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Process Evaluation of Healthy Habits, Healthy U: A School-Based Cancer Prevention Program

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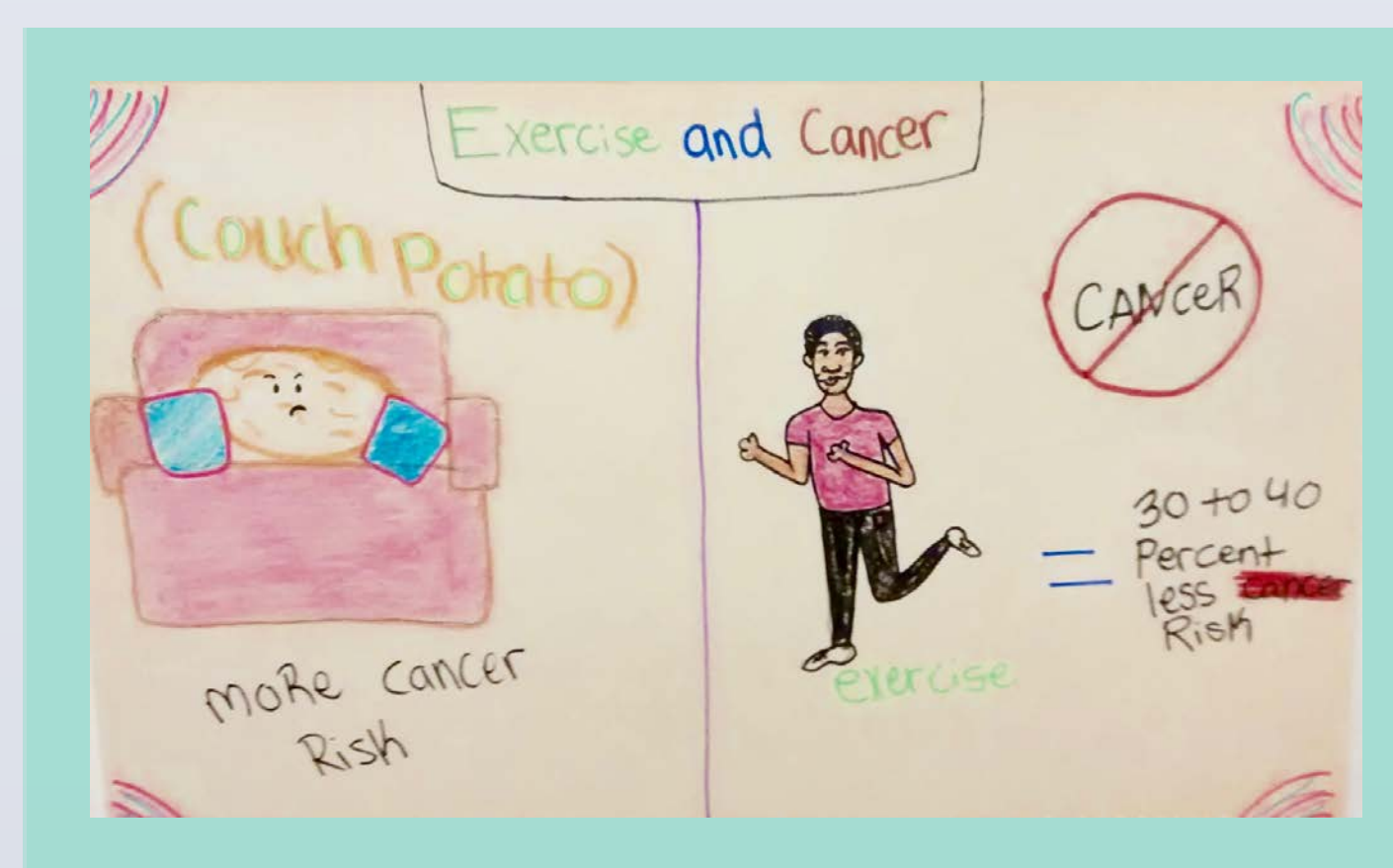
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Introduction and Purpose



What is Healthy Habits, Healthy U?

- Healthy Habits, Healthy U (HHHU) is a school-based cancer prevention program.
- The program is a collaboration between Boise State University, St. Luke's Mountain States Tumor Institute (MSTI), and the Boise School District (BSD). HHHU started in April 2013 in Boise, Idaho as a community outreach initiative designed to teach and reinforce positive health habits in students. Healthy habits can help reduce Idaho's high cancer rates.
- The HHHU lessons are for eighth-grade students and offer a unique approach highlighting the relationships among nutrition, physical activity, sugar-sweetened beverages (SSBs), and cancer risks, through a variety of educational materials and activities.
- HHHU is unique because it provides an opportunity for participants to view human cancerous and noncancerous organ specimens. Through this activity, students are encouraged to critically think and make the connection between their health habits and the risk of cancer.
- The purpose of this evaluation was to determine the program's efficacy by assessing the implementation process and student learning.



Background

Why is cancer education prevention necessary?

- Cancerous cells occur when DNA is damaged or mutates. These damaged cells may then invade other tissue. Normally, the immune system kills off these abnormal cells; however, on occasion, this does not happen and cancer develops (ACS, 2014).
- Cancer has been the leading cause of death in Idaho since 2008. In 2013, 21.8% of Idaho death's were due to cancer (Idaho Department of Health and Welfare, 2015). The American Institute of Cancer Research (2015) states that lifestyle choices can reduce cancer risk and about 50.0% of the most common cancers could be prevented.
- In Idaho, 33.9% of adolescents consume less than one serving of fruit and 32.2% consume vegetables less than one serving per day (CDC, 2015). Approximately 53% percent of students meet the physical activity recommendations 60 minutes of physical activity. Therefore, Idaho school-based cancer prevention education should reinforce the importance of healthy habits.

Method

How was Healthy Habits, Healthy U evaluated?

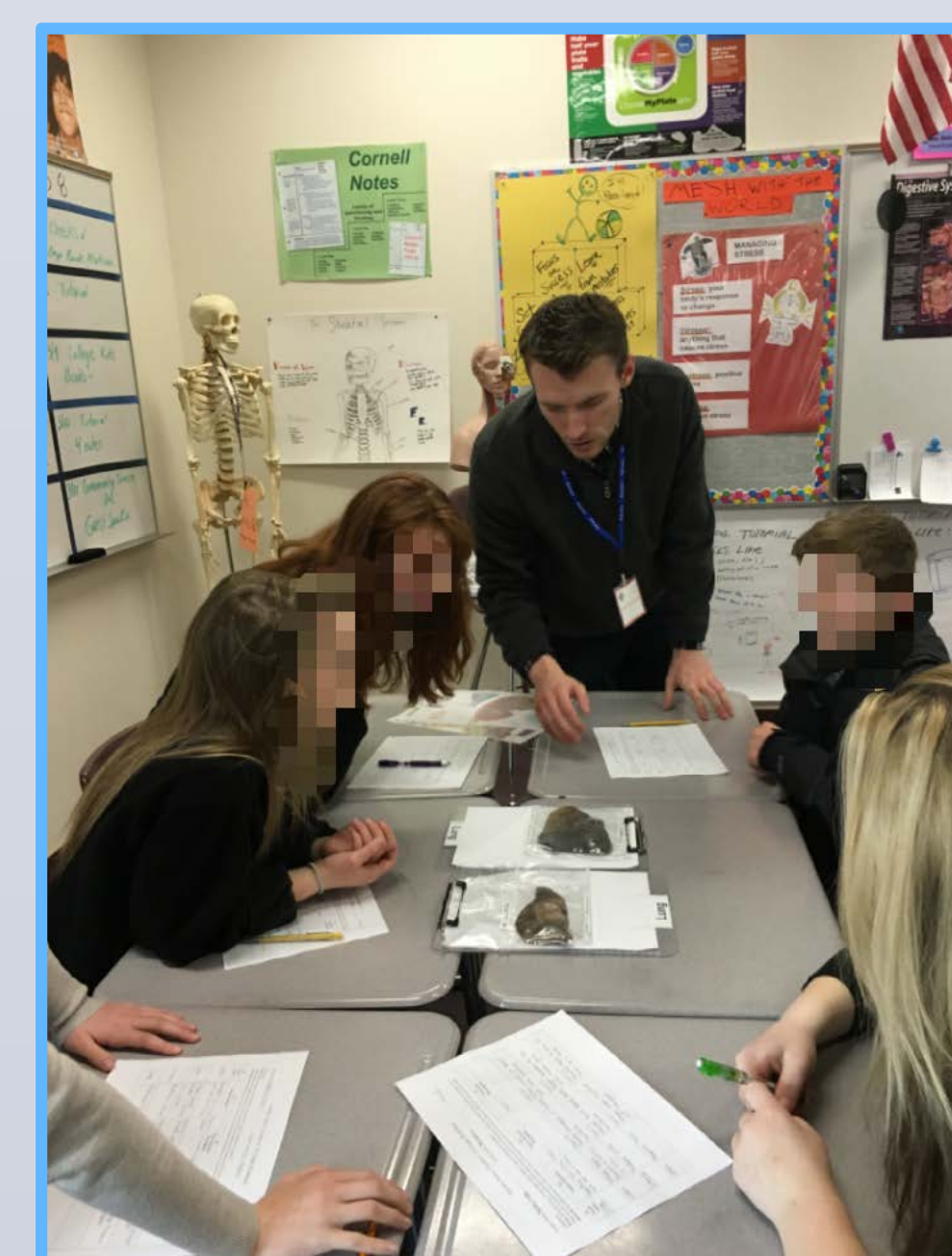
- Study 1 Fall 2014**
 - Developed a worksheet to assess student knowledge of cancer following the intervention.
 - Based on Boise School District's teaching strategy, "Summarize, Connect, Reflect."
- Study 2 Spring 2015**
 - Based on Study 1 evaluation, revised worksheet to assess student knowledge of cancer following the intervention.
 - Included a summary question and behavior identification table.
- Worksheets were a part of the HHHU program and were administered at the end of the Day 2 lesson.
- Research assistants developed and used a grading rubric specific to each study.



Participants

Who participated in Healthy Habits, Healthy U?

- Study 1 Fall 2014**
 - 813 eighth-grade students enrolled in Health (48% female, 52% male)
- Study 2 Spring 2015**
 - 828 eighth-grade students enrolled in Health (48% female, 52% male)



Results

Was Healthy Habits, Healthy U effective?

- Study 1 Fall 2014**
 - Organ Identification – Overall, 98% of the students correctly identified which organs were cancerous and which were noncancerous.
 - Reflections on HHHU
 - Summarize – On average, students correctly identified one key point concerning what they learned about the organs and how they are affected by cancer.
 - Reflect – On average, students were able to identify two or more key points that reduce the risk of developing cancer.
 - Connect – On average, students were able to identify two or more personal health habits.
 - Topics Identified by Participants
 - 96% listed nutrition.
 - 91% wrote physical activity.
 - 77% listed the organs.
 - 36% wrote sugar-sweetened beverages.
- Study 2 Spring 2015**
 - Organ Identification – Overall, 93% of the students correctly identified which organs were cancerous and which were noncancerous.
 - Reflections on HHHU
 - Summarize – On average, students correctly identified one key point concerning what they learned about how healthy habits influence the risk of developing cancer.
 - 71% of students identified cancer risks.
 - 75.5% of students identified ways to prevent cancer risks.
 - Topics Identified by Participants
 - 83% listed nutrition.
 - 76% wrote physical activity.
 - 43% listed the organs.
 - 73% wrote sugar-sweetened beverages.

References

- American Cancer Society. (2015). *What is cancer?: A guide for patients and families*. Retrieved from <http://www.cancer.org/cancer/cancerbasics/what-is-cancer>
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- Centers for Disease Control and Prevention. (2011). *Fruit and vegetable consumption among high school students – United States, 2010*. Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6046a3.htm>
- Idaho Department of Health and Welfare: Division of Public Health. (2015). *2013 Idaho vital statistics*. Retrieved from http://www.healthandwelfare.idaho.gov/Portals/0/Users/074/54/1354/2013_web_opt.pdf

Discussion

How can Healthy Habits, Healthy U improve?

- Study 1 Fall 2014**
 - Students accurately identified cancerous and noncancerous organs.
 - Based on feedback from health teachers and students, the organ identification worksheet was modified for Study 2.
 - The open-ended questions did not adequately capture students' knowledge.
 - Health teachers indicated they were dissatisfied with lack of depth in responses to open-ended questions and they provided ideas to improve the forms.
 - The worksheet was redesigned for Study 2, to allow students to summarize what they learned and to identify personal health behaviors.
- Study 2 Spring 2015**
 - Students accurately identified cancerous and noncancerous organs.
 - Based on student responses to the organ identification worksheet, students were able to correctly describe the appearance of the cancerous and noncancerous organs.
 - Students were able to provide at least one health behavior they could change to alter risk behaviors.
 - For quality of responses, students often provided relatively vague or somewhat descriptive responses.



Conclusion

Why choose Healthy Habits, Healthy U?

- HHHU is an example of an effective partnership among a hospital system, university, and school district and offers a unique experience to see inside of the human body. Through effective process evaluation, improvements have been made to the HHHU curriculum, including revisions of the organ identification worksheet and summary worksheet, and updating cancer-related articles to be read on Day 1. These studies provide promising information that the program is influencing students' knowledge of cancer. Based off these studies, a short-term outcome evaluation was developed and conducted in the Fall 2015.

