

Recommendations and Reports
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Physical Activity Among Alaska Adolescents**Introduction**

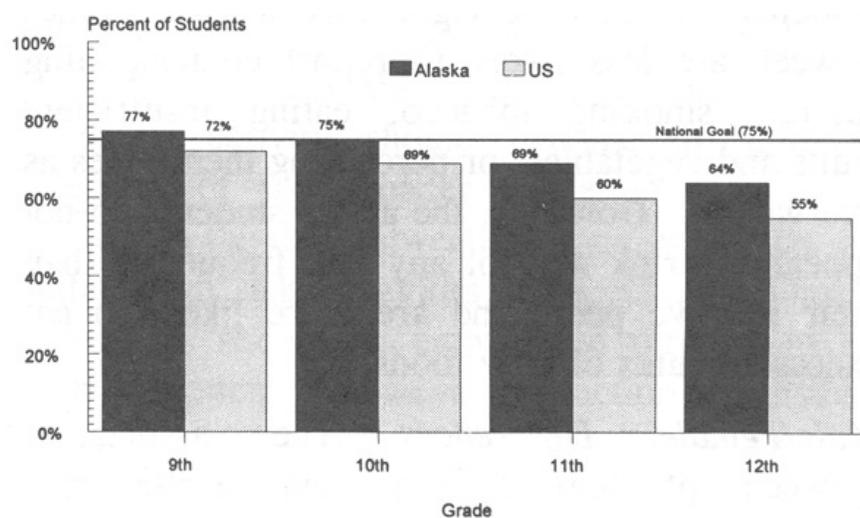
The Youth Risk Behavior Survey (YRBS) measures health risk behaviors related to the leading causes of mortality, morbidity and social problems among youth in the United States. In 1995, Alaska implemented the YRBS survey, sampling a representative group of 1643 high school and 1265 middle school students.¹ Six categories of adolescent behavior were examined: behaviors that result in unintentional and intentional injuries, tobacco use, alcohol and other drug use, sexual behaviors, dietary behaviors, and physical activity. Previous Epidemiology Bulletins have addressed the areas of alcohol/drug use and sexual behavior.^{2,3}

The Benefits of Adolescent Physical Activity

In 1996, the Office of the Surgeon General released its first report on the relationship between physical activity and health.⁴ The report finds that the benefits of physical activity, both long and short-term, begin in youth. Physical activity during adolescence helps build and maintain bones, muscles and joints; helps control weight, build lean muscle and reduce fat; reduces anxiety and stress and increases self-esteem; and may prevent or delay the development of high blood pressure later in life. Continued into adulthood, regular physical activity reduces the risk of developing or dying from some of the leading causes of illness and death in the US.

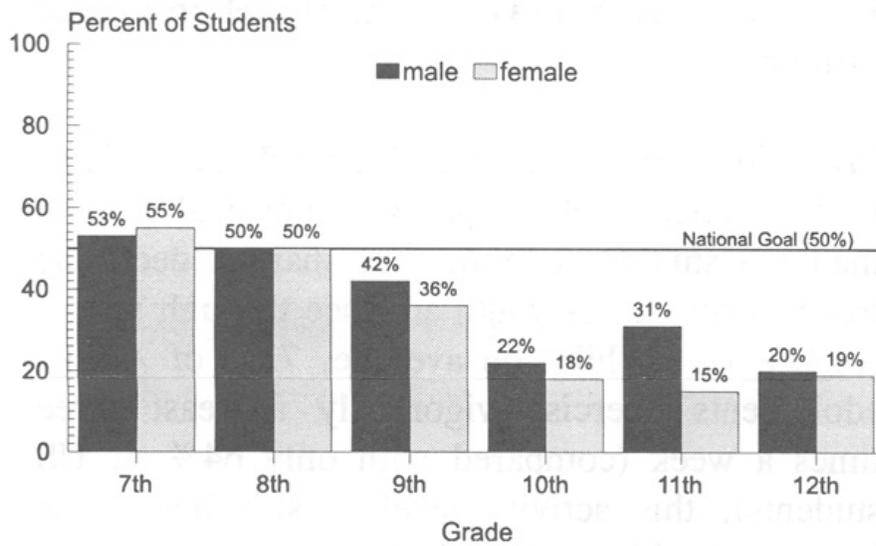
Physical Activity Levels of Alaska High School Students

Vigorous Activity Alaska high school students report higher levels of vigorous physical activity than US students overall, but share a declining trend in activity as youth advance through school (Figure 1). While, on average, 72% of Alaska adolescents exercise vigorously at least three times a week (compared with only 64% of US students), this activity level is still below the National health goal of 75%.⁵ As with Alaska adults, female and Alaska Native students report the lowest levels of vigorous activity (66% and 62%, data not shown).^{6,7}

Figure 1. Vigorous¹ Activity Levels Among Alaska and US High School Students, 1995**¹ Activities that cause sweat and heavy breathing for at least 20 minutes, on at least 3 of the past 7 days**

Physical Education (PE) Daily PE class attendance among Alaska high school students (26% overall) is similar to reported attendance across the rest of the US (25% overall). Daily participation drops with each grade, and female students are less likely to attend daily PE class than male students (Figure 2). Native high school students are slightly more likely to report participation in daily PE (31% overall, data not shown). Notably, only middle school students appear to be achieving the National health goal of 50% daily PE participation.⁵

Figure 2. Daily Physical Education Participation Among Alaska Middle and High School Students, 1995



Other Behaviors Associated with Physical Activity in Alaska High School Students

Overall Students who report high levels of physical activity are less likely to engage in some high risk behaviors than those students who are physically inactive (Table 1). In particular, students who exercise vigorously at least 5 times a week are less likely to report contemplating suicide, smoking tobacco, eating insufficient fruits and vegetables, or perceiving themselves as overweight. However, the active students do not appear to drink alcohol any less frequently than their inactive peers and are more likely to eat excess amounts of fatty foods.

Male/Female Differences The association between physical activity and health risk behaviors appears to differ between the sexes (Table 1). Physically active female students (but not male) are less likely to report ever having had sexual intercourse while physically active male students (but not female) report less marijuana use. Active male students are somewhat more likely to report potentially injurious behaviors, such as carrying weapons on school property and physical fighting, than inactive males.

Table 1. Comparison of the Prevalence of Health Risk Behaviors Reported among Active and Inactive Alaska High School Students, 1995

Health Risk Behaviors	Males (%)		Females (%)	
	Active ¹ (n=458)	Inactive ² (n=58)	Active ¹ (n=330)	Inactive ² (n=111)
seriously considered suicide ³	14	20	28	39
current smoker ⁴	30	51	32	41
regular smoker ⁵	17	41	16	26
current marijuana user ⁶	28	35	22	22
current drinker ⁷	47	50	41	41
binge drinker ⁸	33	38	26	28
sexual intercourse ⁹	48	43	39	52
eat excess fatty foods ¹⁰	44	38	22	14
eat inadequate fruits/vegetables ¹¹	55	85	64	83
overweight ¹²	16	32	34	41
carry weapons at school ¹³	18	12	4	3
physical fighting ¹⁴	45	37	23	25

¹ at least 5 days of vigorous activity (causing sweat and heavy breathing for at least 20 minutes) in the past 7 days

² 0 days of vigorous activity (causing sweat and heavy breathing for at least 20 minutes) in the past 7 days

³ during the past 12 months

⁴ at least once in the past 30 days

⁵ at least 20 cigarettes in the past 30 days

⁶ at least once in the past 30 days

⁷ at least once in the past 30 days

⁸ at least 5 drinks within a couple of hours during the past 30 days

⁹ ever

¹⁰ more than 2 servings in the last day

¹¹ less than 5 servings in the last day

¹² "slightly" or "very"

¹³ at least once in the past 30 days

¹⁴ at least once in the past 12 months

Clustering of Health-Related Behaviors

The findings from Table 1 suggest that multiple high risk behaviors tend to cluster in physically inactive individuals. Previous analyses noted similar clusterings of high risk behaviors among students who engage in early sexual intercourse or early alcohol

and drug use.^{3,2} Regular physical activity has been shown to be a key factor or "asset" in developing healthy adolescents.⁸

Recommended Amounts of Physical Activity

The International Consensus Conference on Physical Activity Guidelines for Adolescents recommends that "all adolescents...be physically active daily, or nearly every day, as part of play, games, sports, work, transportation, recreation, physical education, or planned exercise, in the context of family, school and community activities" and that "adolescents engage in three or more sessions per week of activities that last 20 minutes or more at a time and that require moderate to vigorous levels of exertion."⁹

Team Participation

Teams can provide students with a sense of structure and belonging.⁸ Team participation also enables many youth to attain the recommended physical activity levels, but it is important to recognize that many team sports (such as basketball, volleyball, hockey and soccer) are not readily sustainable in adulthood. Consequently, youth should learn lifelong activities (such as cross-country skiing, hiking, ice skating and swimming) as well.⁹

How to Encourage Adolescent Physical Activity

Due to their almost population-wide access to adolescents, schools are "the most widely available resource for promoting physical activity."⁴ Key recommendations by the Surgeon General include:

Schools

- . provide quality instruction in lifelong physical activities (those which can be performed alone or with one other person) in addition to structured sports--and begin instruction in elementary school
- . emphasize enjoyment over competition
- . include instruction about the benefits/value of exercise and other healthy lifestyle habits
- . recognize and address potentially different needs among gender and ethnic groups

Numerous opportunities also exist for parents and communities to encourage physical activity among adolescents:

Parents

- . support and encourage children's participation in physical activities
 - . provide a role model by playing and being physically active with children
- #### *Communities*
- . ensure youth have access to safe equipment/facilities during non-school hours and vacations--and that they and their parents are aware of these resources
 - . advocate for lifelong-oriented, daily physical education which begins in elementary school and continues throughout all four years of high school
 - . advocate for qualified physical education instructors and the provision of both in-service training in and regular evaluation of comprehensive health programs

Summary

The Surgeon General states that "physical activity is directly related to preventing disease and premature death and to maintaining a high quality of life."⁴ Physical activity among Alaska youth declines during the high school years, and, by adulthood, almost a quarter of Alaskans are physically inactive.⁶ By establishing a routine of lifelong-oriented physical activity in adolescence, Alaskans stand a much better chance of continuing to exercise throughout life and may decrease their likelihood of adopting high risk behaviors. Teaching Alaska youth to value physical activity should become an essential element of the broader academic curriculum. Based on the link between physical inactivity and other high risk behaviors, comprehensive health programs should be emphasized throughout the school system. However, reduction of physical inactivity (and other high risk behaviors) will require a coordinated effort across communities, families and schools.

References

1. Youth Risk Behavior Survey Report 1995. Alaska Department of Health and Human Services and Department of Education. February 1996.
2. Alcohol and Drug Use Among Alaska Adolescents. State of Alaska Epidemiology Bulletin. No. 8: February 26, 1997.
3. Sexual Behavior Among Alaska Adolescents. State of Alaska Epidemiology Bulletin. No. 23: May 9, 1997.
4. US Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
5. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.
6. Alaska Behavioral Risk Survey 1994 Annual Report. Alaska Department of Health and Social Services. November 1996.
7. Alaska Behavioral Risk Survey 1991-1993. Alaska Department of Health and Social Services and Alaska Area Native Health Service. February 1997.
8. Benson PL, Galbraith MA, Espeland P. What Kids Need to Succeed. Minneapolis, MN: Free Spirit Publishing, 1995.
9. Centers for Disease Control and Prevention. Guidelines for School and Community Programs to Promote Lifelong Physical Activity among Young People. MMWR 1997; 46 (No. R-6).

The Youth Risk Behavior Survey 1995

To obtain a copy of the full YRBS report, contact the State of Alaska, Section of Epidemiology, P.O. Box 240249, Anchorage, Alaska, 99524-0249, phone 907-269-8000, fax 907-562-7802.

Physical Activity and Health : A Report of the Surgeon General (and related summary materials)

To obtain a full copy of the Surgeon General's Report or related "At-A-Glance" summary materials, contact the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and

Physical Activity, MS K-46, 4770 Buford Highway, NE, Atlanta, GA 30341, phone 800-232-4674.

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