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Healthy Habits, Healthy U: Knowledge and Intention in Primary Cancer Prevention

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Healthy Habits, Healthy U: Knowledge and Intention in Primary Cancer Prevention

Abstract

Healthy Habits, Healthy U (HHHU) is a collaboration between St. Luke's Mountain Tumor Institute (MSTI), Boise State University, and the Boise School District (BSD). Boise State University provides trained teaching assistants who deliver the lessons and MSTI's pathology department provides the cancerous and non-cancerous tissue samples for the students to examine. This primary prevention cancer education program focuses on teaching students how their current daily health habits can impact their risks of developing cancer. Utilizing various teaching methods and materials, students learn how the 5, 2, 1, 0 health tips: 5 fruits and vegetables, 2 hours of screen time, 1 hour of physical activity, and 0 sugar-sweetened beverages (SSB), can improve their health.

In Spring 2017, eighth-grade health students (N=707) completed a pre and post-test. Overall knowledge and correlation between unhealthy habits and risk of developing cancer increased ($p < .001$, $d = 1.36$). Students (85%) were able to correctly identify 3 of their unhealthy habits and corresponding healthier alternatives. Six additional survey questions asked about students' likelihood of altering behaviors over the next two weeks. A majority (87.5%) mentioned reducing SSB's consumed, (86%) increasing fruits and vegetables consumption, and (83.5%) increasing their physical activity and reducing screen time.

HHHU has been incorporated into the BSD eighth-grade health curriculum and is expanding to 4th and 12th-grade. Students and teachers respond positively to this hands-on, interactive cancer program.



I. Introduction

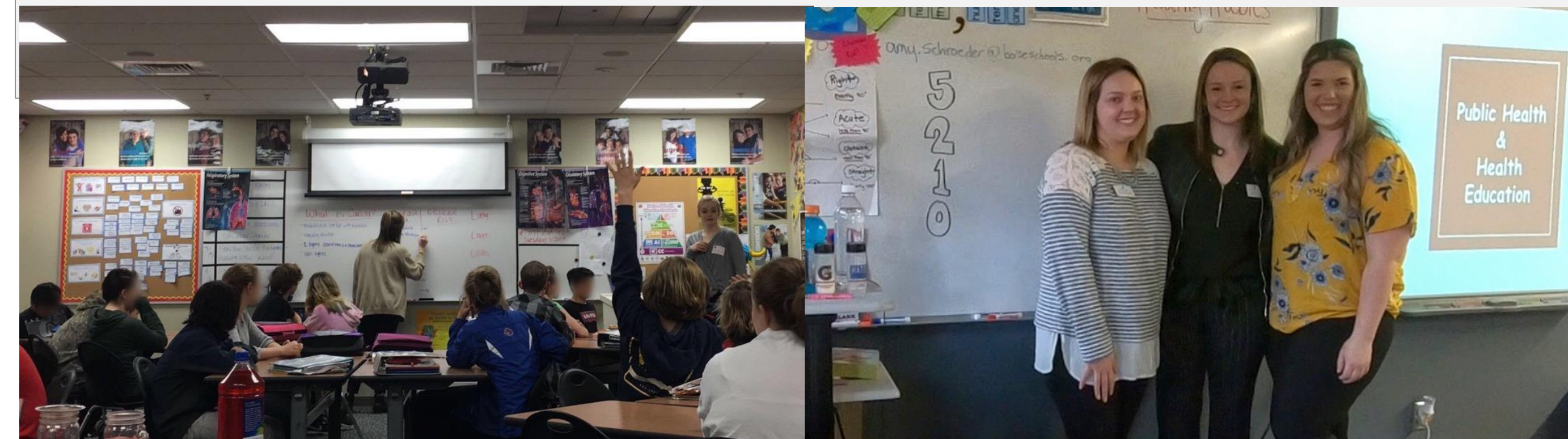
- Healthy Habits, Healthy U (HHU) is a school-based cancer prevention program.
- HHHU is a collaboration between Boise State University, St. Luke's MSTI, and the Boise School District. HHHU started in April 2013 in Boise, Idaho as a community outreach initiative designed to teach and reinforce positive health habits in students as a means of reducing cancer.
- The HHHU lessons are taught over two days in eighth-grade health class and offers a unique approach; highlighting the relationships among nutrition, physical activity, sugar-sweetened beverages (SSBs), and other cancer risks through a variety of educational materials.
- Where HHHU differs from previous cancer prevention programs is that it aims to not only educate students on healthy and unhealthy behaviors that lead to cancer, but to physically show students examples of non-cancerous and cancerous tissue samples. Through this activity, students are encouraged to think critically and make the connection between their health habits and their risks of developing cancer.
- Primary prevention aims to stop the onset of disease through changing behaviors, educating about risk factors, and promoting healthy behaviors. Creating positive lifestyle choices at a young age is fundamental to reducing the risk of developing cancer.

II. Background

- Why is cancer prevention education necessary?
- In January 2017, an estimated 1,688,780 new cancer cases would be diagnosed and 600,920 people will lose their lives to cancer during the year. Idaho will have 7,310 of those new cases (Siegel, Miller, & Jemal, 2017).
- Although there are many factors that contribute to cancer, 90-95% of cancer cases have their roots in exposure to environmental toxins and poor health habits. Approximately one-third of cancer deaths are a result of poor nutrition and sedentary behaviors (ACS, 2015).
- Approximately 50% of the most common cancers could be prevented by reducing negative health habits or by adopting positive ones (ACS, 2015).

III. Methods & Participants

- The purpose of this study was to evaluate students knowledge of cancer and risk before and after the intervention, as well as behavioral intent after the intervention.
- Participants were eighth-grade students enrolled in Boise School District Health classes during the Fall 2017. The HHHU curriculum is an integrated module within the district's health curriculum and taught to all 8th graders.
- The pretests and posttests were completed by 707 students.



How was Healthy Habits, Healthy U implemented?

- This study used a quasi-experimental design utilizing pretest/posttest surveys. These surveys include Likert-scale: 1) whether fast food/processed food increases the risk of developing cancer; 2) whether eating fruits and vegetables decreases the risk of developing cancer; 3) whether the consumption of SSBs increases the risk of cancer; 4) whether the consumption of two or more sodas per week is linked to cancer; and 5) which health habits reduce the risk of developing cancer; multiple choice, and open-ended questions having the participants identify an unhealthy habit and a healthy replacement.
- The pretest was administered to all class periods two weeks prior to the intervention. Two weeks after the pretest, the lesson is taught by the trained teaching assistants and the posttest is administered at the end.

IV. Results

- All eligible participants' pretest/posttests were coded, scored, and entered into Statistical Package for the Social Sciences Version 22 (SPSS) for statistical analyses.

Results continued...

- Participants had statistically significant higher knowledge scores from pretest ($M = 3.41$, $SD = 0.49$) to posttest ($M = 4.20$, $SD = 0.54$), $t(707) = 36.130$, $p < .001$, $d = 1.36$.
- Participants (85%) were also able to correctly identify 3 of their unhealthy habits and corresponding healthier alternatives.
- Participants intent of altering behaviors over the next two weeks following the posttest were also measured with 87.5% mentioning reducing SSBs, 86% increasing fruits and vegetables, and 83.5% increasing physical activity and reducing screen time.

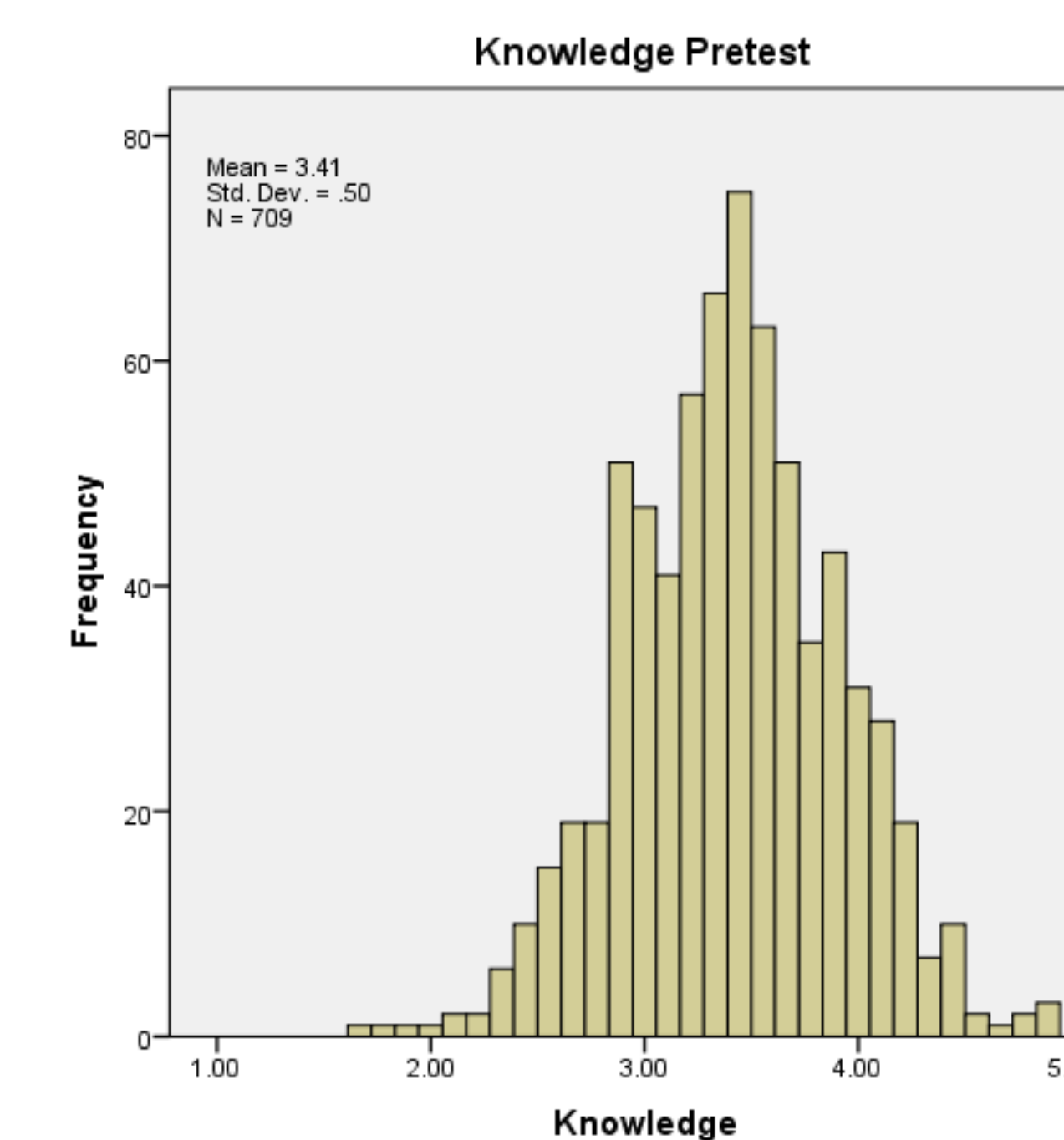


Figure 1. Knowledge pretest scores two weeks prior to intervention

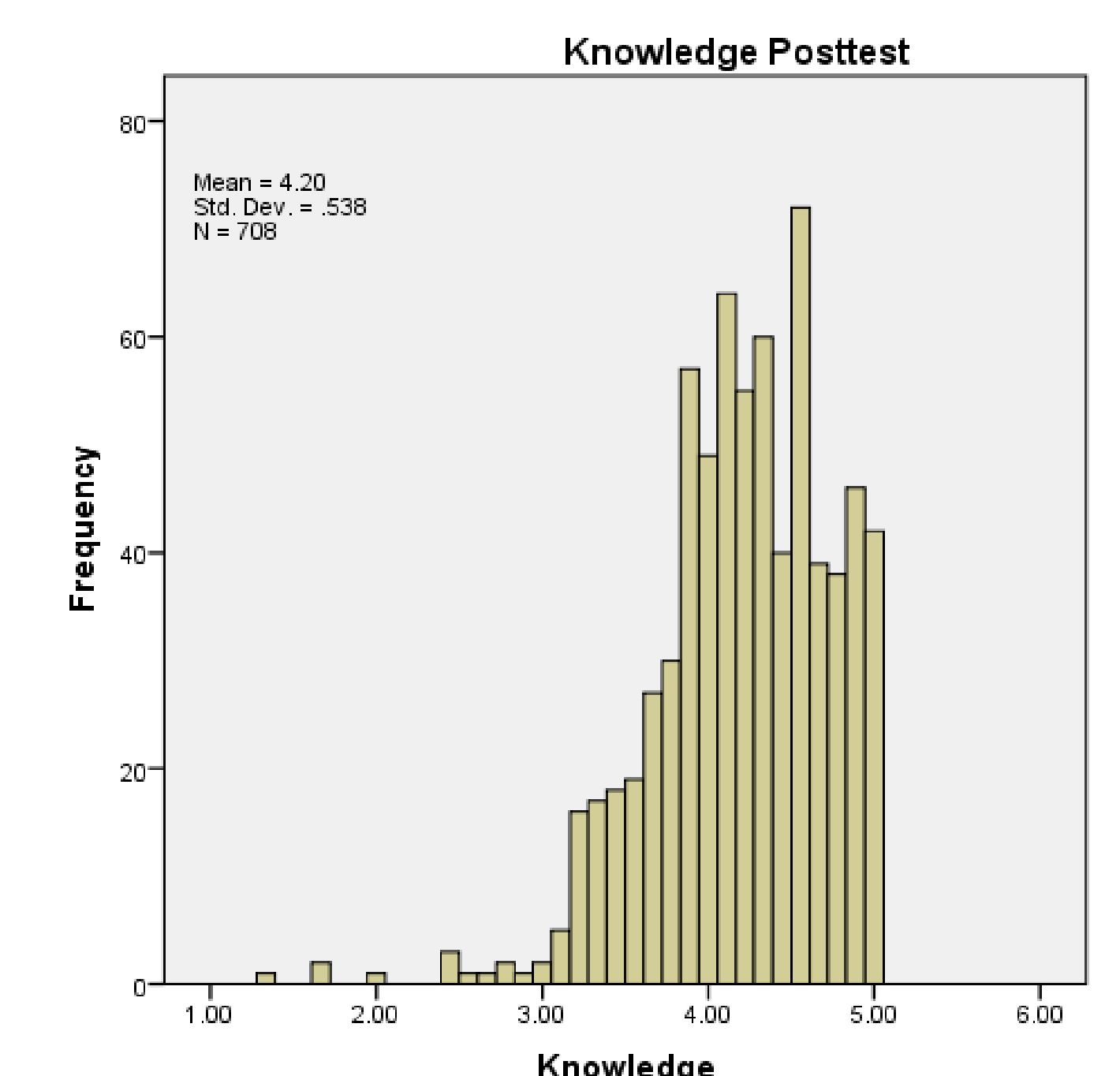


Figure 2. Knowledge posttest scores after intervention

Table 1. Paired Samples T Test of Knowledge posttest and Knowledge pretest scores

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 KnowledgePost - KnowledgePre	.78381	.58411	.02197	.75087	.81675	36.133	706	.000

V. Conclusions

- Students knowledge of unhealthy habits and risk of developing cancer increased.
 - Students can identify healthier alternatives to their current poor health habits.
 - Students, teachers, and collaborators respond positively to this innovative primary cancer prevention program.
- Next steps:
- Research is being done to further understand students' behavioral intent, expand to 12th grade and alternative teaching modalities and sites.

