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CHAPTER 2: CORRELATES AND RISK FACTORS FOR MENTAL ILLNESS AND SUBSTANCE USE

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CHAPTER 2: CORRELATES AND RISK FACTORS FOR MENTAL ILLNESS AND
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2.1 Introduction

Stress-process and life-course models (Elder 1995) help us understand risk factors and
protective factors of mental illness and substance use. The combination of the two
models, developed originally to understand disparities in health outcomes (e.g.,
outcome of cancer), provides a framework for understanding the multi-level sources and
temporal growth of disparities in well-being. Personal life-course history reflects larger
issues in the form of key social location factors such as family socioeconomic status;
these in turn shape an individual’s exposure to stressful occurrences and the resources
available to manage them.

The stress-process model (Pearlin and Bierman 2013) connects such circumstances to
the distress or well-being of those going through them. “Stress” is defined as the
reaction that occurs when demands exceed resources, and over time, demands have
come to be conceptualized as “stressors,” which can come in the form of either discrete
events or ongoing strains. Resources are what individuals use to respond to the “stress"
caused by “stressors,” in the form of coping strategies, social support, or psychological
strengths. When the stress process works properly, as it does for most people most of
the time, resources mediate or buffer the effects of stressors, preventing serious
psychological distress and risks to mental health (Pearlin and Bierman 2013).

As Pearlin et al. (2005) have argued, living in conditions of low social and economic
status makes a person susceptible to repeated hardships. Under such circumstances
disadvantaged populations are more likely to be penalized for their disadvantage, and
the consequences of such penalties are likely to be that much more devastating for
those who are already struggling to get by (e.g., overdrafting checks and getting money
from a check cashing place that incur a huge interest). This kind of event-instigated
stress is conceptualized as stress proliferation (Pearlin and Bierman 2013).

Some groups, therefore, have higher rates of psychological morbidity and behavioral
problems like substance use due primarily to the fact that, on average, they are subject
to more stressful life conditions than are others without resources to cope with the
increased stress (Pearlin et al. 2005; George, Lynch 2003). By this explanation, groups
such as people with low socioeconomic status (SES) have lower quality of life because
they have greater stress exposure, not because they are inherently more vulnerable
individually. Indeed, research findings have consistently shown that personal economic
disadvantage is the strongest predictor of elevated stress exposure (Turner and Avison
2003) and stress proliferation (Pearlin et al. 2005), with people of color being
overrepresented in lower SES populations and disproportionately affected (Williams, Costa, & Leavell 2017).

This chapter first reviews some of the correlates of substance use and mental illness, including gender, age, race/ethnicity, and living in urban/rural neighborhood. Then the chapter reviews risk factors for mental illness and substance use then includes both stressors and exacerbators that while increasing or exacerbating overall stress, decrease economical or psychological resiliency to handle stressful situations. Numerous studies have identified risk factors that relate to substance use and mental illness. One of the most important risk factors is chronic and severe poverty that, as found in Chapter 1, many Cuyahoga County residents experience, especially those who reside in Cleveland. Other factors discussed here include homelessness, domestic violence, exposure to violence, including physical, sexual, or emotional abuse or trauma experience, LGBTQ, single parenthood, school failure, and criminal justice involvement.

2.2 Gender

According to the World Health Organization (WHO), gender is related to many of the risk factors for mental disorders and substance use discussed in this chapter. Though gender is not a cause of mental disorder, some researchers are examining the relationship between hormones and some forms of mental illness such as anxiety. The WHO (March 2, 2020) notes that mental health disorders affect almost half of the population over the course of their lifetime, though less than half of those with a mental health disorder have ever been diagnosed because most people do not seek treatment.

Though rates of mental disorder are similar between males and females, women are more likely than men to be diagnosed because women are more likely than men to seek treatment. The rates of common mental disorders, which affect 1 in every 3 people, including depression, anxiety, and somatic complaints, are higher among women than men, while men are more likely than women to be diagnosed with anti-personality disorder. There is no gender difference in the rates of severe mental disorders, including schizophrenia and bipolar disorder, which affect less than 2% of the population. Women are, however, more likely than men to suffer from comorbid disorders of three or more. (WHO, March 2, 2020).

Because alcohol use is pervasive, the gender difference in its prevalence is relatively small. According to the 2014 National Survey on Drug Use and Health (NSDUH), for instance, the percentage of lifetime alcohol use among people age 12 and older was 84.6% for males and 79.8% for females (Center for Behavioral Health Statistics and Quality 2015). The gender difference tends to be greater for more problematic drinking
behaviors, however, such as binge drinking (30.0% for males and 16.4% for females)\textsuperscript{73}, heavy alcohol use (9.3% for males and 3.2% for females)\textsuperscript{74}, and driving under the influence (13.7% for males and 7.4% for females)\textsuperscript{75}, and, for its harmful consequences, such as the development of alcohol dependence or abuse (8.5% for males and 4.4% for females)\textsuperscript{76} and receiving alcohol use treatment (1.4% for males and 0.7% for males)\textsuperscript{77} (Center for Behavioral Health Statistics and Quality 2015).

Interestingly, the gender difference in substance use, including alcohol use, tends to be smaller among youth compared to older populations, reflecting the higher prevalence of deviance in general among youth, peaking around late teens to early twenties. The 2014 NSDUH, for instance, reports that the lifetime prevalence of drinking among people age 12 to 20 years old was 42.9% for males and 45.4% for females and the mean age of first alcohol use was 17.4 years old for males and 17.7 years old for females (Center for Behavioral Health Statistics and Quality 2015). Like the age of onset of drinking, the gender difference in alcohol use has possibly decreased over time. According to the Monitoring the Future Survey reports, for instance, there was a 23 percentage-point difference between male and female 12\textsuperscript{th} graders in the prevalence of “having five or more drinks in a row” in 1975 and the gender difference shrunk to five percentage-point difference in 2014 (Johnston et al. 2015).

Males are more likely than females to use all type of illicit substances, though the gender difference in the use of marijuana is small like alcohol use, especially among youth. According to the NSDUH, the percentage of males age 12 and older who reported substance use disorder (SUD) in past year was almost twice (3.7%) of that for females (2.2%) in 2018. Much smaller percentage of both males (0.9%) and females (0.6%) age 12 and older, however, received treatment for illicit drug use in the past year (discussed more in Chapter 4).

\textsuperscript{73} The percentages are past-month prevalence among people age 12 or older.  
\textsuperscript{74} The percentages are past-month prevalence among people age 12 or older.  
\textsuperscript{75} The percentages are past-year prevalence among people age 12 or older.  
\textsuperscript{76} The percentages are past-year prevalence among people age 12 or older.  
\textsuperscript{77} The percentages are past-year prevalence among people age 12 or older.
2.3 Age

The older age of Cuyahoga County population could potentially pose a number of problems as serious health issues are much more common among the older population. Suicide is often related to serious mental illness, and older men have the highest suicide rate among all age/gender groups. As Figure 2.3.1 shows, men over 85 years old have more than 4 times the higher rate of suicide death than the national average. Mental health disorders are, however, more prevalent overall among the younger population (See Figure 2.3.2), with almost half of adolescents age 13 to 18 experiencing at least one mental illness in their lifetime or 1 in 5 adolescents experiencing serious mental illness in their lifetime.
Figure 2.3.1 Suicide death rate by age, 1999 and 2017

Source: National Center for Health Statistics, 2018

Figure 2.3.2 Prevalence of mental illness among people age 18 and older, 2017

Source: National Institute of Mental Health, 2017

According to the NSDUH 2018, the age and past year use of illicit drugs has a curvilinear relationship, especially for past month use, with its peak around 18 to 25 years old (see Table 2.3.1 with peak age bolded). Past month use also peaks around 18 to 25 years old. This is similar to the age-crime curve, where crime and deviance tends to peak around late teen age to early 20s, and as people increase in the stake in conformity and responsibilities (e.g., work and family), the likelihood of engagement in crime and deviance generally decreases over time.

Overall, the more readily available the substance (e.g., cheaper price), the earlier the peak age of past year use/misuse. The past year use of marijuana peaks at 18-20 years old (35.2%), past year use of inhalants peaks at 12-13 years old (3.2%), the past year misuse of pain relievers peaks at 30-34 years old (5.6%), past year use of hallucinogen peaks at 21-25 years old (7.0%), past year use of methamphetamine peaks at 30-34 years old (1.6%), past year misuse of opioids peak at 30-34 years old (5.9%). The percentage of cocaine use is relatively small and the past year use of neither cocaine nor crack has a curvilinear relationship with 21-25 years old (6.6%) having the highest percentage of past year use of cocaine use and 60-64 years old (0.8%) having the highest past year use of crack.

Table 2.3.1 Lifetime, past year, and past month prevalence of Illicit substance use, 2018

<table>
<thead>
<tr>
<th>Age group</th>
<th>Lifetime use</th>
<th>Past year use</th>
<th>Past month use</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-13</td>
<td>11.3%</td>
<td>6.7%</td>
<td>2.1%</td>
</tr>
<tr>
<td>14-15</td>
<td>23.3%</td>
<td>15.3%</td>
<td>6.7%</td>
</tr>
<tr>
<td>16-17</td>
<td>36.0%</td>
<td>27.1%</td>
<td>14.8%</td>
</tr>
<tr>
<td>18-20</td>
<td>49.1%</td>
<td>38.1%</td>
<td>23.6%</td>
</tr>
<tr>
<td>21-25</td>
<td>59.7%</td>
<td>40.2%</td>
<td>24.1%</td>
</tr>
<tr>
<td>26-29</td>
<td>62.8%</td>
<td>31.1%</td>
<td>21.2%</td>
</tr>
<tr>
<td>30-34</td>
<td>58.9%</td>
<td>26.6%</td>
<td>17.1%</td>
</tr>
<tr>
<td>35-39</td>
<td>57.5%</td>
<td>21.7%</td>
<td>14.2%</td>
</tr>
<tr>
<td>40-44</td>
<td>52.1%</td>
<td>17.1%</td>
<td>12.1%</td>
</tr>
<tr>
<td>45-49</td>
<td>51.9%</td>
<td>15.9%</td>
<td>9.7%</td>
</tr>
<tr>
<td>50-54</td>
<td>57.3%</td>
<td>14.9%</td>
<td>8.4%</td>
</tr>
<tr>
<td>55-59</td>
<td>57.3%</td>
<td>15.1%</td>
<td>8.3%</td>
</tr>
<tr>
<td>60-64</td>
<td>58.4%</td>
<td>12.5%</td>
<td>8.1%</td>
</tr>
<tr>
<td>65+</td>
<td>32.5%</td>
<td>5.7%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Source: National Survey on Drug Use and Health, 2018

---

2.4 Race/ethnicity

The NSDUH 2018\(^1\) indicates that whites (20.4%) are more likely than blacks or African Americans (16.2%), Asian (14.7%) or Hispanics or Latinos (16.9%) to experience mental illness in the past year. Serious mental illness is also higher among whites (5.1%), compared to blacks or African Americans (3.6%), Asian (2.1%), or Hispanics or Latinos (3.6%). The race/ethnicity difference in the prevalence of co-occurring substance use disorder (SUD) and any mental illness in the past year was small: whites (3.9%), blacks or African Americans (3.6%), Asian (2.1%), and Hispanics or Latinos (3.3%).

Racial and ethnic minority populations are overall less likely to have access to mental health care and seek treatment compared to whites. The Agency for Healthcare Research and Quality (AHRQ) has been conducting the National Healthcare Quality and Disparities (QDR) study for over 16 years. Mandated by the U.S. Congress, the QDR reports on “national trends in the quality of health care provided to the American people” (42 U.S.C. 299b-2(b)(2)) and “prevailing disparities in health care delivery as it relates to racial factors and socioeconomic factors in priority populations” (42 U.S.C. 299a- 1(a)(6)). A SAMHSA report analyzing the NSDUHs 2008-2012 also found significant race difference in the utilization of mental health treatment by race, where white adults (16.6%) are significantly more likely than black (9.6%), Hispanic (7.3%) and Asian (4.9%) adults to utilize mental health services.

National Health Interview survey (NHIS) conducted by the Centers for Disease Control and Prevention (CDC)\(^2\) indicates that non-Hispanic white males are more likely than non-Hispanic black males or Hispanic males to report experiencing feelings of anxiety and/or depression. Of the men who experienced anxiety or depression, 33% sought help through medications or talking to mental health professionals. Non-Hispanic white males are more likely than non-Hispanic black males or Hispanic males to take medication or talk to a mental health professional. The NHIS indicates, moreover, that the race/ethnicity differences in the prevalence of receiving mental health treatment are greater among men without health insurance than among men with health insurance.

Contrary to the popular belief based on the disproportionately higher arrest of blacks or African Americans for drug crimes, blacks or African Americans are not the group with the highest prevalence of substance use or SUD. Overall, American Indians or Alaskan

\(^1\) https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect1pe2018.htm
\(^2\) https://www.cdc.gov/nchs/nhis/index.htm
Natives and Native Hawaiians or Other Pacific Islanders tend to have the highest prevalence of substance use and substance use problems than other groups.

Among other groups, the NSDUH 2018\textsuperscript{83} indicates that among persons age 12 and older, whites (54.6\%) are more like than blacks or African Americans (45.9\%), Asians (27.6\%), or Hispanics or Latinos (37.7\%) to ever use illicit drugs. The prevalence of illicit drug use is higher among whites compared to other groups (except for American Indian or Alaskan Native and Native Hawaiian or Other Pacific Islanders) for every age group. The current illicit drug use, or the past month illicit drug use is, however, higher among blacks or African Americans (13.7\%) compared to whites (12.0\%), Asians (6.7\%), and Hispanics or Latinos (9.7\%). Contrary to the popular view, lifetime prevalence of crack use is not higher among blacks or African Americans (3.6\%) compared to whites (3.8\%).

\textsuperscript{83} https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect1pe2018.htm
2.5 Urban vs. rural neighborhoods

The large prevalence of residents in the county residing in urban areas can pose problems for Cuyahoga County because not only are some mental illnesses more prevalent in urban areas compared to rural areas (Peen et al., 2010), urban areas also have higher risk factors for mental illness and substance use than rural areas (some of them discussed later in this chapter).

The NSDUH 2018 includes a question on the type of county respondents reside in, including large metro, small metro, and non-metro counties. There is no difference in mental illness prevalence between the three types of counties. About 15.3% of adults age 18 and older in large metro counties, 16.6% of adults age 18 and older in small metro counties, and 15.8% of adults age 18 and older in nonmetro counties indicate past year experiences with serious psychological distress.

Other mental illness measures also show no significant difference across the three types of counties. For instance, according to the NSDUH 2018, 11.5% of large metro, 12.8% of small metro, and 12.6% of non-metro county residents indicate that they had serious mental illness in the past year. Though the mental health differences in rural vs. urban areas of the U.S. are limited and inconclusive, some studies find a higher suicide rate in rural areas compared to urban areas, especially for firearm suicide (Nestadt et al. 2017).

According to the NSDUH 2018, the urbanized counties have a higher percentage of past year illicit drug use among people 12 years old or older: large metro counties (20.2%), small metro counties (19.8%), and non-metro counties (15.7%). Of the non-metro counties, the percentage of past year use of illicit drugs is: urbanized counties (17.1%), less urbanized counties (15.0%), and completely rural counties (12.5%).

The type of substance that is abused also varies between urban and rural areas with urban living associated with lower level of alcohol, marijuana, methamphetamine, and prescription drug abuse compared to rural areas (U.S. Department of Health and Human Services, 2012). Drug overdose deaths are overall higher in urban counties than rural counties for all age groups, however, only among males (see Figure 2.5.1). For females, on the other hand, drug overdose deaths are higher in rural counties than in urban counties (Hedegaard, Minino, and Warner, 2019).
Figure 2.5.1 Drug overdose death rates by gender, 2017

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>22.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Female</td>
<td>14.2</td>
<td>15.5</td>
</tr>
<tr>
<td>Male</td>
<td>29.9</td>
<td>24.3</td>
</tr>
</tbody>
</table>

Source: National Center for Health Statistics, 2019

2.6 Poverty

Poverty, especially chronic poverty, is the most significant stressor or risk factor explaining negative health outcomes, including mental illness and substance use. Poverty is strongly related to mental illness, as shown in Figure 2.6.1, with an increase in poverty level related to an increasingly higher likelihood of experiencing serious psychological distress.

Figure 2.6.1 Percentage of adults with serious psychological distress by income relative to federal poverty level, 2009-2013

Source: National Health Interview Survey, 2009-2013

85 https://www.cdc.gov/nchs/products/databriefs/db203.htm
Poverty is also significantly related to substance use as at the county level (see Figure 2.6.2), a high poverty rate is related to "higher rates of opioid prescriptions, opioid-related hospitalizations, and drug overdose deaths" (Ghertner and Groves, 2018). Another study also shows significantly strong relationship between poverty rates and per capita retail opioid sales and drug overdose death rates for some regions of the U.S.

Figure 2.6.2 Map showing the poverty rates and overdose death rates, 2016

Source: U.S. Department of Health and Human Services, 2018

Sources: U.S. Census Bureau Small Area Income and Poverty Estimates, CDC Small Area Estimates of Drug Mortality.
Note: Each variable is split into tertiles.

Source: U.S. Department of Health and Human Services, 2018

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2.7 Homelessness

According to the American Public Health Association (APHA), individuals experiencing homelessness have higher rates of chronic mental health conditions, co-occurring disorders, and experience greater barriers to health care. Twenty percent of individuals experiencing homelessness in 2016 reported a severe mental illness (APHA, November 7, 2017). Mental illness among individuals experiencing homelessness in the U.S. are twice the rate found for the general population according to the American Psychological Association (APA). People without homes also have higher rates of hospitalizations for mental illness compared to other populations. People with mental disorders experience greater barriers to accessible housing than those without mental health disorders (APA, April 24, 2020).

Homeless youths are also more likely than those not experiencing homelessness to have increased mental health issues. Children experiencing homelessness exhibit mental health symptoms requiring clinical evaluations two to four times more than children in low-income housing. Ninety percent of mothers experiencing homelessness have been exposed to severe traumatic stress (APHA, November 7, 2017). Forty-seven percent of women experiencing homelessness meet the criteria for a diagnosis of major depressive disorder, which is twice the rate of women in general (APA, April 24, 2020).

Lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youths make up between 30% and 45% of the overall homeless youth population, compared to an estimated 5% to 10% of the overall youth population. LGBTQ youths experiencing homelessness are significantly more likely than heterosexual youths experiencing homelessness to have major depressive episodes, posttraumatic stress disorder, suicidal ideation, and at least one suicide attempt. (APHA, November 7, 2017).

According to the APHA, youths experiencing homelessness are more likely than those not experiencing homelessness to have increased substance abuse. Seventeen percent of individuals experiencing homelessness in 2016 reported a chronic substance use problem (APHA, November 7, 2017). People without homes also have higher rates of hospitalizations for substance abuse compared to other populations and people with substance use disorders experience greater barriers to accessible housing than those without substance disorders (APA, April 24, 2020).

According to the Substance Abuse and Mental Health Services Administration (SAMHSA) around 30% of people who are chronically homeless have mental health conditions and about 50% of those have co-occurring substance use problems. Mothers who are homeless have twice the rate of drug and alcohol dependence. When compared to housed peers or the general adolescent population, youth experiencing
homelessness have a higher risk of risk of alcohol or drug abuse or dependence. LGBTQ youth experiencing homelessness also have a higher risk for substance use (SAMHSA, July 2011).

2.8 Single parenthood

As noted in Chapter 1, Cuyahoga County has a low proportion of residents who are married and a high proportion of residents who are single compared to the national prevalence. This is problematic because marital status is consistently found to be related to overall health, including mental health (Cotton 1999), and deviant behaviors like substance use (Barnes et al. 2014). Studies find that married individuals are overall healthier and live longer than never married, divorced, or widowed individuals (Lawrence et al. 2019). Suicide rate is higher among those who are single compared to those who are married (Luoma and Pearson 2002).

Marital status affects mental health in different ways. For instance, marriage increases the social network of support, which then increases the likelihood of detecting any problems and helping to find resources to solve the problems (Colten 1999). Overall, marriage can serve as a “protective barrier against the distressful consequences of external threats” and reduce the likelihood of experiencing mental distress (Perlin and Johnson 1977, 717).

Substance use is significantly related to marital status, where those who are married are less likely to use substances or experience substance use disorder than those who are not married (Blair and Menasco 2016). A study finds that the early onset of alcohol use significantly increases the risk of divorce and decreases the chance of marriage for women (but not for men), while the early onset of marijuana use significantly decreases the chance of marriage for both men and women (Menasco and Blair 2014).

Marriage generally fosters desistance from deviant behaviors like substance use, but the quality of the relationship matters. Just as the research finds that toxic relationships can increase mental illness (Colten 1999), studies find that marriage’s protection against substance use only works if the relationship is strong and healthy but could actually backfire if the relationship is unhealthy and stressful (Sinha 2018).
2.9 Veteran status

The research examining the mental illness among veterans is extensive. According to a study by the National Center for Health Statistics (MCHS), a national health statistics agency within the Centers for Disease Control and Prevention (CDC), the percentage reporting serious psychological distress, experience with chronic illness, and work limitations was higher among veterans than among nonveterans (Kramarow and Pastor, 2012).

In addition, veterans are uniquely more likely to suffer from a mental health condition called Posttraumatic Stress Disorder (PTSD). According to National Center for PTSD within U.S. Department of Veterans Affairs, about 10-30% of veterans experience PTSD in their lifetime (the percentage varies by service era) and "almost 1 out of every 3 veterans seeking treatment for SUD also have PTSD" and "more than 1 of every 4 veterans with PTSD also have SUD" (National center for PTSD, n.d.). Rough estimate based on the national studies suggest that Cuyahoga County has between 7,418 and 21,125 of veterans who have experienced PTSD in their lifetime.

Alcohol, illicit drug, and tobacco use has been common in the U.S. military, where alcohol is often ingrained as a part of its culture (Institute of Medicine 2013). In addition, deployments and exposures to combats often increase alcohol use and drinking problems (Spera 2011). Alcohol is often sold cheaper in military bases, which can fuel the problems with drinking.

Since the 1980s, most popularly consumed illicit drug among active duty personnel has been marijuana (Bray et al. 2009). Illicit drugs have been used by service members to cope with “pain, fatigue, and boredom and panic” that accompany the job (Institute of Medicine 2013). In recent years, the misuse of prescription pain medications among active duty members, resulting from the prescription of pain medications, had been a major problem, as the increase in the misuse of this medication was more rapid among service members than in the general public (Bray et al 2012). As many problematic behaviors like suicide are related to substance use, the rise in SUDs among military personnel has been a major problem for the nation (Teeters et al. 2017).
2.10 Disability

According to the CDC, individuals who suffer from chronic illnesses are more likely to suffer from depression (October 2012). The World Health Organization (WHO) notes that while some chronic illnesses directly affect the brain, others may develop a psychological burden from the challenges of living with the chronic condition like needing to alter their lifestyle or coming to terms with the idea of a prolonged illness or premature death (WHO, August 27, 2012). Research suggests that individuals with a chronic illness and depression tend to have more severe symptoms of both illnesses (NIMH, April 16, 2020).

The number of individuals with physical disabilities and substance use disorder is difficult to estimate according to the Substance Abuse and Mental Health Services Administration (SAMHSA). Some studies suggest that individuals with disabilities have higher rates of substance use compared to the general population, but other studies show lower rates of substance use. Regardless, active substance use can harm the health and quality of life of those with disabilities. Active substance use can impact successful engagement in rehabilitation services, interact with prescribed medications, delay coordination and muscle control, impair cognition, reduce adherence to self-care regimens, aid in social isolation, poor communication, and domestic issues, lead to poor health, secondary disabling conditions, or speed up the effects of disabling diseases, hinder educational advancement, and contribute to job loss, underemployment, and housing instability (SAMHSA, August 2011).

2.11 LGBTQ

Youth who identify as lesbian, gay, bisexual, transgender, or questioning (LGBTQ) are more likely to experience difficulties growing up, including homelessness and involvement in child welfare, compared to heterosexual youth (Forge et al. 2018). Studies consistently find a higher suicidality (e.g., thinking, attempting, or completing suicide) among sexual minority youth compared to heterosexual youth (Bostwick et al. 2014).

Deep ingrained structural discrimination against sexual minorities and stigma associated with LGBTQ partially explain the negative health outcomes, including mental health outcomes, among sexual minorities (Williams and Mann 2017). Poor social network among LGBT was also found to be related to poor mental health outcomes (Kim et al. 2017). Other mental health disparities across sexual orientation include distress, depression, and anxiety and mood disorders (Williams and Mann 2017).
Studies consistently find a higher likelihood of substance use and drinking and associated problems among sexually minority youth and adults compared to heterosexual individuals (Lock and Steiner 1999). Much research associates the higher prevalence of substance use problems among sexual minority population to the greater stress experienced by this population due to structural discrimination and stigma compared to heterosexual population (Brewster and Tillman 2012). The NSDUH 2018 shows that the past year prevalence of SUD or alcohol use disorder is higher among lesbian or gay (4.3%) and bisexual (3.5%) than among heterosexual (1.2%) respondents age 12 and older.

2.12 School failure

Early onset of mental illness can adversely affect the ability to function in society later in life through its negative effect on educational attainment and thus socioeconomic status (SES). Research finds a significant relationship between early onset of mental illness and school drop out before elementary school graduation, high school graduation, college entry, and college graduation (Breslau 2008). One study estimates that almost half of all high school dropouts could be attributed to the long-term negative effect of mental illness (Vander Stoep et al. 2003). Lack of education, and thus the resulting low SES and earning capacity, can then lead to increased risk of developing mental illness in the future, creating a vicious cycle (Hudson 2005).

School dropout and disengagement are significantly associated with engagement in deviant behaviors, including substance use (Kirisci et al., 2007). Mental illness is also associated with substance use among youth (D’Amico, Edelen, Miles, & Morral, 2008). Like mental illness, early onset of substance use is significantly associated with subsequent poor social outcomes, including educational attainment (Flory, Lynam, Milich, Leukefeld, & Clayton, 2004). A study found a significant and direct relationship between early onset of alcohol and substance use and high school dropout among white and African American males (Perez et al. 2002).

2.13 Domestic violence

Studies find that domestic violence is one of the major causes of mental illness, including suicidal behaviors, and substance use among women (World Health Organization 2013). Indeed, gender bias and gender injustice resulting from the larger structural gender inequality, can produce mental health problems for women. For instance, when women experience sexual harassment at school or work (Pathak and Mishra 2019). The prevalence of experiencing domestic violence is higher among homeless women because domestic violence often leads to homelessness for women.
Homelessness then increases the risk of further victimization for these women, many of whom resort to sex work and drug use to cope with the stressful situation. Women who experience domestic violence often resort to drug use to cope with the violence (Sales and Murphy 2000).

2.14 Exposure to violence and other adverse childhood experiences

Exposure to violence in childhood, in the forms of experiencing psychological, physical or sexual abuse, witnessing violence against mother, living with household members who were substance abusers, mentally ill, or suicidal or ever imprisoned are significantly associated with health status in adulthood, including mental illness and developing a substance use disorder.

The original study of Adverse Childhood Experiences (ACE) by Felitti and colleagues (Felitti et al., 1998) found a graded relationship between the number of categories of childhood exposure to adverse experiences compared to those who had none. Persons who had experienced four or more categories of childhood exposure had a 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt, as well as a 2- to 4-fold increase in smoking, poor rated self-health, increases in sexual intercourse partners, and sexually transmitted disease, and a 1.4 to 1.6 fold increase in severe obesity.

The number of categories of adverse childhood experiences showed a graded relationship to the presence of adult diseases, including heart disease, cancer, lung disease, fractures, and liver disease (Felitti et al., 1998). Subsequent studies found a significant relationship between adverse childhood experiences (Dube et al., 2002) and depression in adulthood (Chapman et al., 2004).

As illustrated below, early adversity has lasting impacts, into adulthood, including mental health concerns, alcoholism, and drug abuse.
Figure 2.14.1 Adverse Childhood Experiences (ACE)\(^8\)

Early Adversity has Lasting Impacts

Source: Center for Disease Control and Prevention

Figure 2.14.2 illustrates the relationship between historical trauma, health disparities found in the local context such as neighborhoods and community, adverse childhood experiences, individual adoption of health risk behaviors, development of disease and disability, and early death. The figure summarizes the relationship between risk factors included in this chapter, and mental illness and substance abuse, both of which if left untreated, can contribute to early death.

Figure 2.14.2 The ACE Pyramid

Source: Center for Disease Control and Prevention

2.15 Criminal justice involvement

The movement to deinstitutionalize patients from state psychiatric institutions into the community that began in the 1950s through 1970s followed an increase in arrest and incarceration of psychiatric patients, especially those with criminal record (Monahan and Steadman 1983). Today, the National Institute of Corrections within the U.S. Department of Justice (2014) indicates "...the number of individuals with serious mental illness in prisons and jails now exceeds the number in state psychiatric hospitals tenfold," even though prisons and jails rarely provide adequate treatment for these psychiatric patients. It is not that mental illness causes people to commit crime, rather the high prevalence of mental illness among incarcerated population is the result of poorly implemented policy and state’s failure to provide adequate treatment and protection for the vulnerable population. Police officers who frequently encounter individuals with mental illness and substance use problems on the street are trained to handle the encounters better (Hacker and Horan 2019).

The Drug Use Forecasting (DUF) and the original Arrestee Drug Abuse Monitoring (ADAM) Programs focused on urban areas and included Cleveland as one of the sites, though unfortunately, ADAM II included a much smaller number of sites and Cleveland was not one of them. With the ADAM 1997, the most current data that include Cleveland, randomly selected arrestees are interviewed about their drug use within 48 hours when they were booked, corroborated with urine specimens over a two-week period, four times per year. The program included ten categories of drugs: amphetamines, barbiturates, valium, cocaine, opiates, PCP, methadone, marijuana, propoxyphene, and methaqualone. Data were collected by trained interviewers and corroboration by urine sample.

According to the ADAM 1997, a disproportionately high percentage of those who are arrested are African Americans among both male arrestees (72%) and female arrestees (74%). As shown in Figure 2.15.1, of those who are arrested in Cleveland, 64% of male and 57% of female arrestees were tested positive for a drug, of which the most common drug was marijuana (45% for male and 22% female arrestees). 18% of male and 15% of female arrestees tested positive for multiple drugs in Cleveland. The percentage tested positive for a drug was higher for African American arrestees (69% of males and 59% of females) than white arrestees (52% of males and 46% of females) in Cleveland.

Quite a high percentage of arrestees for both violent offense (59% for males and 35% for females) and property crimes (59% for males and 42% for females) were tested positive for a drug in Cleveland. The high prevalence of substance use prior to the property crime arrest, however, strongly question the argument that drug use is related
to crime because drugs make people violent. It is instead more likely the case that people commit crimes to support their drug use.

Figure 2.15.1 ADAM 1997, Cleveland, Percentage tested positive for drug use

2.16 Conclusion

This chapter reviewed risk factors for mental illness and substance use, including both stressors and exacerbators that while increasing or exacerbating overall stress, decrease economical or psychological resiliency to handle stressful situations.

- The older age of Cuyahoga County population could potentially pose a number of problems as serious health and mental health issues are much more common among older population, including suicide. Substance use is more prevalent among young adults than older adults.

- Racial and ethnic minority populations are less likely to have access to mental health care and seek treatment compared to whites, and the race/ethnicity differences in the likelihood of receiving mental health treatment are greater among men without health insurance than among men with health insurance.

- The large prevalence of residents in Cuyahoga County residing in urban areas can pose problems for the county because not only are some mental illness more prevalent in urban areas compared to rural areas, urban areas also have higher risk factors for mental illness and substance use than rural areas.

- One of the most important risk factors for mental illness and substance use is the chronic and severe poverty that, as found in Chapter 1, many Cuyahoga County residents experience, especially those who reside in Cleveland.

- Cuyahoga County has a low proportion of residents who are married and a high proportion of residents who are single (including single parents) compared to the national prevalence. This is problematic because marital status is consistently found to be related to overall health. Married people overall have better mental health and are more likely to astrain from substance use.

- The percentage reporting serious psychological distress, experience with chronic illness, and work limitations is higher among veterans than among nonveterans. In addition, veterans are uniquely more likely to suffer from a mental health condition called PTSD. The misuse of prescription pain medications among active duty members is a major problem today, as the increase in the misuse of this medication was more rapid among service members than in the general public.

- Individuals who suffer from chronic illnesses are more likely to suffer from depression, and individuals with a chronic illness and depression tend to have
more severe symptoms of both illnesses. Substance use can pose unique problems for individuals with a disability as it could interfere with medications and other treatment for the disability.

- Youth who identify as lesbian, gay, bisexual, transgender, or questioning (LGBTQ) are more likely to experience difficulties growing up and a higher rate of mental illness and substance use.

- Early onset of mental illness can adversely affect the ability to function in society through its negative effect on educational attainment and thus SES. One study estimates that almost half of all high school dropouts could be attributed to the long-term negative effect of mental illness. School dropout and disengagement are significantly associated with substance use.

- Domestic violence is one of the major causes of mental illness, including suicidal behaviors, and substance use among women.

- The population that most likely falls through the cracks of mental health and substance use treatment is the chronically homeless individuals with dual diagnosis for mental illness and substance use problems because mental health providers often refuse to provide service to those who are on drugs or using alcohol (Pardeck 2004). The same group of individuals are often arrested and incarcerated instead of getting treated for mental illness or substance use. These are individuals who are also most likely to have experienced a high number of adverse childhood experiences and trauma.

- Overall, there is a graded relationship between the number of adverse childhood experiences and development of mental illness and substance use disorders, as well as other physical health conditions (Feletti et al, 1998), suggesting the importance of early intervention for high-risk youth. Early onset of mental illness and substance use can have long-term negative consequences by disruption in education and thus a decrease in employability and earning potential.

- The movement to deinstitutionalize patients from state psychiatric institutions into the community followed an increase in arrest and incarceration of psychiatric patients. The number of individuals with serious mental illness in prisons and jails exceeds the number in state psychiatric hospitals tenfold.

- Criminal and justice populations are more likely to engage in substance use than the general public. In Cleveland, 59% for male and 35% for female arrestees for
violent offense 59% for male and 42% for female arrestees for property offense were tested positive for a drug.