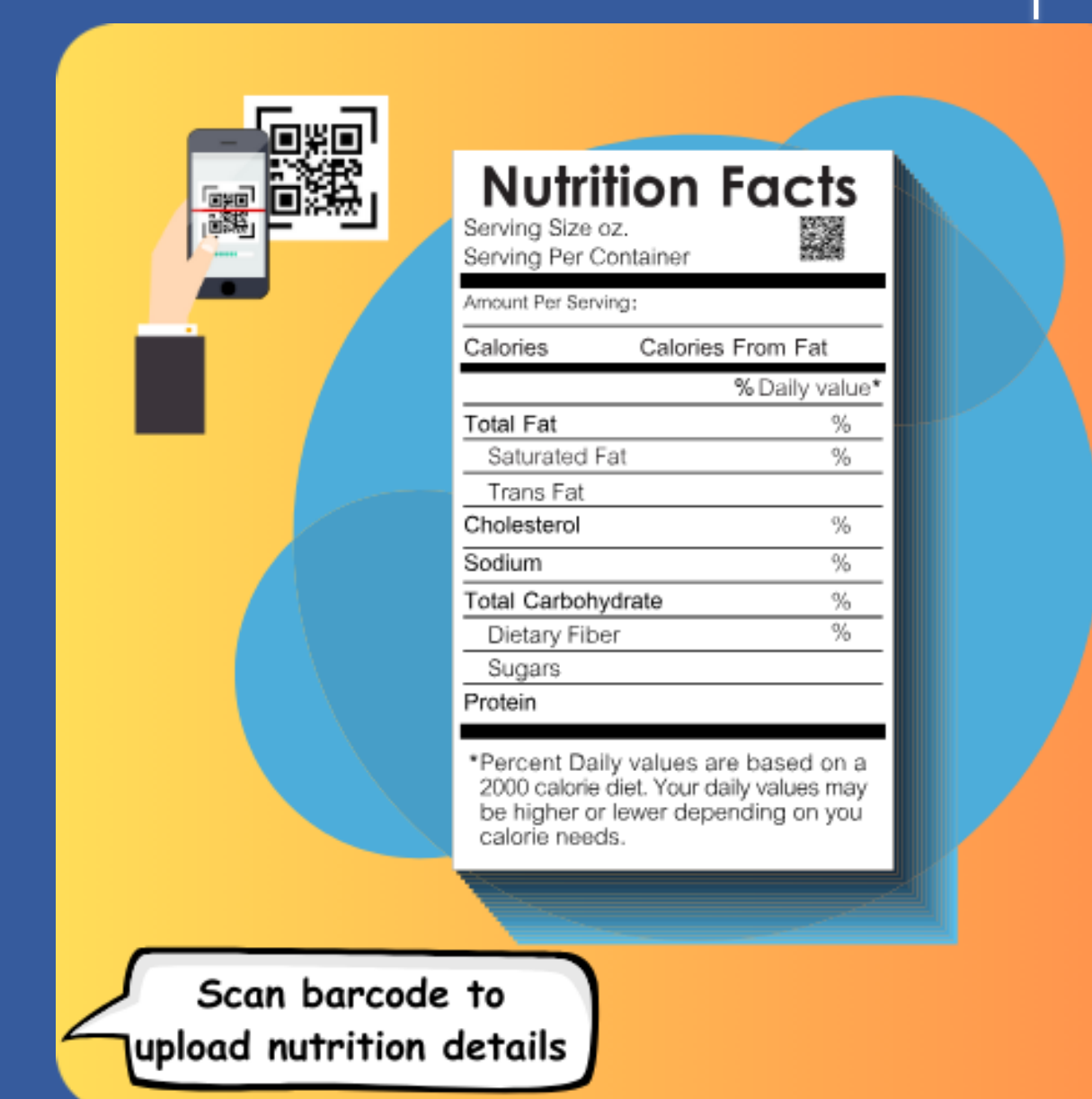
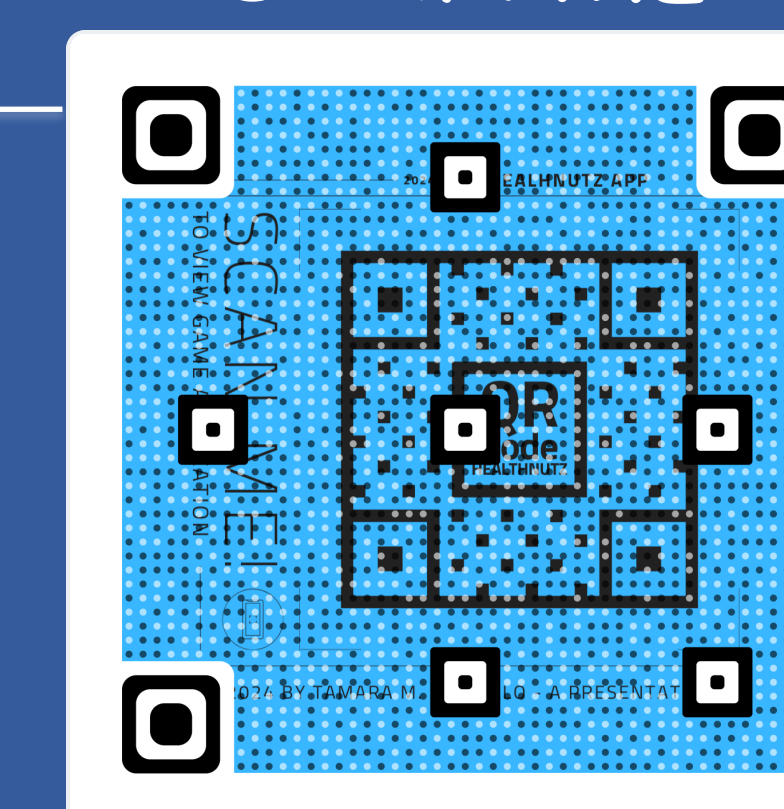


Image Design: By Tamara Costello using Canva, 2024.

SCAN ME



CONCLUSION

- Childhood obesity continues to be a pressing public health concern that demands innovative solutions. One potentially effective strategy to combat this issue involves incorporating technology to deliver innovative health education. An example of this is employing game-based interventions that provide feedback and rewards to motivate children toward healthier food choices. Nonetheless, it is also important to address external elements that exacerbate childhood obesity, such as the marketing tactics of the food industry and the limited understanding of food labels among consumers.
- Additionally, internal factors need to be considered, including a child's developmental stage and how it impacts their food preferences and the general decline in physical activity at home and in schools. Therefore, a comprehensive approach to tackling childhood obesity should encompass technology to promote innovative health education, enhance awareness of the health implications of food ingredients, and educate children through relatable technological sources to mitigate the risks associated with childhood obesity.

REFERENCES

- Adekunle, Sanyaolu, PhD, Chuku Okorie MBBS, M., Xiaohua Qi MD, P., Jennifer Locke MD, & Saif Rehman MD. (2019). Childhood and Adolescent Obesity in the United States: A Public Health Concern. *Global Pediatric Health*, 6. <https://doi-org.ezproxy.mtsu.edu/10.1177/2333794X19891305891305>
- Carey, F. R., Brown, H. S., Wilkinson, A. V., & Singh, G. K. (2015). *Educational outcomes associated with childhood obesity in the United States: Cross-sectional results from the 2011–2012 national survey of children's health*. The international journal of behavioral nutrition and physical activity. <https://pubmed.ncbi.nlm.nih.gov/26222699/>
- Centers for Disease Control and Prevention. (2022, May 17). Childhood obesity facts. Centers for Disease Control and Prevention. Retrieved April 19, 2023, from <https://www.cdc.gov/obesity/data/childhood.html>
- Costello, T.M. (2023). HealthNUTZApp: A Nutritional Game App that Helps Teach Children to Read Nutrition Labels and Identify Healthier Foods [Unpublished paper]. College of Liberal Arts Department (MALA Program), Middle Tennessee State University
- Costello, T.M. (n.d.). HealthNUTZ Images and Soundtracks. Canva. Retrieved March 1, 2024, from www.canva.com
- Martos, N., García-Lara, R. A., Martos-Cabrera, M. B., Albendín-García, L., Romero-Béjar, J. L., Cañadas-De la Fuente, G. A., & Gómez-Urquiza, J. L. (2021, July 20). Gamification for the improvement of diet, nutritional habits, and body composition in children and adolescents: A systematic review and meta-analysis. *Nutrients*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8308535/>

ACKNOWLEDGEMENTS

Thanks for the grant to aid in the development of the app!

*Special thanks to the MTSU Charlie and Hazel Daniels Veterans and Military Family Center!

Contact: Tamara Costello
tmc6w@mtmail.mtsu.edu

