

## Physical Activity-Related Behaviors and Academic Achievement



Montana Office of Public Instruction • Elsie Arntzen, Superintendent • [www.opi.mt.gov](http://www.opi.mt.gov)

### What is the relationship between physical activity-related behaviors and academic achievement?

Data presented below from the 2021 Montana Youth Risk Behavior Survey (YRBS) show a negative association between physical activity-related behaviors and academic achievement. This means that students with higher grades are less likely to engage in physical inactivity-related behaviors than their classmates with lower grades, and students who do not engage in physical activity-related behaviors receive lower grades than their classmates who do engage in physical activity-related behaviors. These associations do not prove causation. Further research is needed to determine whether low grades lead to behaviors related to physical inactivity, behaviors related to physical inactivity lead to low grades, or some other factors lead to both of these problems.

Percentage of high school students who engaged in physical activity-related behaviors, by type of grades earned – Montana Youth Risk Behavior Survey, 2021.

Physical Activity-Related Behaviors	Percentage of Montana high school students who engaged in each risk behavior, by type of grades mostly earned				Significant Association*
	A's	B's	C's	D's/F's	
<b>Physical Activity</b>					
Physically active at least 60 minutes per day on 5 or more days during the past 7 days	58	53	40	38	Yes
Did not participate in at least 60 minutes of physical activity on at least 1 day during the past 7 days	10	10	14	20	Yes
Were physically active at least 60 minutes per day on all of the past 7 days	27	29	21	21	Yes
<b>Other Physical Activity-Related Behaviors</b>					
Spent 3 or more hours per day on screen time (in front of a TV, computer, smart phone, or other electronic device watching shows or videos, playing games, accessing the Internet, or using social media, not counting time spent doing schoolwork, on an average school day)	71	73	72	74	Yes
Attended physical education classes on 1 or more days in an average school week	50	56	54	50	No
Attended physical education classes on all 5 days in an average school week	23	25	20	15	No
Played on at least one sports team run by their school or community groups during the past 12 months	68	59	49	35	Yes
Had a concussion from playing a sport or being physically active during the past 12 months	14	17	15	20	No
Got 8 or more hours of sleep on an average school night	34	28	20	18	Yes

\*Based on logistic regression analysis controlling for sex, race/ethnicity, and grade in school, p<0.05.

Figure 1. Percentage of high school students, by physical activity-related behavior, by grades earned. Montana YRBS, 2021.

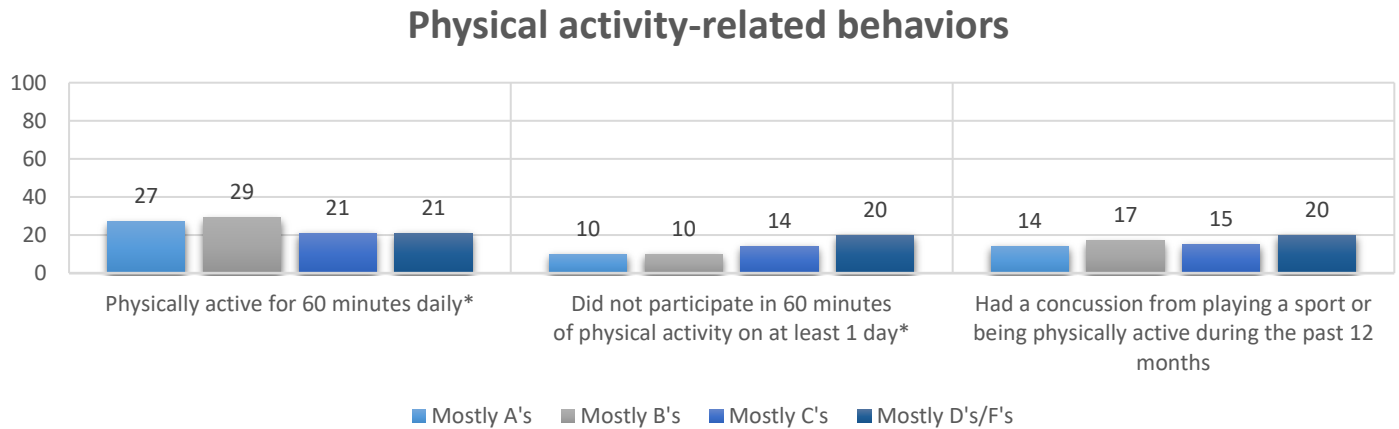
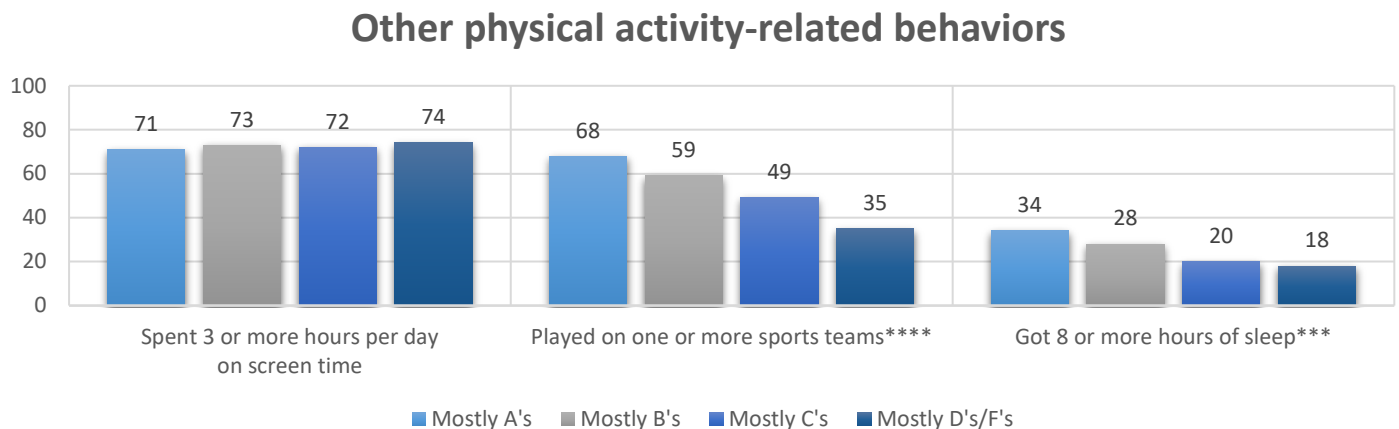


Figure 2. Percentage of high school students, by other physical activity-related behavior, by grades earned. Montana YRBS, 2021.



\* During the past 7 days.  
 \*\* On an average school day.  
 \*\*\* On an average school night.  
 \*\*\*\* During the past 12 months.

The Montana YRBS monitors priority health-risk behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States. It is conducted every 2 years during late winter and provides data representative of high school students in Montana. In 2021, students completing the YRBS were asked, “During the past 12 months, how would you describe your grades in school?” and given seven response options (Mostly A’s, Mostly B’s, Mostly C’s, Mostly D’s, Mostly F’s, None of these grades, and Not sure). In 2021, 46% of students received mostly A’s, 27% received mostly B’s, 15% received mostly C’s, 7% received mostly D’s or F’s, and 5% reported receiving none of these grades or not sure. The YRBS has been administered by the Office of Public Instruction in collaboration with Montana schools since 1991. For more information on the YRBS please visit [www.opi.mt.gov/yrbs](http://www.opi.mt.gov/yrbs).

### Montana High School Students - Grades Earned

