

Nutrition and Dietary-Related Behaviors and Academic Achievement



Montana Office of Public Instruction • Elsie Arntzen, Superintendent • www.opi.mt.gov

What is the relationship between nutrition and dietary-related behaviors and academic achievement?

Data presented below from the 2023 Montana Youth Risk Behavior Survey (YRBS) show a negative association between nutrition and dietary-related behaviors and academic achievement. This means that students with higher grades are more likely to engage in healthy nutrition and dietary-related behaviors than their classmates with lower grades, and students who do engage in healthy nutrition and dietary-related behaviors receive higher grades than their classmates who do not engage in healthy nutrition and dietary-related behaviors. These associations do not prove causation. Further research is needed to determine whether low grades lead to unhealthy nutrition and dietary-related behaviors, unhealthy nutrition and dietary-related behaviors lead to low grades, or some other factors lead to both of these problems.

Percentage of high school students who engaged in nutrition and dietary-related behaviors, by type of grades earned – Montana Youth Risk Behavior Survey, 2023.

Nutrition and Dietary-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	
Weight Management					
Were obese (\geq 95 th percentile for body mass index)	9	16	19	24	Yes
Were overweight (\geq 85 th percentile but $<$ 95 th percentile for body mass index)	13	15	18	11	Yes
Described themselves as slightly or very overweight	25	29	38	43	Yes
Trying to lose weight	37	42	46	51	Yes
Nutrition and Dietary Behaviors					
Did not drink 100% fruit juice during past 7 days	35	35	33	35	No
Did not eat fruit during the past 7 days	10	12	16	21	Yes
Did not eat fruit or drink 100% fruit juice during the past 7 days	6	7	10	13	Yes
Ate fruit or drank 100% fruit juices one or more times per day during the past 7 days	55	49	48	40	Yes
Ate fruit or drank 100% fruit juices two or more times per day during the past 7 days	22	20	20	20	Yes
Did not eat green salad during the past 7 days	32	37	43	47	Yes
Did not eat potatoes during the past 7 days	34	35	33	57	No
Did not eat carrots during the past 7 days	43	49	56	57	Yes
Did not eat other vegetables during the past 7 days	15	19	24	32	Yes
Did not eat vegetables during the past 7 days	5	8	7	13	Yes
Ate vegetables one or more times per day during the past 7 days	63	58	52	50	Yes
Ate vegetables two or more times per day during the past 7 days	27	21	24	18	Yes
Ate vegetables three or more times per day during the past 7 days	11	10	11	11	No
Did not drink soda or pop (not including diet soda pop) during the past 7 days	30	21	16	19	Yes
Drank soda or pop daily during the past 7 days	10	15	22	26	Yes
Drank soda or pop two or more times per day during the past 7 days	5	8	13	17	Yes
Did not eat breakfast on any of the past 7 days	15	20	26	30	Yes
Ate breakfast on all of the past 7 days	34	23	17	11	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 nutrition and dietary-related behavior, by grades earned. Montana YRBS, 2023.

Nutrition and dietary-related behaviors

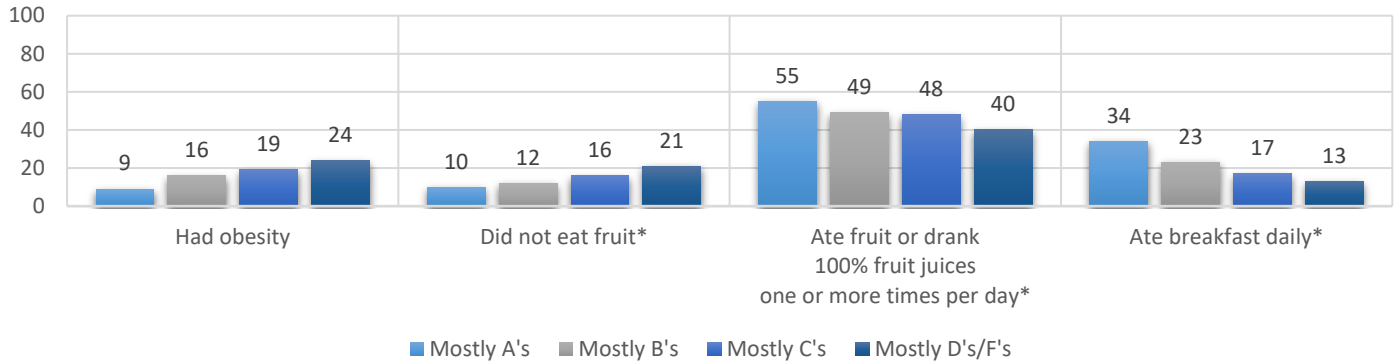
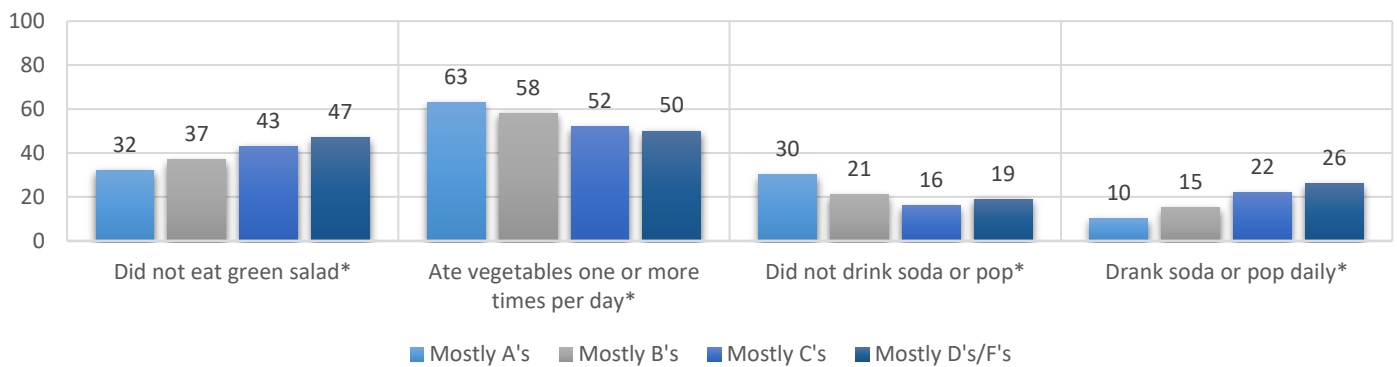


Figure 2. Percentage of high school students, by nutrition and dietary-related behavior, by grades earned. Montana YRBS, 2023.

Nutrition and dietary-related behaviors



* During the past 7 days.

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 2023, 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 2023, 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.

Montana High School Students - Grades Earned

