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“Where’s the Party?” Research: The Good, the Bad, and the Hopeful

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Sometime between middle school and adult life, the use of alcohol, tobacco products, and other regulated substances moves along a scale of usage acceptability from completely illegal to not only legal but socially acceptable in many respects. There is rarely a professional sporting event, music concert, or social gathering anywhere entirely alcohol or tobacco free. Also, most forms of multimedia have been glorifying drinking, smoking and the use of illicit drugs for decades, including among an adolescent population. While school administrators take a firm stand against these actions with youth, most agree that there is still a significant amount of “partying” that goes on though some levels of adolescent socializing and is often seen as either cool or prevalent within the culture of some middle school cultures.

The Facts

Data from the National Survey on Drug Use & Health Indicators (NSDUH), an organization directed by the Substance Abuse and Mental Health Services Administration (SAMHSA), seem to support this premise. Their latest survey, taken in 2017, indicated that over 855,000 adolescents between the ages of 11 and 18 in the country had smoked cigarettes in the last 30 days. Of that group, 129,000 claimed to have smoked cigarettes every day in the last month (Bose, Hedden, Lipari, Park-Lee, 2017).

The numbers are larger for alcohol consumption. 2.3 million adolescents age 12 through 17 in the United States reported to have used alcohol in the last 30 days and 1.2 million of those considered themselves binge drinkers. This was understood to mean drinking some kind of alcohol roughly 5 or more days out of the prior 30. Of this group, 191,000 claimed that they were currently heavy drinkers. Were we to add the 18-20 year-olds to that group, almost a quarter of our country’s adolescents are drinking illegally. Despite these statistics, all fifty states in the country currently prohibit the possession of alcohol by anyone under the age of 21. Besides tobacco and alcohol, approximately 2 million adolescents between the ages of 11 and 18 reported on the same survey that they experimented with some kind of illicit drug. Illicit drug use includes such substances as marijuana, cocaine, and heroin for example.

Another organization, the National Institute of Drug Abuse, also conducts a national survey named the *Monitoring the Future* survey which is analyzed by researchers at the University of Michigan. Their most recent results, from 2017, found similar findings to the NSDUH survey. The good news is that traditional cigarette smoking has moved progressively downward as a trend with our youth at all levels. While over a quarter of adolescents tracked in the 1980’s were reported smokers, that number was down to only 3.6% for 12th graders, 1.8% for 10th graders, and only 0.8% for 8th graders in 2018.

The bad news is that the NIDA survey also indicates that there has been a small uptick in the rate of marijuana use among high school seniors. Another bad behavior on the rise is vaping. Vaporizers are devices that can heat a substance such as nicotine or cannabis into a mist that is then puffed or inhaled by the person. Their survey revealed that 27.8% of high school seniors reported vaping in the past year and 11% claimed to have vaped in the last 30 days (Johnson, et.al. 2019). So while smoking has been reduced, vaping has been on the rise.

While some of the adolescents in these studies are middle school level students, most are high school students. Tracking the tobacco, drug, and alcohol use of middle schoolers is a more recent endeavor. For example, the U.S. Department of Health & Human Services began tracking high school tobacco use back in 1976. However, it was not until 1991 that they added 8th graders to the sample (Johnson, et al., 2019).

The Bad

There is substantial research that points to the devastating and sometimes fatal consequences of using substances such as alcohol during adolescence. Among the recorded high school dropouts, almost all of them reported significantly greater use of alcohol, tobacco products, and drug use than those who stayed in school (Singh et al., 2016). While this doesn't reveal a causal effect, this suggests that the habit of partying likely has roots in the middle school years or earlier.

The Center for Disease Control and Prevention (CDC) claims that alcohol use plays a major role in three of the leading causes of death among adolescents. Those categories include unintentional injuries (such as motor vehicle deaths and drownings), suicides, and homicides. For youth who began drinking before the age of 14, the odds were 5 times greater of being injured while under the influence of alcohol, 6.3 times greater of being in a motor vehicle crash, and 6 times greater of being involved in a fight, compared to youth who begin drinking after the age of 21. Young people who drink heavily have a 23.6 times greater chance of intentionally harming themselves, and younger drinkers and binge drinkers are more likely than non-drinkers to contemplate or attempt suicide (CDC, 2016).

The Hopeful

There is fascinating research being conducted in the medical sciences that, while still scant, offers insights into possibly combatting the illegal adolescent use of drugs and alcohol in the future by appealing to the students themselves and their families. Researchers from the University of Southern California, the University of San Diego, and the Yale University School of Medicine conducted a longitudinal study of 40 healthy adolescents between the ages of 11 and 18, half of whom began heavy drinking over the 3-years that followed the initial start of the study. The results showed that heavy drinkers who are underage had reduced brain volume from non-drinkers in 3 different regions of the brain; the rostral anterior cingulate, the left cingulate, and the pars triangularis. Over the three years, the gaps between the two groups widened as the underage drinkers showed even greater brain volume reductions than the non-drinkers. The surface area of the anterior cingulate has been associated with the executive control function in the brain which includes inhibitory functioning, impulsivity, attention, and self-regulation. In other words, the drinkers lost much of their ability to plan ahead, make good decisions, and force themselves to study or "attend" when they would rather be socializing (Squeglia, Rinker, Bartsch, et al., 2014). Perhaps showing middle schoolers actual fMRI scans of brains of drinkers and non-drinkers and explaining the physiological consequences would make more sense to them than using scare tactics of automobile accidents (when most middle schoolers do not yet drive).

While this prior study addressed alcohol use, another study by researchers from Duke University published in *JAMA Psychiatry* investigated persistent smoking and nicotine dependence (Belsky, Moffitt, Baker, et al., 2013). It is becoming more and more widely thought today that some addictions are genetic. These researchers looked at evidence from a database with over 1,000 men and women over a period of almost 40 years. As we might guess, the researchers found that people who were genetically predisposed to becoming heavy smokers, if exposed to cigarettes (or perhaps today, vaping) as teens, progressed more rapidly to full-fledged heavy smokers.

However, an unexpected and greatly encouraging ancillary finding was this: If the adolescents who were genetically prone to becoming heavy smokers through their genetic makeup were not actually exposed to nicotine until *after* adolescence (their mid-twenties or later), they were not any more likely to become heavy smokers than others who were not genetically predisposed to becoming heavy smokers in the first place. In other words, by not experimenting with nicotine products, the teens who were genetically prone to becoming heavy smokers, were no worse off than those who were not genetically prone. Future research to determine if abstaining from drinking or drug use until after adolescence produces a similar effect regarding genetic predisposition to addictions could build a powerful case for teens to decide on their own that “partying” may be worth the wait; This information could also be a powerful deterrent for middle schoolers were it in the hands of administrators, teachers, parents and the students themselves.

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