

Integrating Substance Use Prevention with Wellness: Holistic Prevention

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Purpose

Gain an understanding of wellness and its essential role in holistic substance use prevention practice for enhancing the mental and physical wellbeing of youth and young adults.

Session Objectives: Part II

4. List the benefits of the “Big 3 + 1” health behaviors of physical activity, healthy eating, and sleep plus relaxation practices for promoting youth wellness.
5. Examine recent research highlighting relationships between wellness behaviors and youth substance use, mental health and physical health.



Part II

Benefits of the Big Three + 1 Wellness Behaviors



Benefits of Youth Sports & PA

(President's Council on Sports, Fitness
& Nutrition Science Board, 2020)

https://health.gov/sites/default/files/2020-09/YSS_Report_OnePager_2020-08-31_web.pdf

Mental, Emotional & Social Benefits

1. Lower rates of anxiety and depression
2. Lower amounts of stress
3. Higher self-esteem and confidence
4. Reduced risk of suicide
5. Less substance abuse and fewer risky behaviors
6. Increased cognitive performance
7. Increased creativity
8. Greater enjoyment of all forms of physical activity
9. Improved psychological and emotional well-being for individuals with disabilities
10. Increased life satisfaction

Physical Health Benefits

1. Improved bone health
2. Improved weight status
3. Increased cardiorespiratory and muscular fitness
4. Reduced risk of cancer and diabetes
5. Increased physical activity levels
6. Improved cardiovascular fitness
7. Decreased body fat percentage for girls
8. Increased overall quality of life

Education & Career Benefits

1. Improved teamwork, social skills, and social responsibility
2. Improved life skills (e.g., goal setting, time management, work ethic, empathy, negotiation)
3. Increased empowerment, personal responsibility, and self-control
4. Improved educational and occupational skills (e.g., determination, perseverance, grit, resilience, critical thinking)
5. Higher levels of academic achievement
6. Greater leadership qualities
7. High school athletes are more likely to attend and graduate from a four-year college

Lifelong Participation Benefits

1. Lifelong participation in sports can lead to improved mental health outcomes.
2. Over 50% of adults who participate in sports believe that participation reduces stress and improves mental health.
3. Adolescents who play sports are 8 times more likely to be physically active at age 24 than those who do not play sports.
4. Participating in sports leads to immediate psychological benefits, and these can continue even after retirement from sports.

Economic Benefits

- A decrease in direct, indirect, and personal health care costs (collectively, up to \$28 billion per year)

- A stronger long-term labor market

A photograph of a bright green apple with a small stem, wrapped in a white measuring tape with red markings. The tape is coiled around the apple, and a long section of the tape extends to the right, showing numbers like 36, 37, 38, 39, 102, 103, and 104. The apple and tape are set against a plain white background, with a soft shadow cast to the left.

<https://www.cdc.gov/healthyschools/nutrition/facts.htm>

<https://www.eatright.org/food/nutrition/healthy-eating/5-reasons-your-teen-needs-breakfast>

Benefits of Healthy Eating

Healthy eating can help individuals achieve and maintain a healthy body weight, consume important nutrients, and reduce the risk of developing health conditions such as^{1,2}

- High blood pressure.
- Heart disease.
- Type 2 diabetes.
- Cancer.
- Osteoporosis.
- Iron deficiency.
- Dental caries (cavities).

Benefits of Eating Breakfast

- **Energy:** Along with sleep and exercise, breakfast is one of the best ways to recharge your batteries.
- **Improved Concentration:** Studies suggest that eating a nutritious breakfast improves brain function — particularly memory and recall.
- **Better Grades:** Research shows students who eat breakfast perform better **academically**.
- **Healthy Choices:** Those who eat a morning meal tend to make healthier food choices throughout the day, which can positively impact long-term health.
- **It Tastes Great:** This may be the most compelling reason to enjoy breakfast before a long school day.

Benefits of Youth Sleep

(Sleep Foundation, 2022)

<https://www.sleepfoundation.org/teens-and-sleep>



Benefits of Sleep

- **Thinking and Academic Achievement:** Sleep benefits the brain and promotes attention, memory, and analytical thought.
- **Emotional Health:** Most people have experienced how sleep can affect mood, causing irritability and exaggerated emotional reactions.
- **Physical Health and Development:** Sleep contributes to the effective function of virtually every system of the body.
- **Decision-Making and Risky Behavior:** Sleep deprivation can affect the development of the frontal lobe, a part of the brain that is critical to control impulsive behavior.
- **Accidents and Injuries:** Insufficient sleep in teens can make them prone to accidental injury and even death.

Benefits of Relaxation Practice

Benefits of Practicing Relaxation Techniques

1. Slowing heart and breathing rates and lowering blood pressure
2. Improving digestion
3. Controlling blood sugar levels
4. Reducing activity of stress hormones
5. Increasing blood flow to major muscles
6. Reducing muscle tension and chronic pain
7. Improving focus and mood
8. Improving sleep quality
9. Lowering fatigue
10. Reducing anger and frustration
11. Boosting confidence to handle problems

<https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/relaxation-technique/art-20045368>

Science-Based Benefits of Meditation


1. Reduces stress
2. Controls anxiety
3. Promotes emotional health
4. Enhances self-awareness
5. Lengthens attention span
6. May reduce age-related memory loss
7. Can generate kindness
8. May help fight addictions
9. Improves sleep
10. Helps control pain
11. Can reduce blood pressure

<https://www.healthline.com/nutrition/12-benefits-of-meditation>



Conclusion

Regular physical activity and sports participation, sleep, and healthy nutrition, along with relaxation practices have been linked to a wide-range of positive mental, physical and social outcomes for youth and adults.

The background of the slide features a large, light green circle on the left side. On the right side, there are several exercise balls (yoga balls) in orange, blue, and yellow, some of which are hanging from a dark wooden shelf. The text is positioned on the left side of the slide, overlaid on the green circle and the white background.

Current Research on Youth Physical Activity, Sports Participation & Substance Use & Mental & Physical Health

Behavioral, Psychological & Social Impacts of Team Sports: A Review

1. *Physician and Sportsmedicine*, 2021, in **fifteen studies**.
2. Team sport participation was found to **decrease rates of cigarette/tobacco use** across 5 studies and **alcohol/drug** use across 7 studies.
3. Team sport participation was associated with **decreased depression/anxiety rates** across 5 studies.
4. A **few studies mentioned potential negative effects of team**.

<https://www.tandfonline.com/doi/abs/10.1080/00913847.2020.1850152>

Adolescent Physical Inactivity Increases Risk for Cannabis Use Disorder

1. *Experimental and Clinical Psychopharmacology*, 2022.
2. A prospective investigation of PA and developing cannabis use disorder (CUD).
3. The slope of **increase in physical inactivity covaries with substance use frequency which impacts risk for CUD.**

<https://psycnet.apa.org/doiLanding?doi=10.1037%2Fpha0000593>

E-Cigarette Use & Sports Participation Among Youth

1. *Nicotine & Tobacco Research*, 2019.
2. **E-cigarette users are more likely to participate in intramural, competitive, and team sports** compared to non-users.
3. Youth e-cigarette users are **more likely to meet the physical activity guidelines**.
4. Youth e-cigarette users **are less likely to be sedentary** less than 2 h daily.
5. Gender differences among males and females show that **male e-cigarettes users drive the general relationship**.

<https://academic.oup.com/ntr/article/21/3/285/4584522>

Physical Inactivity & Cigarette Use in Adolescence

1. *Nicotine & Tobacco Research* (2022) examined **longitudinal** associations in a cohort of Canadian adolescents.
2. **New e-cigarette use at follow-up was associated with maintenance of participation in sports and meeting physical activity cut-points, but also with increased recreational screen time.**
3. **Cigarette use was associated with more screen time and less PA.**

<https://academic.oup.com/ntr/article-abstract/24/7/978/6445184>

Adolescent Out-of-School Time and Later Adult Substance Use

1. *Journal of Adolescence*, 2022.
2. Time in **high school organized sports increased** the odds of **binge drinking at age 26, but not marijuana or illicit drug use.**
3. Time spent in other organized activities, such as community service and the arts, lowered the odds of illicit drug use, but not others, i.e., paid work.

<https://onlinelibrary.wiley.com/doi/full/10.1002/jad.12104>

Physical Activity & Suicide Ideation: A Review

1. *Journal of Affective Disorders*, 2018.
2. Meta-analysis of eight studies and 80,856 people found that those who were **“active” versus those who were “inactive”** were less likely to have SI.
3. **Meeting PA guidelines had a significant protective effect against SI, while not meeting guidelines was associated with increased SI.**

<https://www.sciencedirect.com/science/article/abs/pii/S0165032717313745>

Sex Differences in Adolescent Suicide Attempts & Physical Activity

1. *Journal of Affective Disorders*, 2020.
2. Adolescents aged 12–15 year from 48 countries.
3. **Meeting physical activity guidelines was associated with lower odds for suicide attempts in boys, but higher odds for suicide attempts in girls.**
4. The associations for boys and girls were relatively consistent across countries.

<https://www.sciencedirect.com/science/article/pii/S0165032719330873>

Youth Physical Activity & Exercise in Mental Health Promotion: A Review

1. *BMJ Open Sport & Exercise Medicine*, 2019.
2. Thirty publications were included.
3. **Interventions** of varying intensity may lead to a **reduction in depression symptoms** and that **moderate-to-vigorous-intensity and light-intensity interventions** may reduce anxiety symptoms.

<https://bmjopensem.bmj.com/content/6/1/e000677.abstract>

School-Related Physical Activity & Mental Health: A Review

1. *Sports Medicine, 2020.*
2. There was a significant **beneficial effect of school-related physical activity interventions on resilience, positive mental health, well-being and anxiety.**
3. **May reduce anxiety, increase resilience, improve well-being and increase positive mental health in children and adolescents.**

<https://sportsmedicine-open.springeropen.com/articles/10.1186/s40798-020-00254-x>

Youth Physical Activity, Dietary Behaviors and Mental Health

1. *Preventive Medicine Reports*, 2020.
2. **Feeling sad and hopeless** was associated with not eating breakfast on all 7 days (past week), drinking soda or pop (female only), **not meeting the aerobic physical activity guideline (male only)**, **not playing on at least one sports team**, and playing video/computer games or using a computer more than two hours (per day).
3. **Suicidal thoughts** were associated with not eating breakfast on all 7 days, drinking soda or pop, **not meeting the aerobic physical activity guideline**, and playing video/computer games or using a computer more than two hours per day.

<https://www.sciencedirect.com/science/article/pii/S2211335520301133>


Physical Activity, Exercise & Chronic Diseases: A Review

1. *Sports Medicine and Health Science*, 2019.
2. **Being physically inactive is associated with increased chronic disease risk among youth.**
3. **Increased physical activity (PA) and exercise are associated with reduced chronic disease risk.**
4. Most physiologic systems in the body benefit positively from PA and exercise.

<https://www.sciencedirect.com/science/article/pii/S266633761930006X>

Conclusions & Implications

1. Research indicates that physical activity and sports participation are associated with less substance use, such as cigarette smoking and marijuana use, but with more likelihood of using other substances, such as e-cigarettes and binge drinking.
2. Youth physical activity is associated with improved mental health and less risk of suicide, depression and anxiety, as well as reduced chronic disease risk.
3. Promoting physical activity and sports may enhance youth mental and physical health, reduce suicide risk and some types of substance use.
4. Youth who are physically active or play on sports teams should receive substance use prevention, particularly addressing e-cigarettes and drinking alcohol.



Current Research on Youth Breakfast Eating & Substance Use & Mental & Physical Health

Skipping Breakfast and Frequent Alcohol Use Among University Students



1. *Nutrients*, 2022, examined 26,179 college students in Japan.
2. University **students who skipped breakfast were at a higher risk of frequent alcohol drinking** than those who ate breakfast every day.
3. **One plausible mechanism** for the association between skipping breakfast and frequency of alcohol drinking **may be depression as skipping breakfast is a clinical predictor of depression.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9267987/>

Skipping Breakfast and Health Risk Behaviors Among College Students in 28 Countries

1. *Diabetes Metab Syndr Obes*, 2020.
2. University students from 28 countries in Africa, the Americas and Asia.
3. Infrequent and/or frequent **breakfast skipping** was associated with **inadequate fruit and vegetable intake, frequent soft drink intake, not avoiding fat and cholesterol, current binge drinking, current tobacco use, gambling, not always wearing a seatbelt, inadequate physical activity, inadequate tooth brushing, not seeing a dentist in the past year and having been in a physical fight.**
4. And **mental health indicators** including **depression, lower happiness, posttraumatic stress disorder, loneliness, short sleep, long sleep, sleep problem, restless sleep, sleep problem due to traumatic event, and poor academic performance.**

<https://www.dovepress.com/skipping-breakfast-and-its-association-with-lth-risk-behaviour-and--peer-reviewed-fulltext-article-DMSO>

Effects of Eating Breakfast on Children and Adolescents: A Review

1. *Food Nutrition Research*, 2019.
2. **Positive and conclusive effects of breakfast** on cognitive performance, academic achievement, **quality of life, well-being and on morbidity risk factors.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6744840/>

Children's Nutrition Choices & Their Mental Well-Being

1. *BMJ Nutrition, Prevention & Health*, 2021.
2. Higher combined adolescent **fruit and vegetable consumption** was **significantly associated with higher well-being**.
3. The **type of breakfast or lunch** consumed by adolescents was also associated with **significant differences in well-being**.
4. Likewise, youth **not eating any lunch** **had lower well-being scores** than those consuming a packed lunch.

<https://nutrition.bmj.com/content/early/2021/08/27/bmjnp-2020-000205>

Breakfast Consumption & Mental Health: A Review

1. *Nutritional Neuroscience*, 2022.
2. A significant **positive association was found between skipping breakfast and depression, stress and psychological distress** in all age groups.
3. A subgroup analysis showed that there was a **significant positive association between skipping breakfast and anxiety in adolescents**.

<https://www.tandfonline.com/doi/abs/10.1080/1028415X.2020.1853411>

Children Who Eat Fruits & Veggies Have Better Mental Health

1. *ScienceDaily*, 2021.
2. Results showed **eating more fruit and veggies is linked with better wellbeing among secondary school pupils.**
3. Youth who consumed **five or more portions of fruit and veggies a day had the highest scores for mental wellbeing.**

<https://www.sciencedaily.com/releases/2021/09/210928075004.htm>

Breakfast Skipping and Suicidality Among US Adolescents

1. *Nutrients*, 2022.
2. **Breakfast skipping** was significantly associated with **increased risk of suicidal ideation, suicide plan, suicide attempt, and medically serious suicide attempt**.
3. There was a linear **dose–response** association between **breakfast skipping and overweight/obesity, depressive symptoms, and suicidality** regardless of sex and age.

<https://www.mdpi.com/2072-6643/14/5/956>

Breakfast Consumption and Suicide Attempts Among Adolescents

1. *Psychology Research and Behavior Management*, 2022.
2. **Adolescents** who ate breakfast **less than once a week** had **a stronger association with suicide attempts** than the group of six or seven times a week.
3. In the **group of feeling sadness or hopeless** for more than two weeks in the past year, **those who ate breakfast zero or once a week, or two or three times**, showed a **stronger correlation with suicide attempts** than the group of six or seven times a week.

<https://www.proquest.com/openview/5fb131dae37e02d93fc670649b7a38fa/1?pq-origsite=gscholar&cbl=3933299>

Intervention Factors to Address Adolescent Overweight and Obesity

1. *Obesity Reviews*, 2022 studied the Health Behavior in School-Aged Children (HBSC) study across 31 European countries.
2. **Exercise, fruit, life dissatisfaction, school pressure, and skipping breakfast** were identified as the top five **most influential factors for obesity** intervention.

<https://onlinelibrary.wiley.com/doi/full/10.1111/obr.13519>

Conclusions & Implications

1. Research indicates that eating breakfast is associated with quality of life, wellbeing and morbidity risk factors, eating breakfast or lunch and fruits and vegetable consumption is associated with higher adolescent wellbeing, and eating five or more fruits and vegetable portions a day is associated with the highest level of mental wellbeing among adolescents.
2. Skipping breakfast, however, is associated with excessive alcohol use, tobacco use, poor nutrition, less physical activity and sleep, and multiple mental health problems among college students, suicidality and depression in adolescents, and is a risk factor for adolescent overweight and obesity.
3. These findings from studies in the US and abroad suggest that public health strategies aimed at preventing substance use and promoting mental and physical health of youth should include promoting healthy daily nutrition.

Current Research on Youth Sleep & Substance Use & Mental & Physical Health



Sleep Duration and Alcohol and Cannabis Cravings & Use

1. *Addictive Behaviors*, 2022.
2. At the day-level, **stronger cravings for alcohol and cannabis were reported on mornings and afternoons after relatively shorter sleep** duration.
3. At the burst-level (14-days), **stronger cravings for alcohol were reported on morning and afternoons after accumulated shorter sleep** duration.

<https://www.sciencedirect.com/science/article/abs/pii/S030646>

0377001332

Sleep Duration and Risk Taking in Adolescents: A Review

1. *Sleep Medicine Reviews*, 2018.
2. **Insufficient sleep was associated with 1.43 times greater odds of risk-taking.**
3. **Including alcohol use, drug use, smoking, violent/delinquent behaviour, transport risk-taking/road safety, sexual risk-taking and trait risk-taking.**

<https://www.sciencedirect.com/science/article/abs/pii/S1087079217302071>

Sleep Patterns & Mental Health in US Adolescents

1. *Journal of Pediatrics*, 2017.
2. The average sleep duration was **7.72** hours.
3. **Later weeknight bedtime, shorter weeknight sleep duration, greater weekend bedtime delay, and both short and long periods of weekend oversleep** were associated with increased odds of **mood, anxiety, substance use, and behavioral disorders**, as well as **suicidality, tobacco smoking, and poor perceived mental and physical health**.

[https://www.jpeds.com/article/s0022-3476\(16\)31235-5/fulltext](https://www.jpeds.com/article/s0022-3476(16)31235-5/fulltext)

Sleep & Mental Health in Youth: A Review

1. *Sleep and Health*, 2019.
2. **Insufficient and poor-quality sleep** is associated with **worse mood and emotion regulation**, as well as increased likelihood of **developing a mood or anxiety disorder**, and **heightened risk of suicidal ideation**.

<https://www.sciencedirect.com/science/article/pii/B9780128153734000320>

Sleep Problems & Suicide in Youth: A Review

1. *General Hospital Psychiatry*, 2020.
2. **Ten studies** qualified for inclusion.
3. **Seven studies found at least one type of sleep problem significantly predicted a STB (suicide thoughts & behaviors) outcome.**

<https://www.sciencedirect.com/science/article/abs/pii/S0163834318300380>

Sleep Difficulties and Suicidality in Youth: A Review

1. *Sleep and Health Disparities*, 2022.
2. The data overwhelmingly support **an association between suicidality and a range of sleep difficulties (e.g., insomnia, short/long sleep, weekend oversleep), above and beyond depressive symptoms.**

<https://link.springer.com/article/10.1007/s40675-022-00222-9>

School Start Times & Youth Outcomes: A Review

1. *Pediatrics*, 2020, a meta-analysis of studies of **school start time (SST)**.
2. **Later SSTs** were associated with **better overall developmental outcomes, longer sleep duration, and less negative mood**.
3. **New SSTs between 8:30 and 8:59** were associated with better outcomes than **8:00 to 8:29 start times**.

<https://publications.aap.org/pediatrics/article-abstract/149/6/e2021054068/188062/School-Start-Times-Sleep-and-Youth-Outcomes-A-Meta>

Multiple Health- Promoting Behaviors and Adolescent Wellbeing

1. *Journal of School Health*, 2022.
2. Findings showed **7 of the 12 health-promoting behaviors** were significantly **correlated with adolescents' subjective well-being**.
3. **Increased physical activity, sleep hygiene** cognitive/emotional factors, and **bedtime routine** all were identified as **unique predictors of subjective well-being**.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/josh.13103>

Youth Sleep Durations, Bedtimes & Obesity

1. *Pediatric Obesity*, 2020 from 11 international cohorts.
2. **In children, longer sleep durations were consistently associated with lower adiposity markers, and earlier bedtimes were related to a lower BMI.**
3. **In adolescents, longer sleep durations and earlier bedtimes were associated with lower BMI in the whole sample, and with lower waist score in boys.**

<https://onlinelibrary.wiley.com/doi/full/10.1111/ijpo.12873>

1. Research indicates that shorter sleep duration/insufficient sleep is associated with alcohol and cannabis cravings among young adults, alcohol and drug use and smoking among adolescents, while abnormal sleep patterns were also found to be linked to adolescent substance use.
2. Insufficient and poor-quality sleep is associated with suicidality, anxiety and mood disorders, and perceived mental and physical health among youth.
3. Longer sleep durations and earlier bedtimes are associated with less youth obesity.
4. Integrating sleep within substance use and suicide prevention and mental health promotion programs for youth and young adults is supported by recent research, as well as later school start times for older adolescents.

Conclusions & Implications

Current Research on Youth Healthy Lifestyle Behaviors & Mental Health

Lifestyle Behavior and Mental Health in Early Adolescence

1. *Pediatrics*, 2019.
2. Compared with meeting 1 to 3 health recommendations, **meeting 7 to 9 health recommendations was associated with 56% fewer physician visits for mental illness during follow-up.**
3. **Every additional recommendation met was associated with 15% fewer physician visits for mental illnesses.**

<https://pediatrics.aappublications.org/content/143/5/e20183307>

Healthy Lifestyle Behaviors and Mental Health in Early Adolescence

1. *BMC Public Health*, 2020.
2. **All healthy lifestyle behaviors were associated with at least one mental health outcome except alcohol consumption.**
3. **Lower sleep duration and daily breakfast intake were significantly associated with lower mental health on all studied indicators.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7301480/>

Big 3 Health Behaviors and Mental Health Among Young Adults

1. *Frontiers in Psychology*, 2020.
2. **Sleep quality was the strongest predictor of depressive symptoms and well-being, followed by sleep quantity and physical activity.**
3. Only one dietary factor—**raw fruit and vegetable consumption**—**predicted greater well-being** but not depressive symptoms.

<https://www.frontiersin.org/articles/10.3389/fpsyg.2020.579205/full>

Lifestyle Factors & Mental Disorders: A Review

1. *World Psychiatry, 2020.*
2. **Physical activity is being used in primary prevention and clinical treatment across a spectrum of mental disorders.**
3. **Tobacco smoking is a causal factor in onset of both common and severe mental illness.**
4. **Poor sleep is a key modifiable lifestyle factor for mental illness.**

<https://onlinelibrary.wiley.com/doi/full/10.1002/wps.20773>

Adolescent Health Behaviors & Mental Health

1. *American Journal of Lifestyle Medicine*, 2021.
2. **Meeting physical activity guidelines, consuming breakfast every day, not smoking and/or consuming alcohol in the past 30 days and sleeping at least 8 hours per night were independently associated with lower odds of mental health problems.**
3. **For every additional positive health behavior met, there were significantly lower odds of reported mental health problems** including self-reported difficulty concentrating, remembering, or making decisions among US adolescents.

<https://journals.sagepub.com/doi/10.1177/1559827619860067#>

Conclusions & Implications

1. Large sample studies of adolescents and young adults, as well as a review of research literature, indicate that multiple lifestyle behaviors are associated with mental health and illness, including the Big 3 healthy behaviors and avoiding substance use.
2. Research indicates that the greater the number of healthy behaviors goals met the greater the mental health outcomes.
3. Addressing multiple health behaviors in single prevention interventions have the potential to cost-effectively improve the mental and physical wellness of young people.
4. Substance use and behavioral health professionals should provide youth with motivational strategies to initiate and maintain recommended levels of physical activity, healthy nutrition and sleep and avoid alcohol and drug use to promote physical and mental wellness and prevent mental health problems.

Test Question

1. The benefits of regular physical activity, healthy eating and sleep for youth include:

- a) Improved weight status
- b) Greater emotional health
- c) Better grades
- d) All the above

Test Question

2. Research shows that youth physical activity, healthy eating and sleep are linked to less:

- a)Suicide
- b)Anger
- c)Caffeine consumption
- d)Energy

For more information on PPW...

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THANK YOU