

Literature Review Part#1

Louise Mcknie

Kenu Howard

Madeline Mcfernan

Tamara Hallett

Alliance University

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The overall focus of our research is to examine the relationship between adolescent substance use and academic performance. According to the Britannic, adolescence is defined as the growth and development between childhood and adulthood. During this stage puberty will start to occur. Physical changes concluding in reproductive maturity, along with emotional changes. Separation from parents starts to take place. Relationships with peers are vital. There is a bit of ambiguity, as the youth starts to come to their own ideas, opinions, and gain a sense of self.

The use of drugs and alcohol has devastating effects on its user. As the legalization of marijuana has increased in several states, it is more accessible to teens. If the research shows a direct relationship between teens substance use and academic performance, what effects does this have on their future. What are the long-term health, behavior, and social development risk factors?

Why do adolescents use substances?

There are several reasons why teens use substances according to the Positive Health article. These reasons include experimenting with drugs, peer pressure, or emotional distress. Many adolescents report stress as a major reason for their drug use. The pressures of family issues along with social and educational demands may cause teens to feel overwhelmed. The euphoric impact of the substance may give a temporary escape from everyday pressures. As teens are developing their own identity, friends, and the need to fit in play a crucial part. Many teens are influenced to try different substances to fit in a particular group. Teens who are battling Depression and other Mental Health disorders may use substances to cope with anxiety or to lift their depressive mood. Family substance use history may influence teen drug use.

Teens who were raised in homes, watching their family members use drugs may have normalized drug use for them.

According to the Partnership Attitude Track study, completed in 2007, 65% of adolescents use substances to help them feel better. 65% of adolescents use substances to look cool. 55% of adolescents use substances to deal with family issues. And, 54% of adolescents use substances to improve in sports. Along with the list of reasons teens use substances, they believe the risks of using substances is not as harmful when compared to adults.

The effects of adolescent substance use.

The effects of drugs used by teens are more harmful to their bodies as they are still developing. Teens who use substances may have a lower tolerance for the drug due to their smaller body size and lack of experience. Substance abuse may lead to higher mortality rates among youth. What may start as an experience with a drug may turn into dependence. Long-term marijuana use may cause respiratory issues. Prolonged use of designer drugs like Cannabinoids, can damage the liver, heart, and kidneys. Hallucinations, paranoia, panic attacks, Depression, Anxiety, aggressiveness, and irrational behaviors are some of the short-term effects of substance use.

Substance use may lower inhibitions, and lead to negative decisions. For example, driving while under the influence of a substance or alcohol. Teens may use bad judgment in decisions regarding sex and safety. Under the influence teens may behave violently and cause harm to themselves or someone else. The early gateway drugs including marijuana, tobacco, and alcohol may lead to lifelong dependence with more serious drugs. Substance abuse is associated with homicide, suicide, and car accidents.

Substance misuse among adolescents is alarming. This is evident in the numbers reported of those who are actively codependent on drugs and alcohol. According to the National Center for Drug Abuse Statistics (or NCDAS), between the years 2016 and 2020, drug use amongst students in the eighth grade increased by 61%. The NCDAS also reported that 62% of adolescents in the 12th grade have abused alcohol at least one time in their life, while 50% of teenagers have misused drugs at least one time as well.

What is considered 'drugs'? The NCDAS lists alcohol, marijuana, opioids, and stimulants as drugs. Opioids are morphine, heroin, codeine, oxycodone and fentanyl. Opioids are generally prescribed by doctors for extreme pain. They may act as a sedative, offering a calming euphoric effect to those who consume them. Stimulants increase the rate in which the body's nervous system works. Some examples of stimulants include (but are not limited to) cocaine, caffeine, nicotine, and methamphetamines. Those who consume stimulants may feel a heightened sense of energy. Marijuana is derived from the cannabis plant and may offer its consumers a sense of calm. Just the same, though, many marijuana users have reported an increase in anxiety after consuming the drug. Alcohol, though a depressant, offers those who consume it a sense of euphoria, a rush of energy and even courage to do and say things that they otherwise would not had they not drank alcohol.

According to the National Center for Drug Abuse Statistics, the number of teens who consume drugs is highest in the state of Vermont. Vermont reports 14.65% of teenagers use drugs. The lowest percentage of drug use in America is in the state of North Dakota with a reported 5.42% of teenagers who use drugs regularly. Though teens in the state of New York are .25% less likely than other teens to have misused drugs in the last year, they are still 3.78% more likely to have consumed alcohol than other teens. These numbers are accounting for teens

ages 12-17 years old. In states like Maine, the numbers of reported drug use are quite alarming. It is reported that in Maine, teenagers are 47.44% more likely to have misused substances than teens in other parts of America.

It seems as though marijuana is the more popular substance. When reviewing each state's drug use statistics, the percentage in which teens consumed marijuana is higher than other forms of drugs such as stimulants and pain killers. This may be due to the fact that marijuana is more accessible to adolescents than pills and alcohol. Pills require a prescription, so unless a family member keeps them in the house, or a friend shares, pills are difficult to get. Though not impossible to purchase, alcohol is still more difficult for teens to be able to purchase due to the legal requirement of being 21 in order to buy. However, teens may also get access to alcohol in their homes, a friend or loved ones home, or they may have someone 21 and older who is willing to purchase it for them.

The recent COVID pandemic that began in 2020 came with many changes for teens. The biggest being remote learning. For some, this change triggered anxiety and exposed depression. Feelings of anxiety and depression are regarded as notable factors in the misuse of substances. However, the National Library of Medicine (of the National Center for Biotechnology Information or NCBI) reports that there was no definitive increase in drug use reported amongst adolescents. In fact, studies show that the findings were mixed; some increases in substance misuse and some decreases in substance misuse amongst adolescents in America during the pandemic. The NCBI notes that the lockdown may have possibly discouraged substance misuse in American teenagers during the pandemic due to the enforcement of social distancing. This suggests that having to stay home and stay away from others kept adolescents away from those who deal drugs and alcohol to minors. Just the same, though, this is not considered definitive.

Substance abuse has been one of the most long lasting social issues; it has had major effects on both individuals and the family dynamic as well and the communities as a whole. The number of persons who have some type of substance abuse increase everyday; this is often the root of crime, the spread of disease and even the increase of mental health diagnosis' and suicide rates. The use of illicit substances can severely impair a person's life; especially if the drug use begins at the age of adolescence. It has the ability to alter behavior and impair their ability to make good decisions. Introducing the use of illicit drugs while their brains are developing can be detrimental; it can delay brain development and cause developmental and intellectual disabilities.

There are many reasons why an adolescent will choose to engage in substance use; peer pressure, physical or sexual abuse, social media influence, family dynamic and mental health issues being a few of the underlying causes of drug use. According to an article published on NIH, it was reported that in 2022 12% of eighth graders, 20.5% of 10th graders, and 27.3% of 12th graders reported vaping nicotine. Also stated in the article, alcohol use amongst 12th graders was at 51.9% in 2022. Because of the long lasting effects that substance use has on brain development and physiological function, it is easy to correlate poor academic performance and drug use.

There are a few reasons why drug abuse can have an effect on academic performance; it can decrease brain function which in turn can have an effect on the students ability to complete school work. There are studies that have been conducted that prove that heavy substance abuse can cause problems in working memory and brain activity; this can cause adolescents to suffer academically. A study conducted on PubMed compared the neuropsychological functions of alcohol and non-alcohol dependent adolescents between the ages of 15 and 16 years old. Throughout this study, the subjects underwent different neurological and physiological tests. The

results from these tests showed significant differences; long lasting alcohol use showed less verbal and nonverbal retention of intact learning. They also showed poor visuospatial functioning and poorer retention of verbal and non-verbal information. Testing showed a deficiency in normal brain function in regards to remembering and retaining information. In summary, prolonged substance use has damaging effects on brain function which in turn can affect academic performance.

Another study conducted on NCBI also showed abnormalities in brain structure and functions due to heavy marijuana and alcohol abuse. The study tested the correlation of brain activity, structure and function and the prolonged use of illicit substances. It was founded in grades eight through twelve, marijuana and alcohol use increased from 8% to 22% at the time the study was conducted. According to the article, it was determined that those who considered themselves heavy drinkers were able to recall 10% less verbal and nonverbal information than the controlled subject; this was even after being weaned off of the substance. In the study, MRI was used to measure a specific area of the brain that is essential for memory functioning. The result showed that the hippocampus was heavily influenced by the use of illicit substances; it severely affected memory performance.

Another study grouped together data from 7,874 students, with the dependent variable being alcohol and drug use, and studied the effects it had on individual grade point averages; age, socioeconomic status and mental health problems were also considered during this study. It was determined that grade point averages were significantly lower for students who continuously used illicit substances. Boys reported significantly lower averages than girls with boys scoring 13% lower on physiological and academic testing than girls.

Research intervention methods and preventive strategies have been shown to have a positive impact on the behavior and choices made. These strategies are evidence-based programs designed meticulously and proven effective over time. Although the programs work in diverse populations and in numerous situations the impact of the programs can only be effective depending upon the commitment of the communities.

It's probable that evidence-based programs along with the dedication of the communities can be effective and bring positive change; however, there are circumstances where evidence-based programs may not be an option. These consist of training, cost, and the readiness and fidelity of society. Some resources were created locally, guides to help parents, educators, and community leaders, develop strategies when the established evidence-based programs aren't available.

Preventive measures and intervention methods can include population-based strategies and interventions, activities in school, community, family, and on the individual level. Effective Prevention Strategies for adolescents and drug prevention will focus on increasing academic and social proficiency by teaching various skills (HEA, *Substance abuse in children: Prediction, protection, and prevention*).

School-based substance abuse interventions consist of substance abuse counseling and classroom-based activities designed for prevention, education, and treatment by focusing on environment, community, and developmental factors.

Parent-based interventions for preventing or reducing adolescent substance use- A systematic literature review. "For this randomized study, 653 adolescents were screened, and 39 publications dealing with 13 programs were included. Results reveal desirable effects of

parenting measures such as rule-setting, monitoring, and parent- child communication” (RC;, *The effectiveness of family interventions in preventing adolescent illicit drug use: A systematic review and meta-analysis of randomized controlled trials*)

Results showed some evidence of curbing, preventing, and reduction in adolescent substance use. The outcome depends on the adolescent’s age group, the parents involved, and the intensity of the program.

Conclusion

The results of the study show the systematic review showed favorable outcomes, communication improved between parent-child, and the importance of setting rules was established. This review shows the importance of including parents in the programs to help reduce the use of substances among adolescents. Utilizing the three levels of social work; micro, mezzo, and macro to bring positive outcomes. Multi-component programs are more effective in preventing adolescent substance use than single-component programs. (*World Health Organization (WHO)*)

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