

Youth Risk Behavior Survey (YRBS)

Item rationale

for the 2009 core questionnaire

Behaviors That Result in Unintentional Injuries and Violence

QUESTION(S):

8. When you rode a bicycle during the past 12 months, how often did you wear a helmet?

RATIONALE:

This question measures the frequency of helmet use while riding a bicycle. In 2000-2001, bicycle activities were the third leading type of sports and recreation-related activities in which 15- to 19-year-old males were injured and treated at an emergency department.⁽¹⁾ In 2004, children 14 years and younger accounted for 13% of all bicycle fatalities, making this one of the most frequent causes of injury-related deaths for young children.⁽²⁾ Head injury is the leading cause of death in bicycle crashes^(3,4) and use of bicycle helmets is the single most effective way of reducing head injuries and fatalities.⁽²⁾ Estimates indicate bicycle helmets may prevent approximately 56% of bicycle-related deaths,⁽⁵⁾ 65%-88% of bicycle-related brain injuries,^(6,7) and 65% of serious facial injuries to the upper and middle regions of the face.⁽⁸⁾ In 2007, among the 67% of high school students nationwide who had ridden a bicycle during the 12 months before the survey, 85% had rarely or never worn a bicycle helmet.⁽⁹⁾

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2. National Highway Traffic Safety Administration. Traffic Safety Facts, Laws: Bicycle Helmet Use Laws. National Highway Traffic Safety Administration Web site. Available at http://www.nhtsa.dot.gov/portal/nhtsa_static_file_downloader.jsp?file=/staticfiles/DOT/NHTSA/Communication%20&%20Consumer%20Information/Articles/Associated%20Files/810886.pdf. Accessed May 2, 2008.
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4. Sosin DM, Sacks JJ, Webb KW. Pediatric head injuries and deaths from bicycling in the United States. *Pediatrics* 1996;98:868-870.
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 8. Thompson DC, Nunn MW, Thompson RS, Rivara FP. Effectiveness of bicycle safety helmets in preventing serious facial injury. *Journal of the American Medical Association* 1996;276:1974-1975.
 9. Eaton DK, Kann L, Kinchen S, et.al. Youth Risk Behavior Surveillance—United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS-4):1-131.
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QUESTION(S):

9. How often do you wear a seatbelt when riding in a car driven by someone else?

RATIONALE:

This question measures the frequency with which seat belts are worn when riding in a car. Motor-vehicle related injuries kill more young adults aged 15 to 19 years than any other single cause in the United States.⁽¹⁾ Safety belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%.⁽²⁾ In 2007, 11% of high school students nationwide had rarely or never worn a seat belt when riding in a car driven by someone else.⁽³⁾ During 1991–2007, a significant linear decrease occurred in the percentage of students who rarely or never wore a seat belt (26%–11%).⁽³⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

- 15-19 Increase use of seatbelts to 92%.⁽⁴⁾

REFERENCES:

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2008. Accessed May 2, 2008.
2. National Highway Traffic Safety Administration. Traffic Safety Facts 2004: Occupant protection. National Highway Traffic Safety Administration Web site.

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Available at: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSF2004/809909.pdf>. Accessed June 6, 2008.

3. Eaton DK, Kann L, Kinchen S, et.al. Youth Risk Behavior Surveillance—United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS-4):1-131.
 4. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health*. Washington D.C., Government Printing Office, 2004.
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QUESTION(S):

10. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
11. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?

RATIONALE:

These questions measure the frequency with which high school students drove a motor vehicle while under the influence of drugs or alcohol or rode as a passenger in a motor vehicle operated by someone who was under the influence of alcohol or drugs. In 2004, 5% of 15- to 20-year-old drivers who were involved in crashes that resulted in injuries had been drinking alcohol.⁽¹⁾ In 2006, 25% of 15- to 20-year-old drivers involved in fatal crashes had blood alcohol concentration (BAC) levels of .08 or higher at the time of the crash.⁽²⁾ Alcohol use is associated with 24% of fatalities among those less than 15 years old.⁽³⁾ In 2007, 10% of high school students nationwide had driven a car or other vehicle one or more times when they had been drinking alcohol and 29% of high school students nationwide had ridden one or more times in a car or other vehicle driven by someone who had been drinking alcohol during the 30 days before the survey.⁽⁴⁾ During 1991–2007, a significant linear decrease occurred in the percentage of students who rode with a driver who had been drinking alcohol (40%–29%).⁽⁴⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

- 26-6 Reduce the proportion of adolescents who report that they rode, during the previous 30 days, with a driver who had been drinking alcohol to 30 percent.⁽⁵⁾

YRBS Item rationale for the 2009 core questionnaire

REFERENCES:

1. National Highway Traffic Safety Administration. Traffic Safety Facts 2004: A Compilation of motor vehicle crash data from the Fatality Analysis Reporting System and the General Estimates System. National Highway Traffic Safety Administration Web site. Available at: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2004.pdf>. Accessed June 6, 2008.
 2. National Highway Traffic Safety Administration. Traffic Safety: Teen Drivers. National Highway Traffic Safety Administration Web site. Available at: http://www.nhtsa.dot.gov/portal/site/nhtsa/template.MAXIMIZE/menuitem.cd18639c9dadbabbf30811060008a0c/?javax.portlet.tpst=4427b997caacf504a8bdba101891ef9a_ws_MX&javax.portlet.prp_4427b997caacf504a8bdba101891ef9a_viewID=detail_view&itemID=7f146a7445258110VgnVCM1000002fd17898RCRD&viewType=standard. Accessed June 5, 2008.
 3. Centers for Disease Control and Prevention. Child Passenger Deaths Involving Drinking Drivers, 1997-2002. *Morbidity and Mortality Weekly Report* 2004; 53(04):77-79.
 4. Eaton DK, Kann L, Kinchen S, et.al. Youth Risk Behavior Surveillance—United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS-4):1-131.
 5. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health.* Washington D.C., Government Printing Office, 2004.
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QUESTION(S):

12. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?
13. During the past 30 days, on how many days did you carry a gun?
14. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?
15. During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
16. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?

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RATIONALE:

These questions measure violence-related behaviors and school-related violent behaviors. Homicide is the second leading cause of death among all youth aged 15-19 years (9.6 per 100,000) and is the leading cause of death among black youth aged 15-19 years (33.8 per 100,000).⁽¹⁾ Approximately 84% of homicide victims in the United States in 2004 were killed with a weapon, such as a gun, knife, or club.⁽²⁾ In 2005, 84% of homicide victims 15 to 19 years old were killed with firearms.⁽¹⁾ Firearms intensify violence and increase the likelihood of fatality in a conflict.⁽³⁾ Of all violent deaths that occurred on school property between 1994 and 2006, 65% involved firearms.⁽⁴⁾ Nearly 100% of school districts have a policy prohibiting weapon possession or use by high school students on school property.⁽⁵⁾ Among high school students nationwide in 2007, 18% had carried a weapon, 5% had carried a gun, and 6% had carried a weapon on school property on at least 1 day during the 30 days before the survey.⁽⁶⁾ The percentage of students who carried a weapon decreased during 1991-1999 (26%-17%) and then did not change significantly during 1999-2007 (17%-18%).⁽⁶⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

15-39 Reduce weapon carrying by adolescents on school property to 4.9%.⁽⁷⁾

REFERENCES:

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2008. Accessed May 7, 2008.
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5. Jones SE, Fisher CJ, Greene BZ, Hertz MF, Pritzl J. Healthy and safe school environment, part I: results from the School Health Policies and Programs Study 2006. *Journal of School Health* 2007;77(8):522-543.
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7. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health.* Washington D.C., Government Printing Office, 2004.
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QUESTION(S):

17. During the past 12 months, how many times were you in a physical fight?
18. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
19. During the past 12 months, how many times were you in a physical fight on school property?
20. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
21. Have you ever been physically forced to have sexual intercourse when you did not want to?
22. During the past 12 months, have you ever been bullied on school property?

RATIONALE:

These questions measure the frequency and severity of physical fights, school-related fights, and abusive behavior. Physical fighting is a marker for other problem behaviors⁽¹⁾ and is associated with serious injury-related health outcomes.^(2,3) Among high school students nationwide in 2007, 36% had been in a physical fight and 12% had been in a physical fight on school property one or more times during the 12 months before the survey.⁽⁴⁾ The percentage of high school students who were in a physical fight decreased during 1991–2003 (42%–33%) and then increased during 2003–2007 (33%–36%).⁽⁴⁾ Intimate partner abuse victimization is associated with participation in other high risk behaviors.⁽⁵⁾ In 2007, 10% of high school students nationwide had been hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the 12 months before the survey.⁽⁴⁾ Forced sexual intercourse is associated with negative psychosocial and mental health consequences.^(6,7) In 2007, 8% of high school students nationwide had ever been physically forced to have sexual intercourse when they did not want to.⁽⁴⁾ Approximately 30% of students in grades 6-10 report moderate or frequent involvement in bullying, as a victim (11%), perpetrator (13%), or both (6%).⁽⁸⁾ Bullying victimization is associated with depression,⁽⁹⁾ suicidal ideation,⁽⁹⁾ increased odds of repeated common health problems,⁽¹⁰⁾ school absenteeism,⁽¹¹⁾ psychological distress,⁽¹⁰⁾ and feeling unsafe at school.⁽¹¹⁾

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RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

15-38 Reduce physical fighting among adolescents students to 32%.⁽¹²⁾

REFERENCES:

1. Sosin DM, Koepsell TD, Rivara FP, Mercy JA. Fighting as a marker for multiple problem behaviors in adolescents. *Journal of Adolescent Health* 1995;16:209-215.
2. Borowsky IW, Ireland M. Predictors of future fight-related injury among adolescents. *Pediatrics* 2004;113:530-536.
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9. Van der Wal MF, de Wit CA, Hirasing RA. Psychosocial health among young victims and offenders of direct and indirect bullying. *Pediatrics* 2003;111(6):1312-1317.
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12. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health.* Washington D.C., Government Printing Office, 2004.
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QUESTION(S):

23. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
24. During the past 12 months, did you ever seriously consider attempting suicide?
25. During the past 12 months, did you make a plan about how you would attempt suicide?
26. During the past 12 months, how many times did you actually attempt suicide?
27. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

RATIONALE:

These questions measure sadness, suicide ideation, attempted suicide, and the seriousness of those attempts. Suicide is the third leading cause of death among youth aged 15-19.⁽¹⁾ The suicide rate for persons aged 15-19 was 7.7 per 100,000 in 2005 down from 8.2 per 100,000 in 2003.⁽¹⁾ Among high school students nationwide in 2007, 14% had seriously considered attempting suicide, 11% had made a plan about how they would attempt suicide, and 7% had attempted suicide one or more times during the 12 months before the survey.⁽²⁾ During 1991–2007, a significant linear decrease occurred in the percentage of students who seriously considered attempting suicide (29%-14%).⁽²⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

- 18-02 Reduce the rate of suicide attempts by adolescents to 1%.⁽³⁾

REFERENCES:

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2008. Accessed May 7, 2008.

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2. Eaton DK, Kann L, Kinchen S, et.al. Youth Risk Behavior Surveillance—United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS-4):1-131.
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Tobacco Use

QUESTION(S):

28. Have you ever tried cigarette smoking, even one or two puffs?
29. How old were you when you smoked a whole cigarette for the first time?
30. During the past 30 days, on how many days did you smoke cigarettes?
31. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
32. During the past 30 days, how did you usually get your own cigarettes?
33. During the past 30 days, on how many days did you smoke cigarettes on school property?
34. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
35. During the past 12 months, did you ever try to quit smoking cigarettes?

RATIONALE:

These questions measure lifetime and current smoking patterns, age of initiation, access to cigarettes, smoking on school property, and attempts to quit smoking. Cigarette smoking is the leading cause of preventable death in the United States⁽¹⁾ and accounts for approximately 440,000 deaths each year.⁽²⁾ Cigarette smoking increases risk of heart disease; chronic obstructive pulmonary disease; acute respiratory illness; stroke; and cancers of the lung, larynx, oral cavity, pharynx, pancreas, and cervix.⁽¹⁾ In addition, as compared to nonsmokers, cigarette smokers are more likely to drink alcohol, use marijuana and cocaine, engage in physical fighting, carry a weapon, and attempt suicide.^(3,4) If current patterns of smoking behavior persist, an estimated 6.4 million U.S. persons who were under the age of 18 in 2000 could die prematurely from smoking-related illnesses.⁽⁵⁾ Approximately 64% of schools had adopted policies that 1) prohibited cigarette smoking and smokeless tobacco use among students, faculty and staff, and school visitors in school buildings; outside on school grounds; on school buses or other vehicles used to transport students; and at off-campus, school-sponsored events; and 2)

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prohibited cigar or pipe smoking by students, faculty and staff, and school visitors.⁽⁶⁾ Among high school students nationwide in 2007, 50% had ever tried cigarette smoking, 20% had smoked cigarettes on at least 1 day during the 30 days before the survey, and 6% had smoked cigarettes on school property on at least 1 day during the 30 days before the survey. The percentage of high school students who had ever tried cigarette smoking did not change significantly during 1991–1999 (70%–70%) and then decreased during 1999–2007 (70%–50%).⁽⁷⁾ The percentage of high school students who had smoked cigarettes on at least 1 day during the 30 days before the survey increased significantly during 1991–1997 (28%–36%) and then decreased during 1997–2007 (36%–20%).⁽⁷⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

27-02a Reduce use of tobacco products in the past month by adolescents to 21%.⁽⁸⁾

27-02b Reduce use of cigarettes in the past month by adolescents to 16%.⁽⁸⁾

27-07 Increase tobacco use cessation attempts by adolescent smokers to 84%.⁽⁸⁾

RELATED LEADING HEALTH INDICATOR

Tobacco Use

REFERENCES:

1. U.S. Department of Health and Human Services. The Health Consequences of Smoking: A Report of the Surgeon General. U.S. Department of Health and Human Services; Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion; Office on Smoking and Health, 2004.
2. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 1997–2001. *Morbidity and Mortality Weekly Report* 2002;54:625–8.
3. Everett SA, Malarcher AM, Sharp DJ, Husten CG, Giovino GA. Relationship between cigarette, smokeless tobacco, and cigar use, and other health risk behaviors among U.S. high school students. *Journal of School Health* 2000;70:234–240.
4. Substance Abuse and Mental Health Services Administration. Results from the 2004 National Survey on Drug Use and Health: National Findings. (Office of Applied Studies, NSDUH Series H-28, DHHS Publication No. SMA 05-4062). Rockville, MD, 2005.

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5. Hahn EJ, Rayens MK, Chaloupka FJ, Okoli CTC, Yang J. Projected smoking-related deaths among U.S. youth: A 2000 update. *ImpacTeen. Research Paper Series* 2002;22.
 6. Kann L, Brener ND, Wechsler H. Overview and Summary: School Health Policies and Programs Study 2006. *Journal of School Health* 2007;77(8):385-397.
 7. Eaton DK, Kann L, Kinchen S, et al. Youth Risk Behavior Surveillance -- United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS-4):1-131.
 8. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health.* Washington D.C., Government Printing Office, 2004.
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QUESTION(S):

36. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
37. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip on school property?
38. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

RATIONALE:

These questions measure smokeless tobacco use, smokeless tobacco use on school property, and cigar use. Smokeless tobacco contains 28 known human carcinogens.⁽¹⁾ Use of smokeless tobacco products increases the risk of developing cancer of the oral cavity.⁽¹⁾ Other oral health problems strongly associated with smokeless tobacco use are leukoplakia (a lesion of the soft tissue that consists of a white patch or plaque that cannot be scraped off) and recession of the gums.⁽²⁾ Smokeless tobacco use also causes an increased risk of heart disease and stroke.⁽³⁾ Among high school students nationwide in 2007, 8% had used smokeless tobacco (e.g., chewing tobacco, snuff, or dip) on at least 1 day during the 30 days before the survey and 5% had used smokeless tobacco on school property on at least 1 day during the 30 days before the survey.⁽⁴⁾ The overall risk of oral and pharyngeal cancer is 7-10 times higher among cigar smokers compared to those who never smoked.⁽⁵⁾ Additionally, cigar smoking can cause lung cancer, coronary heart disease, and chronic obstructive pulmonary disease.^(6,7) In 2007, 14% of high school students nationwide had smoked cigars, cigarillos, or little cigars on at least 1 day during the 30 days before the survey.⁽⁴⁾

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RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

27-02c Reduce use of spit tobacco in the past month by adolescents to 1%.⁽⁸⁾

27-02d Reduce use of cigars in the past month by adolescents to 8%.⁽⁸⁾

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Alcohol and Other Drug Use

QUESTION(S):

- 39. During your life, on how many days have you had at least one drink of alcohol?
- 40. How old were you when you had your first drink of alcohol other than a few sips?
- 41. During the past 30 days, on how many days did you have at least one drink of alcohol?
- 42. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
- 43. During the past 30 days, how did you usually get the alcohol you drank?
- 44. During the past 30 days, on how many days did you have at least one drink of alcohol on school property?

RATIONALE:

These questions measure lifetime and current use of alcohol, age of initiation, episodic heavy drinking, access to alcohol, and drinking on school property. Alcohol is used by more young people than tobacco or illicit drugs.⁽¹⁾ Heavy alcohol drinking among youth is associated with risky sexual behaviors (including sexual initiation, multiple sex partners, reduced condom use, and pregnancy)⁽²⁾ and use of cigarettes,^(3,4) marijuana, cocaine, and other illegal drugs.⁽³⁾ Motor vehicle crashes are the leading cause of death among youth aged 15–19 years in the United States and alcohol use is associated with 9% of all motor vehicle crashes that result in injury and more than one-third of all motor vehicle crash fatalities.⁽⁵⁾ Persons who begin drinking alcohol before the age of 15 years are five times as likely to report alcohol dependence or abuse within the past year than those who first drank alcohol at age 21 or older.⁽⁶⁾ Limiting youth access to alcohol has reduced underage alcohol use and alcohol-related problems.⁽⁷⁾ However, youth continue to obtain alcohol from a variety of sources, reflecting the need for improved enforcement of underage drinking laws as well as greater public awareness of restrictions on drinking alcohol by underage youth. Nearly 100% of school districts in the United States prohibit alcohol use by students on school property.⁽⁸⁾ Among high school students nationwide in 2007, 75% had had at least one drink of alcohol on at least 1 day during their life and 45% had had at least one drink of alcohol on at least 1 day during the 30 days before the survey. In addition, 26% of high school students had had 5 or more drinks of alcohol in a row on at least 1 day during the 30 days before the survey.⁽⁹⁾ The percentage of high school students who had had at least one drink of alcohol on at least 1 day during their life decreased during 1991-2007 (82%–75%).⁽⁹⁾

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1. Substance Abuse and Mental Health Services Administration. Results from the 2006 National Survey on Drug Use and Health: National Findings. (Office of Applied Studies, NSDUH Series H-32, DHHS Publication No. SMA 07-4293).
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QUESTION(S):

45. During your life, how many times have you used marijuana?
46. How old were you when you tried marijuana for the first time?
47. During the past 30 days, how many times did you use marijuana?

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- 48. During the past 30 days, how many times did you use marijuana on school property?
- 49. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?
- 50. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?
- 51. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
- 52. During your life, how many times have you used heroin (also called smack, junk, or China White)?
- 53. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
- 54. During your life, how many times have you used ecstasy (also called MDMA)?
- 55. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
- 56. During your life, how many times have you used a needle to inject any illegal drug into your body?
- 57. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?

RATIONALE:

These questions measure lifetime and current use of marijuana and cocaine, and lifetime use of inhalants, heroin, methamphetamines, ecstasy, steroids, and injected drugs. Among youth, illicit drug use is associated with heavy alcohol and tobacco use,⁽¹⁾ violence and delinquency,⁽²⁻⁴⁾ and suicide.⁽⁵⁾ All school districts prohibit illegal drug possession or use by students on school property.⁽⁶⁾ Among high school students nationwide in 2007, 38% had used marijuana, 7% had used any form of cocaine, 4% had taken steroid pills or shots without a doctor's prescription, 8% had used hallucinogenic drugs, 2% had used heroin, 4% had used methamphetamines, and 6% had used ecstasy one or more times during their life.⁽⁷⁾ In addition, 13% of high school students had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high and 2% had used a needle to inject any illegal drug into their body one or more times during their life. The percentage of high school students who had used marijuana one or more times during their life increased during 1991–1999 (31%–47%) and then decreased during 1999–2007 (47%–38%).⁽⁷⁾

YRBS Item rationale for the 2009 core questionnaire

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Sexual Behaviors That Contribute to Unintended Pregnancy and Sexually Transmitted Diseases, Including HIV Infection

QUESTION(S):

58. Have you ever had sexual intercourse?
59. How old were you when you had sexual intercourse for the first time?
60. During your life, with how many people have you had sexual intercourse?
61. During the past 3 months, with how many people did you have sexual intercourse?
62. Did you drink alcohol or use drugs before you had sexual intercourse the last time?

YRBS Item rationale for the 2009 core questionnaire

63. The last time you had sexual intercourse, did you or your partner use a condom?
64. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?
85. Have you ever been taught about AIDS or HIV infection in school?

RATIONALE:

These questions measure the prevalence of sexual activity, number of sexual partners, age at first intercourse, alcohol and other drug use related to sexual activity, condom use, contraceptive use, and whether high school students received HIV prevention education. Early initiation of sexual intercourse is associated with having a greater number of lifetime sexual partners.^(1,2,3) In addition, adolescents who initiate sexual intercourse early are less likely to use contraception^(3,4) and are at higher risk for pregnancy.^(5,6) Recent estimates suggest that while representing 25% of the ever sexually active population, persons aged 15 to 24 years acquire nearly half of all new STDs.⁽⁷⁾ Gonorrhea rates are highest among females between the ages of 15 and 19 years (647.9 cases per 100,000 females) and males between the ages of 20 and 24 years (454.1 cases per 100,000 males).⁽⁸⁾ In 2006, there were an estimated 5,218 cases of HIV/AIDS among persons aged 15–24 years.⁽⁹⁾ Among high school students nationwide, 48% had ever had sexual intercourse, 15% had had sexual intercourse with 4 or more persons during their life, and 35% had had sexual intercourse with at least 1 person during the 3 months before the survey. The percentage of students who ever had sexual intercourse decreased during 1991–2007 (54%–48%).⁽¹⁰⁾ In 2006, 88% of high schools taught HIV prevention education in a required health education course.⁽¹¹⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

- 25-11 Increase the proportion of adolescents who abstain from sexual intercourse or use condoms if currently sexually active to 95%.⁽¹²⁾

RELATED LEADING HEALTH INDICATOR

Responsible Sexual Behaviors

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YRBS Item rationale for the 2009 core questionnaire

Obesity, Overweight, and Weight Control

QUESTION(S):

- 6. How tall are you without your shoes on?
- 7. How much do you weigh without your shoes on?
- 65. How do you describe your weight?

RATIONALE:

These questions measure self-reported height and weight and perceived body weight. Data on self-reported height and weight is used to calculate body mass index (BMI) and determine the corresponding BMI-for-age percentile for adolescents. BMI-for-age percentile is a proxy measure of weight status, correlates with body fat,⁽¹⁾ and is recommended for assessing weight status in youth ages 2-20.⁽²⁾ Although obesity prevalence estimates derived from self-report data are likely to be low,⁽³⁾ they are useful for tracking trends over time. In addition, obesity prevalence trends from national surveys of adults using self-reported height and weight⁽⁴⁾ have been consistent with trend data from national surveys using measured height and weight.⁽⁵⁾ It is critical to continue monitoring these data because the prevalence of obesity among adolescents has tripled since 1980.⁽⁶⁾ Obesity during adolescence is associated with negative psychological and social consequences and health problems such as type 2 diabetes, obstructive sleep apnea, hypertension, dyslipidemia, and metabolic syndrome.⁽⁷⁾ Further, obese adolescents are more likely to become obese adults.^(8,9) Nationwide in 2007, 13% of high school students were obese and 16% were overweight.⁽¹⁰⁾ During 1999–2007, significant increases occurred in the percentage of students who were obese (11%–13%) and who were overweight (14%–16%).⁽¹⁰⁾

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QUESTION(S):

66. Which of the following are you trying to do about your weight?
67. During the past 30 days, did you exercise to lose weight or to keep from gaining weight?
68. During the past 30 days, did you eat less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight?
69. During the past 30 days, did you go without eating for 24 hours or more (also called fasting) to lose weight or to keep from gaining weight?

YRBS Item rationale for the 2009 core questionnaire

70. During the past 30 days, did you take any diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight? (Do not include meal replacement products such as Slim Fast.)
71. During the past 30 days, did you vomit or take laxatives to lose weight or to keep from gaining weight?

RATIONALE:

Unhealthy weight control behaviors include fasting, taking diet pills or laxatives, or inducing vomiting. Engaging in unhealthy weight control behaviors may result in health and psychological problems such as obesity, eating disorders such as anorexia and bulimia,⁽¹⁾ and stunted growth.⁽²⁾ Disordered eating behaviors are correlated with inadequate nutrient intake,⁽³⁾ low self-esteem, high levels of depression, suicidal ideation, high levels of stress, and alcohol and drug use.⁽⁴⁾ Nationwide in 2007, 45% of high school students were trying to lose weight. In 2007, 12% of high school students did not eat for 24 or more hours to lose weight or to keep from gaining weight, 6% of high school students had taken diet pills, powders, or liquids without a doctor's advice, and 4% had vomited or taken laxatives to lose weight or to keep from gaining weight during the 30 days before the survey.⁽⁵⁾ During 1995–2007, the percentage of students who exercised to lose weight or to keep from gaining weight during the 30 days before the survey increased (51%–61%).⁽⁵⁾ The percentage of students who ate less food, fewer calories, or low-fat foods to lose weight or to keep from gaining weight during the 30 days before the survey increased during 1999–2001 (40%–44%) and then decreased during 2001–2007 (44%–41%).⁽⁵⁾

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YRBS Item rationale for the 2009 core questionnaire

Dietary Behaviors

QUESTION(S):

- 72. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
- 73. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)
- 74. During the past 7 days, how many times did you eat green salad?
- 75. During the past 7 days, how many times did you eat potatoes? (Do not count french fries, fried potatoes, or potato chips.)
- 76. During the past 7 days, how many times did you eat carrots?
- 77. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
- 78. During the past 7 days, how many times per day did you usually drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not include diet soda or diet pop.)
- 79. During the past 7 days, how many glasses of milk did you drink? (Include the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)

RATIONALE:

These questions measure dietary behaviors, including consumption of fruits and vegetables, soda or pop, and milk. The fruit and vegetable questions are similar to questions asked of adults on CDC's Behavioral Risk Factor Survey.⁽¹⁾ Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances that are important for good health. There is probable evidence to suggest that dietary patterns with higher intakes of fruits and vegetables are associated with a decreased risk for some types of cancer,⁽²⁻⁴⁾ cardiovascular disease,⁽⁵⁾ and stroke.⁽⁶⁾ Although data are limited, an increased intake of fruits and vegetables appears to be associated with a decreased risk of being overweight.⁽⁷⁻⁹⁾ In 2007, 21% of high school students nationwide ate fruits and vegetables five or more times per day during the 7 days before the survey.⁽¹⁰⁾ During 1999–2007, a significant linear decrease occurred in the percentage of students who ate fruits and vegetables 5 or more times per day (24%–21%).⁽¹⁰⁾ Milk is an important source of calcium for adolescents.^(11,12) Calcium is essential for forming and maintaining healthy bones and low calcium intake during the first two to three decades of life is an important risk factor in developing osteoporosis.⁽¹³⁾

YRBS Item rationale for the 2009 core questionnaire

Although the recommended intake of calcium is 1,300 mg/day,⁽¹⁴⁾ most adolescents consume far less. National data indicate that the average calcium intake per day among persons aged 12 to 19 years was 1125 mg/day (among males) and 814 mg/day (among females).⁽¹²⁾ In 2007, 14% of high school students nationwide had drunk three or more glasses per day of milk during the 7 days before the survey.⁽¹⁰⁾ In recent years, soft drink consumption has significantly increased among children and adolescents. Among persons aged 2 to 18 years, soft drinks comprised 3% of the total daily calories consumed in 1977–1978 compared to 7% in 1999–2001.⁽¹⁵⁾ Consumption of sugar-sweetened drinks, including soft drinks, appears to be associated with being at increased risk for overweight in children.⁽¹⁶⁾ Nationwide in 2007, 34% of high school students had drunk a can, bottle, or glass of soda or pop (not including diet soda or diet pop) at least one time per day during the 7 days before the survey.⁽¹⁰⁾

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YRBS Item rationale for the 2009 core questionnaire

Physical Activity

QUESTION(S):

80. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)
81. On an average school day, how many hours do you watch TV?
82. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Nintendo, Game Boy, PlayStation, Xbox, computer games, and the Internet.)
83. In an average week when you are in school, on how many days do you go to physical education (PE) classes?
84. During the past 12 months, on how many sports teams did you play? (Include any teams run by your school or community groups.)

RATIONALE:

These questions measure participation in physical activity, physical education classes, sports teams, television watching, and video game/computer use. Participation in regular physical activity among young people can help build and maintain healthy bones and muscles, maintain body weight and reduce body fat, reduce feelings of depression and anxiety, and promote psychological well-being.^(1,2) Over time, regular physical activity decreases the risk of high blood pressure, heart disease, diabetes, some types of cancer, and premature death.⁽¹⁾ The 2005 Dietary Guidelines for Americans recommends that youth engage in at least 60 minutes of physical activity on most, preferably all, days of the week.⁽³⁾ In 2007, 35% of high school students nationwide had been physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes/day on 5 or more days during the 7 days before the survey.⁽⁴⁾ School physical education classes can increase adolescent participation in physical activity⁽⁵⁻⁷⁾ and help high school students develop the knowledge, attitudes, and skills they need to engage in lifelong physical activity.^(5,8,9) In 2007, 54% of high school students nationwide went to physical education classes on 1 or more days in an average week when they were in school.⁽⁴⁾ Television (TV) viewing, computer usage, and video/DVD usage are all considered sedentary behaviors. Child and adolescent TV viewing, in particular, is associated with childhood and adult obesity⁽¹⁰⁻¹⁴⁾ and youth who engage in less than two hours of TV viewing per day tend to be more active.⁽¹⁵⁾ Computer usage and video game playing are associated with physical inactivity among adolescents⁽¹⁶⁾ and young adults.⁽¹⁷⁾ Among high school students nationwide in 2007, 35% watched television 3 or more hours per day on an average school day. During

YRBS Item rationale for the 2009 core questionnaire

1999–2007, a significant linear decrease occurred in the percentage of high school students who watched television 3 or more hours per day (43%–35%).⁽⁴⁾

RELATED NATIONAL HEALTH OBJECTIVES FOR THE YEAR 2010

- 22-09 Increase the proportion of adolescents who participate in daily school physical education to 50%.⁽¹⁸⁾
- 22-10 Increase the proportion of adolescents who spend at least 50% of school physical education class time being physically active to 50%.⁽¹⁸⁾
- 22-11 Increase the proportion of adolescents who view television 2 or fewer hours on a school day to 75%.⁽¹⁸⁾

RELATED LEADING HEALTH INDICATOR

Physical Activity

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YRBS Item rationale for the 2009 core questionnaire

Asthma

QUESTION(S):

86. Has a doctor or nurse ever told you that you have asthma?
87. Do you still have asthma?

RATIONALE:

Approximately 9.9 million (14%) U.S. children <18 years have been diagnosed with asthma at some time in their lives, and 6.8 million (9%) currently have asthma.⁽¹⁾ In 2004, children made 7 million visits to doctors' offices and hospital outpatient departments, 754,000 visits to hospital emergency departments, and had 198,000 hospitalizations due to asthma.⁽²⁾ In 2003, an estimated 12.8 million school days were lost due to asthma among school-aged children.⁽²⁾ Among high school students nationwide, 20% had ever been told by a doctor or nurse that they had asthma.⁽³⁾

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