Item Rationale for the 2019 Iowa Youth Risk Behavior Survey

The Centers for Disease Control and Prevention (CDC) provides rationale for most questions asked on the Iowa Youth Risk Behavior Survey. A sample of this information can be found in this document.

Behaviors that Result in Unintentional Injuries

Questions:

The Iowa Youth Risk Behavior Survey asks questions related to seat belt use, driving a vehicle after consuming alcohol, riding in a car with a driver who has been drinking alcohol, and sending text messages or emails while driving.

Rationale:

Motor-vehicle crashes kill more adolescents aged 15–19 years than any other single cause in the United States.[1] In 2016, 2,627 adolescents were killed and more than 400,000 were treated in emergency departments for motor vehicle crash-related injuries.[1] Seat belts, when used appropriately, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%.[2,3] However, in 2016, among all fatally injured 16- to 19-year-old occupants, seat belt use among passengers (35%) was considerably lower than among drivers (49%).[4] In 2016, 12% of fatally injured passenger vehicle drivers aged 16–17 years old had a blood alcohol concentration equal to or above the illegal threshold for adults of 0.08% at the time of the crash.[5]

Behaviors that Result in Violence and Bullying

Questions:

The Iowa Youth Risk Behavior Survey asks questions related to weapon use, feeling unsafe at school, physical fighting, sexual violence, and bullying.

Rationale:

Violence is a significant public health issue among youth, with homicide being the third leading cause of death for youth ages 13–19 years (5.1 per 100,000).[1] Among high school students nationwide in 2017, surveys show that 16% carried a weapon and 4% carried a weapon on school property on at least 1 day during the 30 days prior to taking the survey.[6] Additionally, 7% of students had not gone to school on at least 1 day during the 30 days before the survey because they felt they would be unsafe at school or on their way to or from school and 6% had been threatened or injured with a weapon on school property one or more times during the 12 months before the survey.[6]

Sexual and dating violence victimization are associated with a range of negative consequences [10-13] including suicide ideation and attempts, major depressive episodes, [14-15] increased alcohol and tobacco use, eating disorders, and risky sexual behavior.[10,16-17] About 1 in 4 women (23.2%) and 1 in 7 men (13.9%) have experienced severe physical violence by an intimate partner (e.g., hit with a fist or something hard, beaten, slammed against something) at some point in their lifetime.[18] Among adults who ever experienced contact sexual violence, physical violence, and/or stalking by an intimate partner, 25.6% of women and 14.4% of men first experienced some form of violence by that partner between 11 and 17 years of age.[18]

Bullying victimization is associated with depression, suicidal ideation, self-injury, suicide attempts, increased odds of repeated common health problems, school absenteeism, psychological distress, sleep disturbances, and feeling unsafe at school. [19 -22] Among high school students nationwide in 2017, 19% reported that they had been bullied on school property and 15% reported being electronically bullied through texting, Instagram, Facebook, or other social media in the previous year. [6]

Sadness, Suicide Ideation, and Suicide Attempts

Questions:

The Iowa Youth Risk Behavior Survey asks questions related to sadness and hopelessness, suicide ideation and planning, and suicide attempts. Questions also monitor the severity of suicide attempts.

Rationale:

Suicide is the second leading cause of death among youth aged 13–19 years.[1] The suicide rate for persons aged 13–19 years was 8.31 per 100,000 in 2016.[1] A prior suicide attempt is one of the most significant risk factors for a suicide fatality.[23,24] Among high school students nationwide in 2017, 32% felt so sad or hopeless almost every day for 2 or more weeks in a row that they stopped doing some usual activities, 17% seriously considered attempting suicide, 14% made a plan about how they would attempt suicide, and 7% attempted suicide one or more times.[6]

Tobacco and Electronic Vapor Product Use

Questions:

The Iowa Youth Risk Behavior Survey asks questions related to cigarette smoking, electronic vapor product use, and the use of other tobacco products such as chewing tobacco and cigars.

Rationale:

Cigarette smoking is the leading cause of preventable death in the United States and accounts for approximately 440,000 deaths each year.[25,26] Each day across the United States more than 3,800 youth under 18 years of age start smoking and more than 80% of adult smokers begin before the age of 18.[27] 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.[25, 27] Smokeless tobacco products include chewing tobacco, snuff, dip, snus or dissolvable tobacco products. Smokeless tobacco contains 28 known human carcinogens and use increases the risk of developing cancer of the oral cavity.[29] Smokeless tobacco may appeal to youth because it can come in flavors such as mint, fruit, or spice.[27] Among surveyed high school students nationwide in 2017, 6% used smokeless tobacco (e.g., chewing tobacco, snuff, or dip) on at least 1 day during the 30 days before the survey.[6]

Electronic vapor products are battery-powered electronic devices that usually contain a nicotine-based liquid that is vaporized and inhaled by the user.[28] Electronic vapor products come in many shapes and sizes, and may be shaped like cigarettes or other tobacco products, USB devices, pen-shaped devices, or tank-style devices. Electronic vapor products include electronic cigarettes (e-cigarettes), vapes, vape pens, electronic cigars (e-cigars), electronic hookahs (e-hookahs), hookah pens, and mods. Among surveyed high school students nationwide in 2017, 42% had ever tried electronic vapor products and 13% had used electronic vapor products on at least 1 day during the 30 days before the survey.[6]

Alcohol and Other Drug Use

Questions:

The Iowa Youth Risk Behavior Survey asks questions on alcohol and other drug use. Questions relate to current use of alcohol, age of first drink, binge drinking, gaining access to alcohol, marijuana use, prescription pain pill abuse, other drug use (including methamphetamine, heroine, cocaine, ecstasy, and steroids), and drug use on school property.

Rationale:

Excessive drinking is responsible for more than 4,300 deaths of underage youth each year, and cost the U.S. $24 billion in 2010.[30,31] Underage drinking contributes to a wide range of health and social problems, including motor vehicle crashes, suicide, interpersonal violence (e.g., homicides, assaults, rapes), unintentional injuries (e.g., burns, falls, drowning), risky sexual activity, academic problems, and alcohol and drug poisoning.[32,33] Binge drinking is the most common pattern of excessive alcohol use in the United States, and about 90% of the alcohol consumed by youth is in the form of binge drinks.[35,36] Among youth, illicit drug use is associated with heavy alcohol and tobacco use, violence and delinquency, and suicide.[31-34] Among high school students nationwide in 2017, 36% used marijuana, 7% used synthetic marijuana, 5% used any form of cocaine, 2% used heroin, 3% used methamphetamines, 4% used ecstasy, 3% had taken steroid pills or shots without a doctor's prescription one or more times during their life, and 14% had taken prescription pain medicine without a doctor's prescription or differently than how a doctor told them to use it one or more times during their life.[6]

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

Questions:

The Iowa Youth Risk Behavior Survey asks questions about sexual activity, alcohol and drug use when engaging in sexual activity, condom and contraceptive use, and number of sexual partners.

Rationale:

Early initiation of sexual intercourse is associated with having a greater number of lifetime sexual partners.[37,38] In addition, adolescents who initiate sexual intercourse early are less likely to use contraception and are at higher risk for STDs and pregnancy.[38-42] Estimates suggest that while representing 25% of the ever sexually active population, persons aged 15 to 24 years acquire more than half of all new STDs.[43] In 2016, there were an estimated 2,041 persons ages 13–19 years newly diagnosed with HIV infection and 7,878 diagnosed and living with HIV infection.[44] Among high school students nationwide in 2017, 40% had ever had sexual intercourse, 10% had had sexual intercourse with four or more persons during their life, and 29% had had sexual intercourse with at least one person during the previous 3 months. [6] In 2017, among the 29% of students who were currently sexually active, 54% reported that either they or their partner had used a condom during last sexual intercourse.[6]

STD and HIV Testing

Questions:

The Iowa Youth Risk Behavior Survey asks students if they have been tested for HIV or an STD in the year prior to the survey.

Rationale:

Because adolescents and young people contract HIV and other STDs at higher rates than adults, national recommendations and clinical guidelines suggest HIV testing and regular STD testing for sexually active young people.[44-50] Routine testing is one of the most important strategies recommended for reducing the spread of HIV and improving the health outcomes for those already infected.[48,51]

Dietary Behaviors

Questions:

The Iowa Youth Risk Behavior Survey asks questions about fruit and vegetable consumption, drinking soda and milk, and eating breakfast.

Rationale:

Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances that are important for good health.[52] There is evidence to suggest that dietary patterns with higher intakes of fruits and vegetables are associated with a decreased risk for some types of cancer, cardiovascular disease, and stroke. [53-57] Most youth do not meet the recommendations for fruit and vegetable consumption.[58] In 2017, during the 7 days prior to being asked, 31% of high school students nationwide had consumed fruit or 100% fruit juice two or more times per day and 14% of students had eaten vegetables three or more times per day.[6] Consumption of sugar-sweetened beverages is associated with a less healthy diet and dental decay, and appears to be associated with increased risk of being overweight among children and the development of metabolic syndrome and type 2 diabetes.[59-64] Nationwide in 2017, 19% of high school students had consumed a can, bottle, or glass of soda or pop (not counting diet soda or diet pop) one or more times per day during the 7 days prior to being asked.[6]

Physical Activity

Questions:

The Iowa Youth Risk Behavior Survey asks questions about physical activity, computer and television screen time, physical education courses, and sport team participation.

Rationale:

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.(65) Over time, regular physical activity decreases the risk of high blood pressure, heart disease, diabetes, obesity, some types of cancer, and premature death.(65) In 2017, 26% of high school students were physically active for a total of at least 60 minutes per day on each of the 7 days before being asked. (6)

Watching TV and using a computer are considered sedentary behaviors. Among youth, time spent watching TV is associated with childhood and adult obesity, consumption of fast food, soft drinks, and high-fat snacks, and consumption of fewer fruits and vegetables. (66) Youth who engage in less than 2 hours of TV viewing per day tend to be more active.(66) Among high school students nationwide in 2017, 43% of students played video or computer games or used a computer for something that was not school work for 3 or more hours per day on an average school day and 21% watched television 3 or more hours per day on an average school day.(6)

References

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2016. Accessed June 11, 2018.
2. Kahane CJ. *Lives saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards, 1960 to 2012 – Passenger cars and LTVs*. Publication no. DOT HS 812-069. U.S. Department of Transportation, National Highway Traffic Safety Administration; 2015. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812069. Accessed June 8, 2018.
3. National Highway Traffic Safety Administration. *Seat belt use in 2017—Overall results*. Traffic Safety Facts Research Note. Publication no. DOT HS 812-465. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration; 2018. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812465.Accessed June 11, 2018.
4. Highway Data Loss Institute. Fatality Facts: Teenagers 2016. Insurance Institute for Highway Safety; 2018. Available at: http://www.iihs.org/iihs/topics/t/teenagers/fatalityfacts/teenagers/2016#Passenger-vehicle-occupants. Accessed June 11, 2018.
5. Highway Data Loss Institute. Fatality Facts: Teenagers 2016. Insurance Institute for Highway Safety; 2018. Available at: http://www.iihs.org/iihs/topics/t/teenagers/fatalityfacts/teenagers#Alcohol-involvement. Accessed June 11, 2018.
6. Kann L, McManus T, Harris WA, et al. Youth risk behavior surveillance—United States, 2017. *MMWR Surveillance Summaries* 2018;67(No. SS-8).
7. 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.
8. Borowsky IW, Ireland M. Predictors of future fight-related injury among adolescents. *Pediatrics* 2004;113:530–536.
9. Pickett W, Craig W, Harel Y, et al. Cross-national study of fighting and weapon carrying as determinants of adolescent injury. *Pediatrics* 2005;116:855–863.
10. Basile KC, Black MC, Simon TR, Arias I, Brener ND, Saltzman LE. The association between self-reported lifetime history of forced sexual intercourse and recent health-risk behaviors: Findings from the 2003 National Youth Risk Behavior Survey. *Journal of Adolescent Health* 2006;39(5):752-e1.
11. Ackard DM, Eisenberg ME, Neumark-Sztainer D. Long-term impact of adolescent dating violence on the behavioral and psychological health of male and female youth. *Journal of Pediatrics* 2007;151(5):476–481.
12. Centers for Disease Control and Prevention. Physical dating violence among high school students —United States, 2003. *Morbidity and Mortality Weekly Report* 2006;55(19):532–535.
13. Roberts TA, Klein J, Fisher S. Longitudinal effect of intimate partner abuse and high-risk behavior among adolescents. *Archives of Pediatrics & Adolescent Medicine* 2003;157:875–881.
14. Wolitzy-Taylor KB, Ruggiero JK, Danielson CK, et al. Prevalence and correlates of dating violence in a national sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry* 2008;47(7):755–762.
15. Coker AL, McKeown RE, Sanderson M, Davis KE, Valois RF, Huebner S. Severe dating violence and quality of life among South Carolina high school students. *American Journal of Preventive Medicine* 2000;19(4):220–227.
16. Silverman JG, Raj A, Mucci LA, Hathaway JE. Dating violence against adolescent girls and associated substance use, unhealthy weight control, sexual risk behavior, pregnancy, and suicidality. *Journal of the American Medical Association* 2001;286(5):572–579.

References

17. Lormand DK, Markham CM, Peskin MF, et al. Dating violence among urban, minority, middle school youth and associated sexual risk behaviors and substance use. *Journal of School Health* 2013;83(6):415–421.
18. Smith SG, Chen J, Basile KC, et al. *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010-2012 State Report.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2017.
19. Kessel Schneider S, O'Donnell L, Stueve A, Coulter RWS. Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health* 2012;102:171–177.
20. Rigby K. Consequences of bullying in school. *The Canadian Journal of Psychiatry* 2003;48(9):583–590.
21. Glew GM, Fan MY, Katon W, Rivara FR, Kernic MA. Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine* 2005;159:1026–1031.
22. van Geel M, Vedder P, Tanilon J. Relationship between peer victimization, cyberbullying, and suicide in children and adolescents. *Journal of American Medical Association Pediatrics* 2014;168(5):435-442.
23. Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts:Risks and protectors.*Pediatrics* 2001; 107:485–493.
24. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry* 2006;47(3/4):372–394.
25. U.S. Department of Health and Human Services. *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General.* Atlanta, GA: 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; 2014. Available at: https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm. Accessed June 4, 2018.
26. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 2000–2004. *Morbidity and Mortality Weekly Report* 2008;57(45):1226–1228.
27. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, Office on Smoking and Health, 2012. Accessed June 4, 2018.
28. U.S. Department of Health and Human Services. *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: 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; 2016. Available at: https://www.cdc.gov/tobacco/data_statistics/sgr/e-cigarettes/index.htm. Accessed June 4, 2018.
29. World Health Organization. *Smokeless Tobacco and Some Tobacco-Specific N-Nitrosamines.* Lyon, France: World Health Organization; 2007. International Agency for Research on Cancer Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 89. Available at: http://monographs.iarc.fr/ENG/Monographs/vol89/mono89.pdf. Accessed June 4, 2018.
30. Substance Abuse and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings*. NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011. Available at: https://www.samhsa.gov/data/sites/default/files/NSDUHNationalFindingsResults2010-web/2k10ResultsRev/NSDUHresultsRev2010.pdf. Accessed June 18, 2018.
31. Substance Abuse and Mental Health Services Administration. Youth violence and illicit drug use. *The NSDUH Report* 2006;5:1–3. Available at: http://files.eric.ed.gov/fulltext/ED495798.pdf. Accessed June 18, 2018.
32. Substance Abuse and Mental Health Services Administration. Marijuana use and delinquent behaviors among youths. *The NSDUH Report* January 9, 2004. Available at: http://www.samhsa.gov/data/2k4/MJdelinquency/MJdelinquency.pdf. Accessed June 18, 2018.
33. Young AM, Glover N, Havens JR. Nonmedical use of prescription medications among adolescents in the United States: A systematic review. *Journal of Adolescent Health* 2012;51(1):6–17.
34. Substance Abuse and Mental Health Services Administration. Substance use and the risk of suicide among youths. *The NHSDA Report* July 12, 2002. Available at: http://www.samhsa.gov/data/2k2/suicide/suicide.htm. Accessed June 18, 2018.
35. Law R, Schier J, Martin C, Chang A, Wolkin A. Notes from the field: Increase in reported adverse health effects related to synthetic cannabinoid use – United States, January–May, 2015. *Morbidity and Mortality Weekly Report* 2015;64(22):618–619.
36. Centers for Disease Control and Prevention. Acute kidney injury associated with synthetic cannabinoid use – multiple states, 2012. *Morbidity and Mortality Weekly Report* 2013;62(6):93–98.
37. Santelli JS, Brener ND, Lowry R, et al. Multiple sexual partners among U.S. adolescents and young adults. *Family Planning Perspectives* 1998;30:271–275.
38. Martinez G, Copen CE, Abma JC. Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2006–2010 National Survey of Family Growth. National Center for Health Statistics. *Vital and Health Statistics Series* 2011; 23(31). Available at: http://www.cdc.gov/nchs/data/series/sr_23/sr23_031.pdf. Accessed April 26, 2016.
39. Manning WD, Longmore MA, Giordano PC. The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives* 2000;32(3):104–110.
40. Kaestle CE, Halpern CT, Miller WC, Ford CA. Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults. *American Journal of Epidemiology* 2005;161(8):774–780.

References

41. Manlove J, Terry E, Gitelson L, Papillo AR, Russell S. Explaining demographic trends in teenage fertility, 1980–1995. *Family Planning Perspectives* 2000;32(4):166–175.
42. Thornberry TP, Smith CA, Howard GJ. Risk factors for teenage fatherhood. *Journal of Marriage & Family* 1997;59:505–522.
43. Satterwhite CL, Torrone E, Meites E, Dunne EF, Mahajan R, Ocfemia MC, Su J, Xu F, Weinstock H. Sexually transmitted infections among US women and men: Prevalence and incidence estimates, 2008. *Sexually Transmitted Diseases* 2013;40(3):187–193.
44. Centers for Disease Control and Prevention. *HIV Surveillance Report, 2016*. Volume 28. Atlanta, GA: Centers for Disease Control and Prevention, Division of HIV/AIDS Prevention; 2017.
45. Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: Prevalence and incidence estimates, 2008. *Sexually Transmitted Diseases* 2013;40(3):187–193.
46. Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2016. Atlanta, GA: U.S. Department of Health and Human Services; 2017.
47. U.S. Preventive Services Task Force. Final Recommendation Statement: Chlamydia and Gonorrhea: Screening. December 2016. Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/chlamydia-and-gonorrhea-screening. Accessed July 16, 2018.
48. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *Morbidity and Mortality Weekly Report* 2006;55(RR-14).
49. Meyers D, Wolff T, Gregory K, et al. USPSTF recommendations for STI screening. *American Family Physician* 2008;77,819-824.
50. Van Handel M, Kann L, Olsen EO, et al. HIV testing among US high school students and young adults. *Pediatrics* 2016;137:1–9.
51. The White House Office of National AIDS Policy. National HIV/AIDS Strategy for the United States: Updated to 2020. Washington, DC: The White House Office of National AIDS Policy; 2015. Available at: https://www.hiv.gov/sites/default/files/nhas-update.pdf. Accessed July 9, 2018.
52. U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans 2015–2020*. 8th Edition. Washington, DC: U.S. Government Printing Office, 2015. Available at: http://health.gov/dietaryguidelines/2015/guidelines/. Accessed June 6, 2018.
53. Key T, Schatzkin A, Willet WC, Allen NE, Spencer EA, Travis RC. Diet, nutrition, and the prevention of cancer. *Public Health Nutrition* 2004;7(1A):187–200.
54. Kushi LH, Byers T, Doyle C, et al. American Cancer Society guidelines on nutrition and physical activity for cancer prevention: Reducing the risk of cancer with healthy food choices and physical activity. *CA: A Cancer Journal for Clinicians* 2006;56:254–281.
55. Vainio H, Weiderpass E. Fruit and vegetables in cancer prevention. *Nutrition and Cancer* 2006;54(1):111–142.
56. Bazzano LA, He J, Ogden LG, et al. Fruit and vegetable intake and risk of cardiovascular disease in US adults: The first National Health and Nutrition Examination Survey Epidemiologic Follow-up Study. *American Journal of Clinical Nutrition* 2002;76(1):93–99.
57. He FJ, Nowson CA, MacGregor GA. Fruit and vegetable consumption and stroke: Meta-analysis of cohort studies. *Lancet* 2006;367(9507):320–326.
58. Kim SA, Moore LV, Galuska D, Wright AP, Harris D, Grummer-Strawn LM, Merlo CL, Nihiser AJ, Rhodes DG. Vital signs: fruit and vegetable intake among children — United States, 2003–2010. *Morbidity and Mortality Weekly Report* 2014;63(31):671–676.
59. Marshall T, Gilmore J, Broffitt B, et al. Diet quality in young children is influenced by beverage consumption. *Journal of the American College of Nutrition* 2005;24(1):65–75.
60. Tahmassebi JF, Duggal MS, Malik-Kotru G, Curzon ME. Soft drinks and dental health: A review of the current literature. *Journal of Dental Research* 2006;34(1):2–11.
61. Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *American Journal of Public Health* 2007;97(4):667–675.
62. Malik VS, Pan A, Willett WC, Hu FB. Sugar-sweetened beverages and weight gain in children and adults: A systematic review and meta-analysis. *American Journal of Clinical Nutrition* 2013;98(4):1084–1102.
63. Luger M, Lafontan M, Bes-Rastrollo M, Winzer E, Yumuk V, Farpour-Lambert N. Sugar-sweetened beverages and weight gain in children and adults: A systematic review from 2013 to 2015 and a comparison with previous studies. *Obesity Facts* 2017;10(6):674-693.
64. Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: A meta-analysis. *Diabetes Care* 2010;33:2477–2483.
65. 2018 Physical Activity Guidelines Advisory Committee. *2018 Physical Activity Guidelines Advisory Committee Scientific Report.* Washington, DC: U.S. Department of Health and Human Services; 2018. Available at:https://health.gov/paguidelines/second-edition/report.aspx. Accessed June 25, 2018.
66. Fulton JE, Wang X, Yore MM, Carlson SA, Galuska DA, Caspersen CJ. Television viewing, computer usage, and BMI among U.S. children and adolescents. *Journal of Physical Activity and Health* 2009;6(Suppl 1):S28–S35.