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Examining the Relationship Between Adolescent Obesity Rates and School Health Programs in Grades 9-12 in the United States

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Examining the Relationship Between Adolescent Obesity Rates and School Health Programs in Grades 9-12 in the United States

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Background and Objective

- In the United States, it was found that the prevalence of obese adolescents ages 12-19 was 21.2%.¹
- According to a study by Ward et. al published in the New England Journal of Health (NEJH), the researchers estimated 88.2% of obese 19-year-olds would still be obese by the age of 35.²
- The purpose of this study was to evaluate school provided health programs and their impact on BMI values of students within these schools.
- This study aimed to compare health outcomes between different schools across the United States and identify aspects of school programming that can be advantageous for childhood BMI outcomes.
- The hypothesis for this study is that schools with higher health education resources will have lower rates of pediatric obesity than their counterparts.

Methods

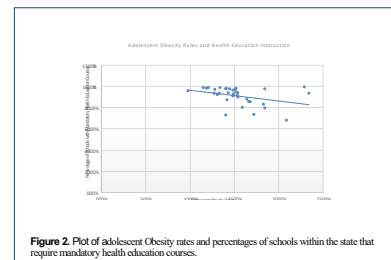
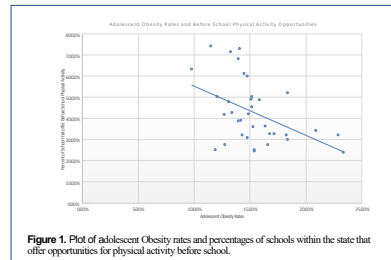
- Data extracted from the Center for Disease Control (CDC) sponsored 2019 Youth Risk Behavior Surveillance System and 2018 School Health Profiles reports.
- A Pearson product-moment correlation test was done between the adolescent obesity rates in each state and each of the specific health program data. A p value was also found for each school health program
- Pearson product-moment correlation values were analyzed using the Cohen (1992) recommendations which state that a value between 0-.29 indicate small effect size, .30-.49 indicate moderate effect size, and >.50 indicate large effect size.

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Results

- Searches identified 35 states with data that included both adolescent obesity rates and necessary information for all six health program variables.
- Before School Physical Activity Opportunities had the strongest relationship with adolescent obesity rates with a Pearson coefficient score of -0.4577197 and a p value of **0.005964**
- Health Education Instruction held the second strongest relationship with adolescent obesity rates with a Pearson coefficient score of -0.354451 and a p value of **0.036692**



Variable	Pearson coefficient	p value
Health Ed Instruction	-0.354451	0.036692
Nutrition Topics in Health Ed	-0.1858878	0.2850062
Physical Activity Topics in Health Ed	-0.2193141	0.2055716
Before School Physical Activity	-0.4577197	0.005964
After School Physical Activity	-0.295787	0.08449346
Interscholastic Sports	-0.134582	0.44082642

Table 1. Pearson coefficient and p values found using data from adolescent obesity rates and each school health program.

Discussion

- Health education instruction and Opportunities for Before School Physical Activity were both found to have a negative correlation with adolescent obesity rates.
- Opportunities for Before School Physical Activity displayed the strongest correlation with adolescent obesity rates
- Health education instruction was also found to have a moderate correlation according to Cohen (1992) recommendations with a correlation coefficient of -0.354451 and a p value of 0.036692.
- When looking at specific topics taught in health education courses such as nutrition and physical activity, however, there was only a small correlation with adolescent obesity rates.

Conclusion

- This systematic review found that there is a significant relationship between health education classes and offering physical activity before school and adolescent obesity.
- Knowledge gained from health education courses may have a role in the lower rates of adolescent obesity and the exercise gained from before school physical activity could benefit adolescents in getting adequate exercise during the day.
- It is unclear if other aspects of school curriculum's affect adolescent obesity rates, however this study identified that health education courses and opportunities for physical activity can influence rates of adolescent obesity.

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