YOUTH DRUG SURVEY 2018

SUMMARY OF FINDINGS

Report prepared Fall 2018 for the Center for Prevention Services and Alianza Coalition

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EXECUTIVE SUMMARY
Since 1972, The Center for Prevention Services (CPS) (Formerly Substance Abuse Prevention Services and The Charlotte Drug Education Center) has implemented a countywide youth drug survey every two to three years. These data are collected to determine the current level of incidence and prevalence of alcohol, tobacco, marijuana, and other drug use among middle and high school age youth. Due to the longitudinal nature of the research, changes in local patterns and trends can be observed. During the spring of 2018, CPS, in collaboration with Charlotte-Mecklenburg Schools, Teen Health Connection, and the UNC Charlotte School of Social Work, administered the self-report Youth Drug Survey instrument to 11,050 youth in grades 6, 8, 10, and 12 across 72 schools.

Below are some of the key findings from this research:

- For the first time, self-reported marijuana (13.3%) use eclipsed alcohol (12.9%) in the rate of 30-day use among middle and high school youth.
- 30-day use of traditional cigarettes is at an all-time low (3.3%), though the rate of e-cigarette use (12.8%) is alarming, particularly among White youth (34.0%)
- In general, rates for cigarette use, alcohol use, and pain prescriptions without a prescription were lower in comparison to state and national averages, though rates for marijuana and e-cigarette use were higher than national averages.
- When comparing racial and ethnic differences in substance use patterns, White youth were particularly at risk for e-Cigarette, cigarette, alcohol, and marijuana use in comparison to their peers.
- When examining risk and protective factors, parents, peers, norms, and access were all factors that can help explain youth substance use. While all factors remain important predictors, patterns emerged in the relationship between predictors and substance use. In general, peers emerged as important predictors of cigarette and e-cigarette use, parents played important roles for alcohol use, and access played a primary role in use of marijuana.

We believe the findings of this study to be illuminating, and hope that the results in this report contribute to the work of professionals across disciplines and fields to engage in reducing youth substance use behaviors across the county.
METHODOLOGY

The 2018 Youth Drug Survey (YDS) is a school-based survey of youth substance use behaviors. The target sample for the study was 20% of 6th, 8th, 10th, and 12th graders enrolled in Charlotte-Mecklenburg Schools (CMS). The sample was obtained by surveying high school students enrolled in English/Language Arts classes and middle school students enrolled in 1st period classes of any subject across 72 CMS schools. To protect student participants, all surveys were anonymous. In contrast to prior years of the YDS, the 2018 YDS was collected online using the survey tool Qualtrics. The data collection and survey design was reviewed by Central Piedmont Community College Institutional Review Board to ensure the study met standards for ethical conduct of research and was approved by CMS.

Sample

The data shared in this report includes responses from 11,050 students across 72 schools in Charlotte-Mecklenburg Schools. The sample was reduced to 10,658 students (48.5% female, 50.1% male, 1.4% other) to exclude responses that 1) did not complete any information on substance use behaviors or 2) failed response checker questions.

The sample included 26% 6th grade students, 21% 8th grade students, 29% 10th grade students, and 23% 12th grade students, with 1% of students reporting another grade level. Figure 1 presents student race and ethnicity. Roughly 10% of respondents reported being first-generation immigrants, and 1.4% elected to complete the survey in Spanish.

Figure 1: Sample race and ethnicity for the 2018 Youth Drug Survey

First generation students reported diverse countries of origin. Table 1 presents the countries of origin in order beginning from the largest group. The largest foreign-born
group reported being born in Mexico (12.9%), followed by Honduras (9.3%), India (6.5%), El Salvador (4.6%), and Vietnam (4.1%). Of note, nearly 1 in 4 students came from countries that were represented among fewer than 2% of all foreign-born students.

Table 1: Country of origin for foreign-born students (%)

*While it is acknowledged that Puerto Rico is not an independent nation, 2.2% of youth indicated Puerto Rico as their country of birth. It is possible that this number may undercount the true number of youth with Puerto Rican heritage, as some may have elected to choose the United States as their country of birth.

The majority of students reported living with both their mother and father (55.4%), followed by those living with their mother only (21.5%), parent and step-parent (10.8%), with 12.3% reporting other family structures (Grandparents, father-only, or child welfare involved).

14.8% of respondents indicated that the highest education level reached by an adult in their home was less than a high school degree, 12.8% reported a high school degree or GED, and 72.5% reported some college or a college degree or higher.

44.7% percent of students reported that they receive “none” or “a little bit” or “some” parental supervision at home. Average student grades were reported as follows: A=28.1%, B=42.4%, C=25.2%, D=3.8%, F=0.6%. 13.2% of students reported missing more than 11 days of school in the prior year.
SURVEY RESULTS
TREND ANALYSIS

Overall, trends in the data suggest that youth are using substances at lower rates than in previous years. However, there are exceptions to this rule, in particular given the rise of marijuana and e-Cigarette popularity and use on both national and local levels.

Figure 2 presents a trend analysis of 30-day use of cigarettes, alcohol, and marijuana use among Charlotte-Mecklenburg youth, using data from the YDS from 2002-2018. Overall, rates for use of cigarettes and alcohol have decreased over the past 16 years, while rates for marijuana use have been stable and slightly increased.

For the first time in the past 16 years, marijuana (13.3%) has eclipsed alcohol (12.9%) in 30-day use rates.

Figure 2: 30-day use trends, 2002-2018

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1 Data points are included for the years 2002, 2006, 2015, and 2018, while data for 2004, 2008, and 2010 are included in the trend line but not shown.
**COMPARISON WITH STATE AND NATIONAL DATA**

Data from the 2018 Youth Drug Survey in Charlotte-Mecklenburg suggest that usage rates locally differ from state and national levels.

Rates for 30-day use in Charlotte-Mecklenburg using data from the 2018 Youth Drug Survey were compared against state (North Carolina) and national benchmarks using data from the 2017 Youth Risk Behavior Survey, a national survey of youth risk behaviors administered by the Centers for Disease Control and Prevention (see Figure 3). Aggregate data from the 2017 YRBS are available online and accessible to the public.\(^2\)

In general, rates for cigarette use, alcohol use, and prescription pain medication use without a prescription were lower in comparison to these benchmarks. However, local rates for marijuana and e-cigarette use were higher than national averages.

![Figure 3: Charlotte-Mecklenburg, North Carolina, and US 30-day use rates for high school students](image)

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\(^2\) Access is available to YRBS data at https://nccd.cdc.gov/Youthonline
Tobacco

30-day tobacco use

Table 2 presents the overall results for past 30-day use for five separate tobacco products. Following recent national trends, e-cigarettes emerge as the preferred method for tobacco consumption among youth in the sample.

Table 2: Tobacco 30-day use

<table>
<thead>
<tr>
<th>Question: How often in the past 30 days have you used the following?</th>
<th>Never Used</th>
<th>Used, but not in the past 30 days</th>
<th>Used in the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarettes</td>
<td>92.7%</td>
<td>4.0%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Dip/chew</td>
<td>97.3%</td>
<td>1.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Cigars/Cigarillos</td>
<td>91.2%</td>
<td>3.7%</td>
<td>5.1%</td>
</tr>
<tr>
<td>eCigarettes</td>
<td>80.8%</td>
<td>6.5%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Hookah</td>
<td>88.8%</td>
<td>5.5%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

30-day tobacco use by school level

Another notable finding is the rate of e-Cigarette use among high school youth. Nearly 1 in 5 high school youth reported using e-Cigarettes in the past 30 days, followed by nearly 1 in 10 users of hookah.

Figure 4: 30 day tobacco use by school level
30-day tobacco use by race/ethnicity

There were also differences in tobacco use by race and ethnicity. Figure 5 presents these differences for high school youth in the sample. In general, Asian and to some extent Black youth were at lower risk for tobacco use, while White and Mixed-race/Native American youth were at higher risk.

A notable outlier is the finding that 1 in 3 (34%) White youth and 1 in 5 (20.3%) Mixed-race or Native American youth in high school reported using e-Cigarettes in the past 30 days.

A consistent finding is that youth are using traditional cigarettes, dip, and chewing tobacco at lower rates in comparison to e-Cigarettes, hookah, and cigars/cigarillos.

Figure 5: 30-day tobacco use among high school youth by race/ethnicity
Tobacco use in the home
Results of the study also indicated a correlation between the use of tobacco in the home by others and an individual youth’s use of tobacco. Figure 6 presents this relationship.

For youth who do not have a person 18 or older in the home who uses tobacco, the 30-day use of any tobacco product is 13.1%. This nearly doubles to 24.2% if the youth has an adult over 18 years old who uses tobacco.

This relationship is even more pronounced when there is another person in the home younger than 18 years old who uses tobacco. The rate jumps from 14.5% to 43.9% percent if there is someone else in the home under 18 who uses tobacco.

Taken together, these findings suggest a strong relationship between home use by others (parents, siblings, and others) and a youth’s decision to use tobacco.

Figure 6: Home tobacco use (any) and youth use

<table>
<thead>
<tr>
<th>Person younger than 18 in home uses tobacco: No</th>
<th>Person younger than 18 in home uses tobacco: Yes</th>
<th>Person 18 or older in home uses tobacco: No</th>
<th>Person 18 or older in home uses tobacco: Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.5%</td>
<td>11.8%</td>
<td>24.2%</td>
<td>13.1%</td>
</tr>
<tr>
<td>8.1%</td>
<td>11.8%</td>
<td>6.9%</td>
<td>13.1%</td>
</tr>
<tr>
<td>77.5%</td>
<td>80.0%</td>
<td>63.7%</td>
<td>80.0%</td>
</tr>
<tr>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

- Used in the past 30 days
- No times in the past 30 days
- Never used
Access to tobacco and use locations for youth under 18

YDS data captured information on youth tobacco access as well as locations for use.

Youth under 18 years old reported access to tobacco primarily through friendship networks and direct or indirect purchase. Of youth under 18 who reported using tobacco, 42.9% reported getting it from a friend, 8.8% purchased it on their own at a store, and 19.7% reported that someone else purchased it for them. In addition, 9.2% reported accessing tobacco at a party. Fewer than 7% of youth reported receiving tobacco from their parents or taking it from their home.

Most youth reported using tobacco in informal social settings and with friends. Of youth tobacco users, 17.5% reported using tobacco at a friend’s house, 13.5% in a car, 13.2% at a park or outside, and 9.6% at a party. Some youth also reported using tobacco at home alone (14.2%), at home with friends (7.4%), or at home with parents (3.7%).

Parent rules and tobacco use

Figure 7 compares tobacco according to whether youth of any age reported their parents having clear rules about the use of tobacco in their homes. Findings indicate that there was no statistically significant difference in tobacco use among youth who had parents with clear parental rules on tobacco use versus those who did not. These results should be interpreted with caution – it is possible that rules are used primarily as a response, rather than a precursor to, youth tobacco use.

Figure 7: 30-day tobacco use by parental rules
E-CIGARETTES

Data from the 2018 YDS are consistent with a the national trend of increasing e-cigarette use by youth. Figure 8 examines e-Cigarette use by age. By age 16, roughly 1 in 5 youth are using e-Cigarettes. Average age of onset for tobacco (any type) users is age 14.

Figure 8: e-Cigarette use by age

![Graph showing e-cigarette use by age](image)

Peer influence patterns in e-cigarette use

There are also strong relationships between 30-day e-cigarette use and access, parental disapproval, peer disapproval, and perceived risk of non-cigarette tobacco use. Table 3 illustrates these relationships. When youth report having greater access, approval from others, and low perceived health risk, 30-day use patterns are over 1 in 4.

Table 3: Access, perceived disapproval, perceived risk, and 30-day e-cigarette use

<table>
<thead>
<tr>
<th></th>
<th>Never Used</th>
<th>Used, but not in the past 30 days</th>
<th>Used in the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know/can’t/hard</td>
<td>90.8%</td>
<td>3.6%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Fairly/very easy</td>
<td>55.3%</td>
<td>13.8%</td>
<td>30.9%</td>
</tr>
<tr>
<td><strong>Parent Disapproval</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrong/Very wrong</td>
<td>83.5%</td>
<td>6.4%</td>
<td>10.1%</td>
</tr>
<tr>
<td>A little/Not at all wrong</td>
<td>64.1%</td>
<td>8.5%</td>
<td>27.4%</td>
</tr>
<tr>
<td><strong>Peer Disapproval</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrong/Very wrong</td>
<td>92.0%</td>
<td>3.8%</td>
<td>4.2%</td>
</tr>
<tr>
<td>A little/Not at all wrong</td>
<td>63.0%</td>
<td>11.2%</td>
<td>25.8%</td>
</tr>
<tr>
<td><strong>Perceived Risk</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate/Great risk</td>
<td>86.6%</td>
<td>5.4%</td>
<td>8.1%</td>
</tr>
<tr>
<td>No/Some risk</td>
<td>66.1%</td>
<td>10.2%</td>
<td>23.7%</td>
</tr>
</tbody>
</table>
Examining factors related to e-cigarette use

There are a number of patterns that also emerge from the data with respect to the most salient risk and protective factors for e-Cigarette use. Using regression modeling techniques, the results in Figure 9 indicate the relative importance of risk and protective factors while controlling for other known covariates (norms, access) and demographic factors like age, sex, race and ethnicity, and socioeconomic status (adult’s education level). Controlling for other factors:

Figure 9: Risk and protective factors for e-cigarette use

**Black youth** are 65% less likely to use e-cigarettes in comparison to White youth.

**Latino and Asian youth** were 40%-50% less likely to use e-cigarettes in comparison to White youth.

**Parental Disapproval**: Youth who reported that their parents would say it is “wrong” or “very wrong” to use e-Cigarettes were 35% less likely to use them.

**Perceived Risk**: Youth were 50% less likely to use e-Cigarettes if they thought that there was a "moderate" or "great" risk to using them.

**Peer Disapproval**: Youth were 70% less likely to use e-Cigarettes if they thought that their friends would think it was "wrong" or "very wrong" to use them.

**Access**: Youth under 18 who report that it is “fairly easy” or “very easy” to access e-Cigarettes are nearly 2.7X as likely to use them.

Though race and ethnicity were associated with e-Cigarette use, socioeconomic status as measured by adult parent education level was not, suggesting that e-Cigarette use is a phenomenon that cuts across social class.

What is also notable in the data is that neither parental monitoring nor parental rules were associated with decreased risk for use, suggesting that youth perceptions of parental norms may be more salient protective factors than explicit rules or monitoring.
ALCOHOL

30-day alcohol use
Table 5 presents the overall results for past 30-day alcohol use, defined as having one or more drinks of an alcoholic beverage (beer, wine, wine coolers, liquor).

Table 4: Alcohol 30-day use, by school type

<table>
<thead>
<tr>
<th></th>
<th>Never Used</th>
<th>Used, but not in the past 30 days</th>
<th>Used in the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Middle School</strong></td>
<td>85.1%</td>
<td>9.7%</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>High School</strong></td>
<td>56.1%</td>
<td>24.4%</td>
<td>19.6%</td>
</tr>
<tr>
<td><strong>All Respondents</strong></td>
<td>69.6%</td>
<td>17.5%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

In addition to differences between high school and middle school youth, there were also differences across racial and ethnic lines (see Figure 10). By a large margin, White youth were at greatest risk for 30-day alcohol use (44.0%), which was more than twice as high as any other racial or ethnic group.

Figure 10: 30-day high school alcohol use by race/ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>0.0%</th>
<th>10.0%</th>
<th>20.0%</th>
<th>30.0%</th>
<th>40.0%</th>
<th>50.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>44.0%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.1%</td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18.1%</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>4.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NA/Mixed</td>
<td>12.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Age of onset
Youth reported on the age they first tried alcohol. Of youth aged 15 and older, 20.4% reported trying alcohol before age 15. Additionally, 47.1% of youth who are 15 years and older and reported currently using alcohol started drinking before age 15. These rates are 10.4% and 23.1%, respectively, for youth who started drinking before age 13.
30-day alcohol use: binge drinking
Survey respondents described binge-drinking behaviors, defined as having 4 or more drinks of alcohol for females or 5 or more drinks of alcohol for males at a single occasion. On average, 6.7% of middle and high school females and 6.9% of middle and high school males reported binge drinking in the past 30 days. Figure 11 presents binge-drinking rates among youth who reported using alcohol in the past 30 days. Among middle and high school youth, between 1 in 3 and 1 in 2 youth who report using alcohol also report engaging in binge drinking behaviors.

Figure 11: Binge drinking rates among middle (MS) and high school (HS) males and females who reported using alcohol in the past 30 days

Of youth who binge drink, most reported binge drinking between 1-5 days a month (81.9% males, 72.8% females).

Parental influence
A trend in the data suggests that both parental rules about alcohol use and parental use of alcohol in front of their children are related to a youth’s 30-day alcohol use. Figure 12

Figure 12: Parent influence and 30-day youth alcohol use
presents these results. Middle and high school youth who reported their parents using alcohol in front of them were nearly four times as likely (21.9%) to use in comparison to parents who have never used alcohol in their presence (5.7%).

Access to alcohol and use locations
Following trends demonstrating the relationship between parental rules and behaviors and youth use, youth in the YDS sample indicated that parents were a primary source of alcohol access and that at home with parent supervision was the primary location of youth alcohol consumption. Figure 13 presents where youth accessed alcohol the last time they got it for those who used in the past 30 days. Over a third of the sample reported that they either got alcohol from their parents (22.7%) or from their home (13.0%), while others accessed alcohol at a party (19.5%) or via peer friendships (16.2%).

**Figure 13: Reported location of access to alcohol during last use**

<table>
<thead>
<tr>
<th>Source of Alcohol</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>My parents gave it to me</td>
<td>22.7%</td>
</tr>
<tr>
<td>At a party</td>
<td>19.5%</td>
</tr>
<tr>
<td>Other</td>
<td>18.8%</td>
</tr>
<tr>
<td>A friend gave it to me</td>
<td>16.2%</td>
</tr>
<tr>
<td>I took it from home</td>
<td>13.0%</td>
</tr>
<tr>
<td>Someone else bought it for me</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

Parallel results are observed when asking youth where they used alcohol the last time they drank it (Figure 14). The majority of youth (50.2%) reported that they used it at home, whether with parents, with friends, or alone. 32% used it with friends, and 18% selected other locations, including parks, restaurants, in a car, concerts and events, or other locations. Among those who reported using alcohol at home, the majority reported using alcohol with their parents.
Alcohol at public events
The YDS asked youth specifically about use of alcohol at concerts or festivals as well as at sporting events. Of youth who reported using alcohol in the past 30 days, 34.1% had used alcohol at a concert or festival sometime in the past and 14.9% had used alcohol at a professional sporting event sometime in the past. These findings indicate that public events emerge from the data as an important location for underage youth alcohol use.

Examining factors related to alcohol use
Patterns also emerged from the data concerning risk and protective factors for alcohol use using regression modeling techniques. Controlling for other factors:

Figure 15: Risk and protective factors for alcohol use

- **Black youth** are 40% less likely to use alcohol in comparison to White youth.

- **Parental Monitoring**: Youth regularly monitored by their parents were 30% less likely to use alcohol.

- **Parental Disapproval**: Youth who reported that their parents would say it is “wrong” or “very wrong” to use alcohol were 45% less likely to use.

- **Parental Use**: Youth who reported that their parents never use alcohol in front of them are 30% less likely to use alcohol themselves.

- **Perceived Risk**: Youth were 30% less likely to use alcohol if they thought that there was a “moderate” or “great” risk to using it.

- **Peer Disapproval**: Youth were 25% less likely to use alcohol if they thought that their friends would think it was “wrong” or “very wrong” to use it.

- **Access**: Youth who report that it is “fairly easy” or “very easy” to access alcohol are more than 5X as likely to use it.
PRESCRIPTION DRUGS
Increasing attention has been given to the rise of prescription drug use and its relationship to the opioid epidemic. YDS data asked youth to report about use as well as attitudes and behaviors toward prescription drug use.

9.1% have a prescription for ADD/ADHD medication
6.9% have a prescription for an opioid medication

Use of prescription medications for ADD/ADHD and pain is a small but not insignificant portion of the YDS sample of youth. In addition to use, the survey asked questions related to misuse and sharing of prescription drugs. Of youth using these types of prescription drugs, 2.6% report having sold their medication to others and 7.6% report having taken more than prescribed.

30-day use of Rx drugs without a prescription
Table 5 presents 30-day youth use of prescription drugs not prescribed to them, including Ritalin, Adderall, Hydrocodone, OxyContin, and Vicodin. In general, rates for high school youth were slightly higher than those for middle school youth.

Table 5: 30-day use of Rx drugs not prescribed, by school type

<table>
<thead>
<tr>
<th>Question: How often in the past 30 days have you used prescription drugs not prescribed to you (such as Ritalin, Adderall, Hydrocodone, OxyContin, Vicodin?)</th>
<th>Never Used</th>
<th>No times in the past 30 days</th>
<th>Used in the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle School</td>
<td>93.7%</td>
<td>3.7%</td>
<td>2.7%</td>
</tr>
<tr>
<td>High School</td>
<td>85.3%</td>
<td>9.7%</td>
<td>5.1%</td>
</tr>
<tr>
<td>All Respondents</td>
<td>89.2%</td>
<td>6.9%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>
Racial and ethnic differences in prescription drug use without a prescription
There were also modest differences by race/ethnicity and 30-day use of prescription drugs without a prescription. Figure 16 presents these differences, suggesting that both mixed race/Native American youth as well as White youth had the highest rates of use.

**Figure 16: 30-day non-prescribed Rx use by race/ethnicity**

Use of prescription drugs: reasons, access, and use patterns
Youth in the YDS were asked to report on the reasons they use prescription drugs without a prescription, how they access these substances, and where they use them.

Of youth who used prescription drugs without a prescription, they reported that the reasons for their use included in order to get high (21.5%), to focus/pay attention (16.5%), to forget about problems (9.5%), or to study better (8.3%), though there were also many who reported reasons other than these (33.6%).

Regarding access, most youth obtained prescription drugs from a friend (29.5%), from their parents (22.7%), by taking it from home (15.0%), or purchasing it themselves (10.5%). Most youth reported using it at home with a parent (28.8%) or at home alone (24.2%), but another trend suggested that youth used it with their friends – whether at a party, a friend’s house, or in their own home (15.6%).

When examining bivariate relationships, there was no statistically significant relationship between parental rules about prescription drug use and youth reported 30-day use.
Examining factors related to prescription drug use without a prescription

Patterns also emerged from the data concerning risk and protective factors for use of prescription drugs without a prescription using regression modeling techniques. Controlling for other factors:

Figure 17: Risk and protective factors for use of prescription drugs use without a prescription

<table>
<thead>
<tr>
<th>Asian youth</th>
<th>are 40% less likely to use Rx drugs without an Rx in comparison to White youth.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Monitoring:</td>
<td>Youth regularly monitored by their parents were 30% less likely to use Rx drugs without an Rx.</td>
</tr>
<tr>
<td>Parental Disapproval:</td>
<td>Youth who reported that their parents would say it is “wrong” or “very wrong” to use Rx drugs without an Rx were 50% less likely to use.</td>
</tr>
<tr>
<td>Perceived Risk:</td>
<td>Youth were 40% less likely to use Rx drugs without an Rx if they thought that there was a “moderate” or “great” risk to using them.</td>
</tr>
<tr>
<td>Peer Disapproval:</td>
<td>Youth were 60% less likely to use Rx drugs without an Rx if they thought that their friends would think it was “wrong” or “very wrong” to use them.</td>
</tr>
<tr>
<td>Access:</td>
<td>Youth who reported that it is “fairly easy” or “very easy” to access Rx drugs without an Rx are more than 5X as likely to use them.</td>
</tr>
</tbody>
</table>

In addition, youth whose parents had clear rules about use were 40% more likely to use Rx drugs (p<.05), controlling for other covariates. It is possible that causality is reversed: that after parents discover their child is using Rx drugs without an Rx, they may put into place clear rules about their use.
MARIJUANA

30-day marijuana use
Table 6 presents the results for past 30-day marijuana use for middle school, high school, and all youth. Results indicate that a little more than 1 in 5 high school youth reported using marijuana in the past 30 days.

Table 6: Marijuana 30-day use, by school type

<table>
<thead>
<tr>
<th>Question: How often in the past 30 days have you used marijuana (weed, pot, grass)?</th>
<th>Never Used</th>
<th>No times in the past 30 days</th>
<th>Used in the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle School</td>
<td>91.8%</td>
<td>4.0%</td>
<td>4.2%</td>
</tr>
<tr>
<td>High School</td>
<td>63.7%</td>
<td>15.2%</td>
<td>21.1%</td>
</tr>
<tr>
<td>All Respondents</td>
<td>76.8%</td>
<td>10.0%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

In addition to differences between high school and middle school youth, there were also modest differences across racial and ethnic groups. Figure 18 illustrates these differences among high school youth. Asian youth were at least risk (8.1%), while White (22.7%) and mixed-race youth/Native American youth (25.7%) were at greatest risk for 30-day marijuana use.

Figure 18: 30-day high school marijuana use by race/ethnicity

Youth were asked to report on the types of marijuana they used. Of youth who used marijuana in the past 30 days, the majority smoked it (82.3%). A smaller group reported using edibles (10.2%), while others used cannabis oil (2.0%) or other types (5.7%). There were no major differences in type across racial/ethnic groups.

Access to marijuana and use locations
Youth were asked to report how they access marijuana. Of those who reported ever using marijuana, 46.1% reported getting it from a friend, while 34.6% reported purchasing it at a
store themselves. Smaller groups of youth reported accessing it at a party (5.0%) as well as through other means.

Youth also reported on where they used marijuana the last time they used it. The primary use locations included at a friend’s house (22.2%), at a park or outside (19.9%), in a car (14.3%), and at home alone (11.4%). Approximately 10.0% of youth also indicated that they used marijuana at a party – whether at their own, a friend, or a stranger’s home.

**Marijuana use in the home**

Figure 19 presents the relationship between the use of marijuana in the home by others and an individual youth's use of marijuana. For youth who do not have a person 18 years or older in the home who uses marijuana, the rate of youth 30-day use of marijuana is 9.7%. This rate more than triples to 36.7% if the youth has an adult over 18 years old who uses marijuana. This relationship is even more pronounced when there is another person in the home younger than 18 years old who uses marijuana. The rate jumps from 11.4% to 47.1% percent if there is someone else in the home under 18 who uses marijuana.

*Figure 19: Marijuana use in the home by youth reported 30-day use*
Parent rules and youth marijuana use

Figure 20 compares marijuana use according to whether youth reported their parents had clear rules about the use of marijuana. Findings indicate the opposite direction of the expected relationship between rules and use: youth reported that they were more likely to use marijuana if their parents had specific rules regarding marijuana use – and this finding is statistically significant. It is recommended that these results are interpreted with caution: it is also possible (and likely) that parents put formal rules about marijuana use in place after their child has already started using, in an attempt to deter their child’s use.

Figure 20: 30-day marijuana use by parental rules

<table>
<thead>
<tr>
<th></th>
<th>Parental Rules (No)</th>
<th>Parental Rules (Yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used in the past 30 days</td>
<td>10.9%</td>
<td>14.4%</td>
</tr>
<tr>
<td>No times in the past 30 days</td>
<td>8.6%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Never used</td>
<td>80.5%</td>
<td>75.0%</td>
</tr>
</tbody>
</table>
Examining factors related to marijuana use
Patterns also emerged from the data concerning risk and protective factors for marijuana use using regression modeling techniques. Controlling for other factors:

**Figure 21: Risk and protective factors for marijuana use**

**Youth with parents with a college degree** are 30% less likely to use marijuana in comparison to youth whose parents do not have a high school degree.

**Parental Monitoring:** Youth regularly monitored by their parents were 30% less likely to use marijuana.

**Parental Disapproval:** Youth who reported that their parents would say it is “wrong” or “very wrong” to use marijuana were 45% less likely to use.

**Perceived Risk:** Youth were 60% less likely to use marijuana if they thought that there was a “moderate” or “great” risk to using it.

**Peer Disapproval:** Youth were 55% less likely to use marijuana if they thought that their friends would think it was “wrong” or “very wrong” for them to use it.

**Access:** Youth who report that it is “fairly easy” or “very easy” to access marijuana are more than 10X as likely to use it.

In addition, youth whose parents had clear rules about use were 70% more likely to use marijuana (p<.001), controlling for other covariates. As previously discussed, it is possible that causality is reversed: that after parents discover their child is using marijuana, they may put into place clear rules about its use.
OTHER SUBSTANCE USE
The 2018 YDS also collected data on other drug use. Table 7 presents the results of these findings, including the total, middle, and high school use rates as well as the median age of onset for each substance.

Other substance use frequency and age of first onset

Table 7: Substance use frequency

<table>
<thead>
<tr>
<th>Substance Description</th>
<th>Total</th>
<th>Middle School</th>
<th>High School</th>
<th>Median age of Onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine (powder, crack, freebase)</td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.8%</td>
<td>15</td>
</tr>
<tr>
<td>Benzodiazepines (benzos, Klonipin, Xanax, Valium)</td>
<td>1.1%</td>
<td>0.5%</td>
<td>1.7%</td>
<td>15</td>
</tr>
<tr>
<td>Stimulants without a doctor’s prescription (such as Adderall, Ritalin, Concerta)</td>
<td>1.8%</td>
<td>0.8%</td>
<td>2.6%</td>
<td>15</td>
</tr>
<tr>
<td>Methamphetamines (speed, crystal, meth, crank, chalk, ice)</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.2%</td>
<td>10</td>
</tr>
<tr>
<td>Synthetic Marijuana (K2, Spice, fake weed, King Kong, Yucatan Fire, Skunk, Moon rocks)</td>
<td>0.8%</td>
<td>0.4%</td>
<td>1.1%</td>
<td>15</td>
</tr>
<tr>
<td>Inhalants (glue, paints or sprays, aerosol spray cans)</td>
<td>1.2%</td>
<td>1.9%</td>
<td>0.7%</td>
<td>11</td>
</tr>
<tr>
<td>Alcoholic Energy Drinks (Four Loco, Tilt)</td>
<td>4.5%</td>
<td>1.6%</td>
<td>7.2%</td>
<td>15</td>
</tr>
<tr>
<td>Hallucinogens (LSD, salvia, mushrooms, Acid, tabs)</td>
<td>0.9%</td>
<td>0.2%</td>
<td>1.5%</td>
<td>15.5</td>
</tr>
<tr>
<td>Heroin (smack, junk, China White)</td>
<td>0.1%</td>
<td>&lt;0.1%</td>
<td>0.2%</td>
<td>12</td>
</tr>
<tr>
<td>Ecstasy (Molly, E, X, MDMA)</td>
<td>0.3%</td>
<td>&lt;0.1%</td>
<td>0.6%</td>
<td>15</td>
</tr>
<tr>
<td>Steroid pills or shots without a doctor’s prescription</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>11</td>
</tr>
<tr>
<td>Prescription Pain killers (such as codeine, OxyContin, Vicodin, Hydrocodone, Percocet)</td>
<td>2.6%</td>
<td>1.8%</td>
<td>3.4%</td>
<td>14</td>
</tr>
<tr>
<td>Synthetic drugs (bath salts, flakka)</td>
<td>0.4%</td>
<td>0.4%</td>
<td>0.3%</td>
<td>11</td>
</tr>
<tr>
<td>Over-the-counter medications to get high (sizzurp, Robo, Tussin, Dex, skittles, Triple C’s)</td>
<td>1.1%</td>
<td>0.9%</td>
<td>1.3%</td>
<td>14</td>
</tr>
</tbody>
</table>
YOUTH PERCEPTIONS

Access
Figure 22 presents how youth perceive ease of access to six substances, separated by middle and high school grade levels. For tobacco and cigarettes, youth who are above 18 years of age were removed from the sample, to remove the potential effects of access through legal purchase. Alcohol and marijuana emerged as the substances that youth report as easiest to obtain, followed by other tobacco and cigarettes. Youth reported that it was more difficult for them to access prescription and other drugs.

Of note, roughly half of high school youth believe that it is “fairly easy” or “very easy” to access alcohol and marijuana, while roughly 2 in 5 report it as “fairly easy” or “very easy” to access other tobacco (e.g. e-cigarettes).

Figure 22: Percent of middle and high school youth who report access as “fairly easy” or “very easy”

<table>
<thead>
<tr>
<th>Substance</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>21.9%</td>
<td>50.6%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>10.3%</td>
<td>48.4%</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>10.5%</td>
<td>30.1%</td>
</tr>
<tr>
<td>Other Tobacco</td>
<td>10.0%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Rx not Rx</td>
<td>8.7%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Other Drugs</td>
<td>3.8%</td>
<td>15.1%</td>
</tr>
</tbody>
</table>
Parent disapproval

Youth in the survey were asked to report on their parents level of disapproval, responding to the question, "How wrong do your parents feel it would be for you to use [substance]", with response choices “not at all wrong”, “a little bit wrong”, ‘wrong”, or “very wrong”. Figure 23 presents rates of parental disapproval for each substance, measured as those who reported that their parents would say that is “wrong” or “very wrong” to use, separated between middle and high school youth. Across substances, the majority of youth reported consistently that their parents would disapprove of their use of substances.

However, rates do vary by substance. For example, among high school youth, only 79.1% reported that their parents would disapprove of their use of marijuana, 83.5% that they would disapprove of nearly daily use of alcohol, and 84.4% reported that their parents would disapprove of their use of other tobacco (e.g. e-Cigarettes).

Figure 23: Percentage of middle and high school youth who say their parents would say it is "wrong" or "very wrong" to use the substance
Peer disapproval
Youth were also asked to report on how they viewed their peer’s perception of their own use of various substances. Youth were asked how wrong their friends would feel it would be for them to use each substance. Figure 24 presents the percentage of youth who indicated that it would be “wrong” or “very wrong” to use the substance as described.

Between 3 in 4 and 4 in 5 middle school youth reported that their friends would have found it “wrong” or “very wrong” to use most substances. There was greater variance, however, among high school youth. In particular, only 37.2% of high school youth reported that their friends would think it was “wrong” or “very wrong” to use marijuana, while 50.3% reported the same for other tobacco, including e-cigarettes.

**Figure 24: Peer disapproval**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol (5+ 1-2x week)</td>
<td>80.3%</td>
<td></td>
</tr>
<tr>
<td>Alcohol (1-2 every day)</td>
<td>76.2%</td>
<td></td>
</tr>
<tr>
<td>Rx without Rx</td>
<td>81.6%</td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>73.9%</td>
<td>73.8%</td>
</tr>
<tr>
<td>Other Tobacco</td>
<td>75.2%</td>
<td>50.3%</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>78.0%</td>
<td>68.1%</td>
</tr>
</tbody>
</table>
Perceived risk
Youth were asked to report on their own perceptions of how risky it is to use each substance, responding to the question, "How much do you think people risk harming themselves (physically or in other ways) if they use [substance]", with response choices "no risk", "some risk", "moderate risk", and "great risk". Figure 25 summarizes these responses, including the percentage of youth who reported that there was "moderate" or "great" risk to using each of the substances.

Of note, perception of risk for marijuana was lower than other substances. Among high school youth, 46.6% indicated that there was "moderate" or "great" risk to using marijuana.

Figure 25: Perceived Risk

Perceptions of use
Results from the YDS indicate that in general youth perceive that their peers are using substances at higher rates than they actually are. Figure 26 presents these findings for high school youth. Youth reported what they believe to be the percentage of peers at their school who are using the substance, compared to actual 30-day use numbers derived from youth self-report. In most cases, youth dramatically overestimate substance use at the school level.
Youth were also asked to report on how many of their friends they believed to be using each substance. Figure 27 presents results for the number of youth who indicated that “several”, “many” or “all” of their friends used the substance.

Figure 27: Youth perception of peer use of substances