

Risk of Teenagers Developing a Drug Use Disorder

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Introduction

New research from the United States is helping to clarify how early use of alcohol and other drugs can lead to a drug use disorder for young people. Prior survey analyses have documented that youth is a period of high risk for an abuse or dependence disorder. Defined by the American Psychiatric Association (DSM-IV; American Psychiatric Association, 1994), an abuse disorder reflects use of drugs that lead to negative social and health consequences; a dependence disorder indicates continued, compulsive use in the face of negative consequences.

One recent publication showed that the risk of becoming dependent on marijuana among recent (prior two years) marijuana users tends to the highest at around the 14-15-year-old range, and the rate drops off dramatically for those recent users who are 21-years-old or older (Chen et al., 2005).

This prior work provides a general picture of how age is associated with risk for a drug use disorder. We wanted to describe a more detailed picture of this association. Our research question was this: What is the risk of developing either an abuse or dependent disorder at each chronological age during youth? We explored this question separately for the drugs most commonly abused by youth: alcohol and marijuana. A better understanding of the association of recent use and risk for developing substance use disorders will help prevention programs target youth at their highest risk ages.

Background to the Survey

The study sample is generated from a 2004 national household survey of representative individuals in the United States (Substance Abuse and Mental Health Services Administration, SAMHSA, 2005). This report focuses on “youth” respondents, which we define as the 12-25-year-old range. We wanted to capture both the core teenage years (12-18-years-old), as well as young adulthood (19-25-years-old). This range of youth has a total *N* of 36,587 (or 66.2% of the full SAMHSA sample of 55,230 respondents)

The majority of these youth were enrolled in school at the time of the survey. Ethnic/racial break downs are as follows: white, 61.5%; African American, 14.3%; Hispanic, 16.6%; Asian American, 2.9%; and Native American, 1.3%. Gender was roughly split evenly (55% females, 45% males).

Results

Among the youth sample, 4,058 were recent-users of alcohol, that is, they used alcohol for the first time within the two years prior to taking the survey. And 2,153 of the youth group were recent users of marijuana.

Within these recent-onset users for each drug, we computed at each chronological age the percentage of those that met the respective diagnostic criteria for a DSM-IV abuse or dependence disorder.

The tables below provide a summary of these data. Table 1 shows the percentages of alcohol use disorder (AUD) by age, and Table 2 shows the percentages of marijuana use disorder (MUD) by age. Percentages refer to the rate of either an abuse or dependence diagnosis among those who are recent onset users.

For alcohol, there was a steady increase of the AUD rate during the 12-18-year-old range (from 7.2% to 9.9%). At age 19, the rate dropped to 6.7% and stayed at a relatively lower rate for the remaining young adulthood groups (4.1%, 5.9%, 3.6% and 5.9%).

For marijuana, the pattern of MUD rates also showed relatively high rates from ages 12 to 18 years. At age 12 the rate was 6%. The rate increased quite dramatically to 17.4% at age 13, and it stayed relatively high until age 18 (12.8%). Again at age 19, the rate dropped considerably to 8%, and showed a steady decline across young adulthood (6.9%, 4.4%, 4.9%, and 0%).

Discussion

The risk pattern for both drugs revealed a similar pattern. There was a general steady increase of the rate of a substance use disorder for alcohol and marijuana from age 12 to age 18. Then the rate dropped quite dramatically at age 19, and stayed relatively lower throughout the remaining years of youth.

Youth is a high-risk period for developing a drug use disorder (Grant & Dawson, 1998). Our data suggest that youth in the United States are at the highest risk for becoming either abusive of or dependent on substances during the core teenage years of 12 to 18. This risk drops-off considerably beginning at young adulthood (age 19) and continues during these young adulthood years.

The reasons for this pattern may involve psychosocial and biological factors. Youth that waited until late adolescence to begin drug use may have possessed more protective factors during the teenage years compared to youth that started their drug use earlier. The late-starters may have been more involved in healthier recreational activities, had more non-drug using friends, and had parents that were more intolerant of drug use – all factors that have been linked to reduced drug use during adolescence (Hawkins et al., 1992). Biology may play a role as well. Brain development is significant during adolescence (Wallis, 2004), and there indications that the developing brain is highly vulnerable to the effects of drugs (Spear, 2002). Exposure to drugs at a young age, as the brain is going through significant neurological development, may cause a heightened susceptibility to abuse and dependence disorders. On the other hand, the older youth who waits and uses drugs for the first time when the brain is more mature may be more resilient to neurobiological processes that contribute to abuse and dependence.

But the findings are striking. If a teenager can withhold using drugs until he or she matures, the risk of developing a drug use disorder is greatly reduced. This is an important message for prevention efforts.

References

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Table 1

**Percentages of Past Year Alcohol Use Disorder
Among Youth who are Recent Onset Users (Prior 2 Years; n =
4058) of Alcohol (SAMHSA, 2005)**

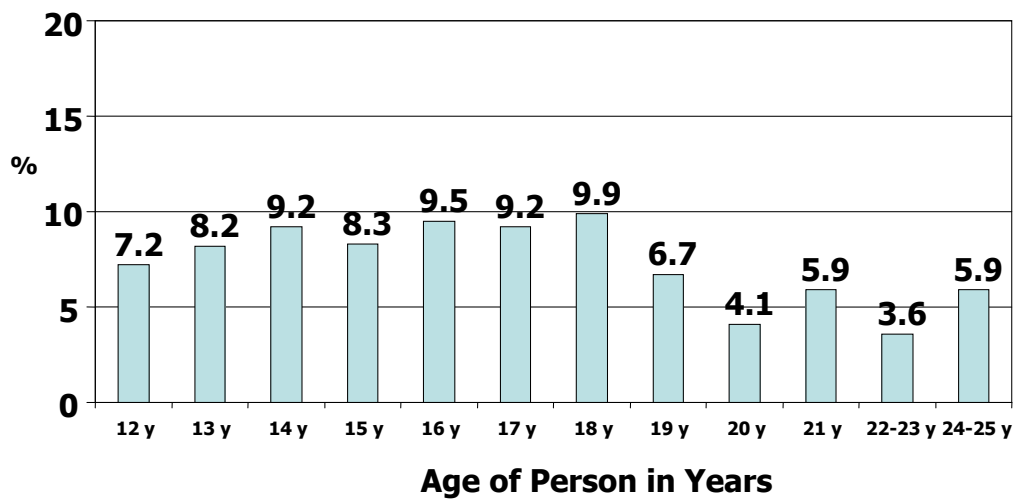


Table 2

**Percentages of Past Year Marijuana Use Disorder
Among Those who are Recent Onset Users (Prior 2 Years; n =
2153) of Marijuana (SAMHSA, 2005)**

