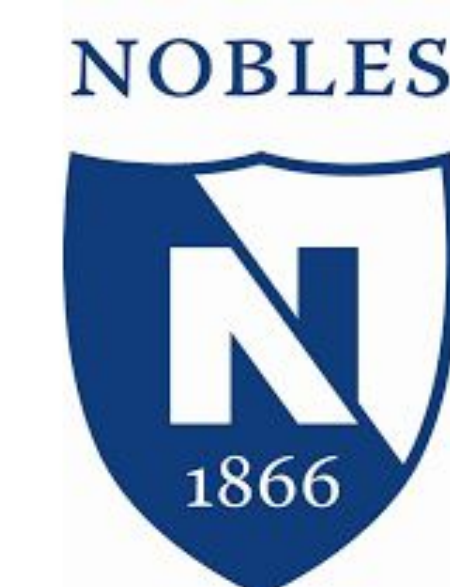


Association between physical activity and sedentary behavior with depressive symptoms among high school students in the U.S.

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Background

- Depression is a common mental disorder among adolescents and the prevalence of depression has been increasing over the past two decades.
- CDC data shows that 1.9 Million children aged 3-17 years in the US have diagnosed depression.
- Known risk factors for childhood depression include stress, sociodemographic status and traumatic childhood experiences.
- Most studies on physical activity and depression in children and adolescents have focused on clinical populations with depression with relatively small sample sizes.

Objective

- To examine the association between different measures of physical activity and sedentary behavior with depressive symptoms among high school students in the US, while controlling for demographics and other risk behavior.

Methods

- We used a nationally representative sample from the 2019 Youth Risk Behavior Survey (YRBS).
- Weighted frequencies for depressive symptoms, physical activity, and demographics were examined.
- A multivariable logistic regression model was used to evaluate the relationship between depressive symptoms with physical activity variables and sedentary behaviors.
- All analyses incorporated the sample weights and post-stratification variables to account for the complex sampling methods of YRBS.

Inadequate physical activity and too much sedentary behavior are associated with depressive symptoms among high school students in the US

Physical activity: engaging in physical activity

Students engaging in physical activity on five or more days in the past week were 19% less likely to report depressive symptoms in the past year (aOR=0.81, 95% CI=0.70-0.95)

Physical activity: on sports team

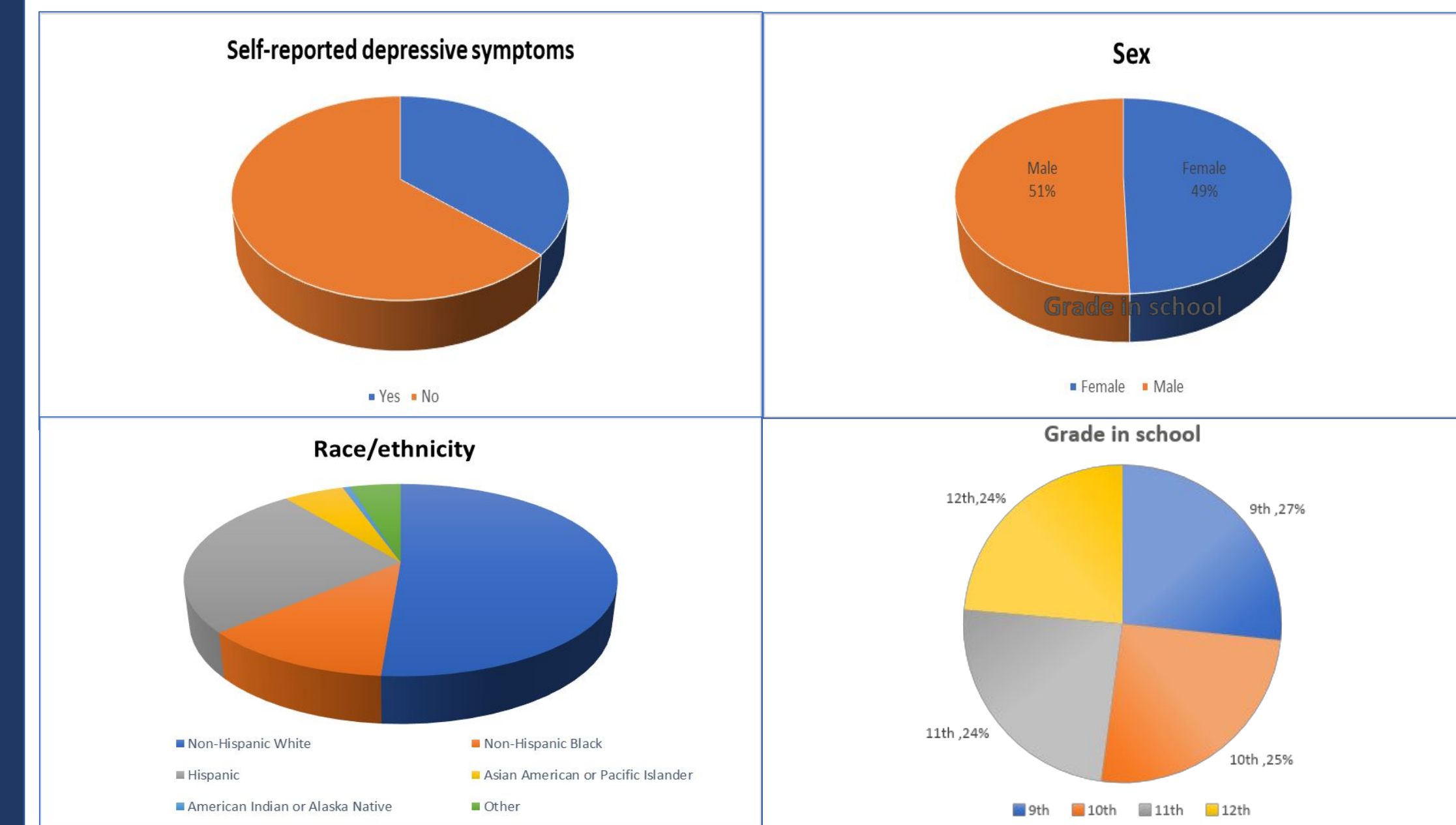
Students participating on one or more sports teams were 28% less likely to report depressive symptoms in the past year (aOR=0.72, 95% CI=0.63-0.82)

Sedentary behavior

Students reporting three or more hours of computer/device usage on an average school night were 56% more likely to report depressive symptoms in the past year (aOR=1.56, 95% CI=1.33-1.84)

Results

- 13,526 high school students in the US were included in the study.



Conclusions and Policy Implications

- After controlling for sociodemographic variables, being active on 5 or more days and being a member of 1 or more sports teams were associated with reduced odds of reporting depressive symptoms; spending 3 or more hours on a device/computer per school day were associated with an increased odds of reporting depressive symptoms.
- Adolescence is a crucial time for establishing positive health-habits, intervention strategies designed to promote physical activity and reduce sedentary behaviors among high school students will have a lasting positive effect on the mental health and the general well-being of this population.

Key reference

- Underwood JM, Brener N, Thornton J, et al. Overview and Methods for the Youth Risk Behavior Surveillance System - United States, 2019. *MMWR Suppl.* 2020;69(1):1-10. doi:10.15585/mmwr.su6901a1.